UG - PROGRAM
(w.e.f. 2020-2021 A.Y.)

LIFE SKILL COURSES AND SKILL DEVELOPMENTCOURSES

Joint Board meeting for Life Skill courses and Skill Development
Held on: 27.01.21 and 03.02.21

DEAN
ACADEMIC AFFAIRS

TABLE OF CONTENTS

1. LIFE SKILL AND SKILL DEVELOPMENT COURSES

Life /Skill development courses: 4 courses of LSC and 4 courses of SDC with options

Each course of 2 hrs/ week containing 3 units of syllabi for 30 hrs teaching with 2 credits based on 50 marks evaluation. No internal assessment. University sem-end exam:50 marks (2 Hrs)

Question paper would be in two sections (Section A and Section B) for 50 marks

Section A consisting of 8 questions covering two questions from each unit and the remaining to be from any unit. Student has to write 4 questions and each question carries 5 marks (i.e., 5 X 4 = 20 marks). Each question to be answered with 5-7 points/10-15 lines of answer with necessary diagram/equations/ figure/flow charts, if necessary.

Section B consisting of 6 questions covering all units (i.e., from each unit two questions to be given with either or choice). Student has to write 3 questions and Each question carries 10 marks. (i.e., 10 X 3 = 30 marks). Each question to be answered with 10 to 15 points or 20 to 35 lines along with diagrams/equations/ figure/flow charts, if necessary.

List of Life Skill courses

Sem	No. of Courses	Course Name	Preferred teaching department
I	1	Human Values and Professional Ethics (HVPE)	English/Telugu/Any Dept
		Entrepreneurship Development (ED)	Commerce
		Basic Computer applications (from 2021-22 admitted batches)	Computers
II	1	Information and Communication Technology (ICT)	Computers
		Indian Culture and Science (ICS)	History/Telugu
III	Compulsory	Environmental Education (EE)	Botany/Zoology/Environmental Science/ Any dept.
	1	Personality Development and Leadership (PDL)	English/Any Dept
		Analytical Skills (AS)	Maths/Statistics

List of Skill Development Courses along with their Semester-wise allotment with choices.

SEM	No. of courses	Names of courses		Preferred teaching department
I	One	1. Tourism Guidance (or)		History/Any dept
		2. Plant Nursery (or)		Botany
		3. Electrical Appliances (or)		Physics
		4. Insurance Promotion		Commerce
II	Two (1 from A group and 1 from B Group)	'A' Group	1. Survey & Reporting (or)	Economics/History
			2. Business communication (or)	English
			3. Solar Energy (or)	Physics
			4. Agricultural Marketing	Commerce/Economics
		'B' Group	1. Social Work Methods (or)	Political science/social work
			2. Advertising (or)	Commerce
			3. Dairy Technology (or)	Zoology
			4. Performing Arts	Telugu
III	one	1. Disaster Management (or)		English/Telugu/Any dept
		2. Online Business (or)		Commerce
		3. Poultry Farming (or)		Zoology
		4. Financial Markets		Economics/Commerce

2. Model Question papers for Life skill/Skill Development courses

MODEL QUESTION PAPER
All UG Life/Skill development courses
Semester:
Paper:…..,Title of the paper

Time: 2Hrs. Max Marks: 50

SECTION – A

Answer any 4 questions. Each question carries 5 marks (4 X 5M = 20M)
(Total 8 questions and at least two questions should be given from each unit)

1.
2.
3.
4.
5.
6.
7.
8.

SECTION – B

Answer all the questions. Each question carries 10 marks (3 X 10 = 30M)

9. from Unit I
(OR)
10. from Unit I

11. from Unit II
(OR)
12. from Unit II

13. from Unit III
(OR)
14. from Unit III

UG- LIFE SKILL COURSE

HUMAN VALUES AND PROFESSIONAL ETHICS (HVPE)

(w.e.f. 2020-2021 A.Y.)

Semester	Course Code (LS)	Course Title	Hrs/Sem	Hrs/wk	Credits	Sem End Exam (2 hrs)
I	Life skill course	Human values and professional ethics (HVPE)	30	2	2	50 Marks

Objective: Learning Outcome: On completion of this course, the UG students will be able to

- Understand the significance of value inputs in a classroom and start applying them in their life and profession
- Distinguish between values and skills, happiness and accumulation of physical facilities, the Self and the Body, Intention and Competence of an individual, etc.
- Understand the value of harmonious relationship based on trust and respect in their life and profession
- Understand the role of a human being in ensuring harmony in society and nature.
- Distinguish between ethical and unethical practices, and start working out the strategy to actualize a harmonious environment wherever they work.

UNIT: 1 - Introduction – Definition, Importance, Process & Classifications of Value Education: Understanding the need, basic guidelines, content and process for Value Education Understanding the thought provoking issues; need for Values in our daily life Choices making – Choosing, Cherishing & Acting, Classification of Value Education: understanding Personal Values, Social Values, Moral Values & Spiritual Values.

UNIT: 2 - Harmony in the Family – Understanding Values in Human Relationships:
Understanding harmony in the Family- the basic unit of human interaction, Understanding the set of proposals to verify the Harmony in the Family; Trust (*Vishwas*) and Respect (*Samman*) as the foundational values of relationship, Present Scenario: Differentiation (Disrespect) in relationships on the basis of body, physical facilities, or beliefs.
Understanding the Problems faced due to differentiation in Relationships. Understanding the harmony in the society (society being an extension of family): *Samadhan*, *Samridhi*, *Abhay*, *Sah-astitva* as comprehensive Human Goals Visualizing a universal harmonious order in society- Undivided Society (*AkhandSamaj*), Universal Order (*SarvabhaumVyawastha*)- from family to world family.

UNIT: 3 - Professional Ethics in Education: Understanding about Professional Integrity, Respect & Equality, Privacy, Building Trusting Relationships.Understanding the concepts; Positive co-operation, Respecting the competence of other professions. Understanding about Taking initiative and Promoting the culture of openness. Depicting Loyalty towards Goals and objectives.

Text Books:

1. R R Gaur, R Sangal, G P Bagaria, 2009, A Foundation Course in Human Values and Professional Ethics.
2. Bhatia, R. & Bhatia, A (2015) Role of Ethical Values in Indian Higher Education.

References books:

1. Ivan Illich, 1974, Energy & Equity, The Trinity Press, Worcester, and Harper Collins
2. E.F. Schumacher, 1973, Small is Beautiful: a study of economics as if people mattered, Blond & Briggs, Britain.
3. Sussan George, 1976, How the Other Half Dies, Penguin Press. Reprinted 1986, 1991
4. Donella H. Meadows, Dennis L. Meadows, Jorgen Randers, William W. Behrens III, 1972, Limits to Growth – Club of Rome's report, Universe Books.
5. A Nagraj, 1998, JeevanVidyaEkParichay, Divya Path Sansthan, Amarkantak.
6. P L Dhar, RR Gaur, 1990, Science and Humanism, Commonwealth Publishers.
7. A N Tripathy, 2003, Human Values, New Age International Publishers.

Co-curricular Activities:

1. Visit to an Old Age Home and spending with the inmates for a day.
2. Conduct of Group Discussions on the topics related to the syllabus.
3. Participation in community service activities.
4. Working with a NGO like Rotary Club or Lions International, etc.

MODEL QUESTION PAPER

LIFE SKILL COURSE
Semester: I
HUMAN VALUES AND PROFESSIONAL ETHICS (HVPE)

Time: 2Hrs Max Marks: 50

SECTION-A

Answer any FOUR questions. Each question carries 5 marks. 4 x 5 = 20Marks

1. Write a brief note on Moral and spiritual values.
2. What are the thought provoking issues involved in value education?
3. Write about the set of proposals to verify the harmony in the family.
4. Do you think that undivided society and universal order is needed in the society? If yes/no substantiate your answer.
5. Write about your perspectives on the present scenario, in understanding values in Human relationship?
6. Elaborate on the problems faced due to differentiation in relationships.
7. Explain the concept of professional Integrity?
8. Write a note on the concepts of respect and equality

SECTION – B

Answer all the questions. Each question carries 10 marks. 3 x 10 =30Marks

9. Define and write about the significance of value education in classroom?

OR

10. Discuss the need for values in our daily life and write how they help us in making choices in our daily lives.

11. Explain the importance of harmony in the family.

OR

12. Explain how samadhan, samridhi abhay and sah- astitva work as comprehensive human goals?

13. Write about the importance of taking initiative and promoting the culture of openness.

OR

14. How do you understand the concepts positive co-operation, respecting the competence of other professions?

UG- LIFE SKILL COURSE
ENTREPRENEURSHIP DEVELOPMENT (ED)

(w.e.f. 2020-2021 A.Y.)

Semester	Course Code (LS)	Course Title	Hrs/Sem	Hrs/wk	Credits	Sem End Exam (2 hrs)
I	Life skill course	Entrepreneurship Development	30	2	2	50 Marks

Course Objective: A Generic Course that is intended to inculcate an integrated personal Life Skill to the student.

Learning Outcomes:

After successful completion of the course the student will be able to;

- Understand the concept of Entrepreneurship, its applications and scope.
- Know various types of financial institutions that help the business at Central, State and Local Level
- Understand Central and State Government policies, Aware of various tax incentives, concessions
- Applies the knowledge for generating a broad idea for a starting an enterprise/start up
- Understand the content for preparing a Project Report for a start up and differentiate between financial, technical analysis and business feasibility.

Unit-I: Entrepreneurship: Definition and Concept of entrepreneurship - Entrepreneur Characteristics – Classification of Entrepreneurs –Role of Entrepreneurship in Economic Development –Start-ups.

Unit-II: Idea Generation and Project Formulation: Ideas in Entrepreneurships – Sources of New Ideas – Techniques for Generating Ideas – Preparation of Project Report –Contents; Guidelines for Report preparation – Project Appraisal Techniques –Economic Analysis-Financial Analysis-Market Analysis.

Unit-III: Institutions Supporting and Taxation Benefits: Central level Institutions: NABARD; SIDBI,– State Level Institutions –DICs – SFC - Government Policy for MSMEs - Tax Incentives and Concessions.

Reference Books:

1. Arya Kumar, Entrepreneurship, Pearson, Delhi
2. Poornima MCH, Entrepreneurship Development –Small Business Enterprises, Pearson, Delhi
3. Sangeetha Sharma, Entrepreneurship Development, PHI Learning
4. KanishkaBedi, Management and Entrepreneurship, Oxford University Press, Delhi
5. Anil Kumar, S., ET.al., Entrepreneurship Development, New Age International Publishers, New Delhi
6. Khanka, SS, Entrepreneurship Development, S. Chand, New Delhi
7. Peter F. Drucker, Innovation and Entrepreneurship
8. A.Sahay, M. S. Chhikara, New Vistas of Entrepreneurship: Challenges &Opportunities
9. Dr B E V L Naidu, Entrepreneurship. Seven Hills Publishers

Suggested Co-Curricular Activities (As far as possible)

1. Group Discussion
2. Debate
3. Seminar
4. Visit to an SSI and preparing of an outline Report
5. Invited Lecture by a Bank Employee on the Bank Support to a Start Up.
6. Chart showing tax concessions to SSI, MSME both direct and indirect.

MODEL QUESTION PAPER

LIFE SKILL COURSE

Semester: I

ENTREPRENEURSHIP DEVELOPMENT

Time: 2Hrs. Max Marks: 50

SECTION – A

Answer any **FOUR** Questions. Each question carries 5 marks 4x5= 20Marks

1. Entrepreneur Characteristics
2. Start-ups
3. Project Formulation
4. Financial Analysis
5. DICs
6. SFC
7. Idea Generation
8. Tax Incentives

SECTION – B

Answer any **THREE** Questions. Each question carries 10 marks 3x10= 30Marks

9. Define Entrepreneurship. Explain the classification of Entrepreneurs.

(OR)

10. Briefly explain the role of Entrepreneurship in Economic Development.
11. What are the methods and sources of Idea Planning?

(OR)

12. Explain the contents and guidelines for report preparation.
13. Define NABARD. Explain its role in the development of Entrepreneurship.

(OR)

14. Explain how financial institutions help in Entrepreneurial Development.

UG- LIFE SKILL COURSE

Semester	Course Code(LS)	Course Title	Hrs/Sem	Hrs/Wk	Credits	Sem - End Exam (2Hrs)
I	Life Skill Course	Basic Computer Applications	30	2	2	50

Objectives:
This course aims at providing exposure to students in skill development towards basic office applications.

Course Learning Outcomes:
After successful completion of the course, student will be able to:

- Demonstrate basic understanding of computer hardware and software.
- Apply skills and concepts for basic use of a computer.
- Identify appropriate tool of MS office to prepare basic documents, charts, spreadsheets and presentations.
- Create personal, academic and business documents using MS office.
- Create spreadsheets, charts and presentations.
- Analyze data using charts and spread sheets.

UNIT-I: **(08 hrs)**

Basics of Computers: Definition of a Computer - Characteristics of computers, Applications of Computers – Block Diagram of a Digital Computer – I/O Devices, hardware, software human ware, application software, system software, Memories - Primary, Auxiliary and Cache Memory.

MS Windows – Desktop, Recycle bin, My Computer, Documents, Pictures, Music, Videos,Task Bar, Control Panel.

UNIT-II: **(08 hrs)**

MS-Word : Features of MS-Word - MS-Word Window Components - Creating, Editing, Formatting and Printing of Documents – Headers and Footers – Insert/Draw Tables, Table Auto format – Page Borders and Shading – Inserting Symbols, Shapes, Word Art, Page Numbers, Mail Merge.

UNIT-III: **(10 hrs)**

MS-Excel : Overview of Excel features – Creating a new worksheet, Selecting cells, Entering and editing Text, Numbers, Inserting Rows/Columns –Changing column widths and row heights, Formulae, Referencing cells , Changing font sizes and colors, Insertion of Charts, Auto fill, Sort.

MS-PowerPoint: Features of PowerPoint – Creating a Presentation - Inserting and Deleting Slides in a Presentation – Adding Clip Art/Pictures -Inserting Other Objects, Audio, Video - Resizing and scaling of an Object – Slide Transition – Custom Animation.

RECOMMENDED CO-CURRICULAR ACTIVITIES: **(04 hrs)**

(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside a. the syllabus content. Shall be individual and challenging)
2. Student seminars (on topics of the syllabus and related aspects (individual activity))
3. Quiz, Group Discussion
4. Solving MCQ’s available online.
5. Suggested student hands on activities:

- Create two folders, Rename the folder, create two files each using notepad and paint, move the files from one folder to another folder, delete a file you have created, copy and paste text within notepad.
- Create a letter head for your college with watermark, your resume, visiting card, brochure for your college activity, organization chart for your college, any advertisement, Prepare your Class time table.
- Prepare your mark sheet, Prepare your class time table, Prepare a salary bill for an organization, Sort the bill as per the alphabetical order of the names, Get online weather data and analyze it with various charts.
- Create a PowerPoint presentation for a student seminar.

MODEL QUESTION PAPER
LIFE SKILL COURSE
Semester : I
BASIC COMPUTER APPLICATIONS

Time: 2Hrs. **Max. Marks: 50**

Section -A

Answer any **four questions**. Each answer carries **5 marks.** **4 x 5M = 20M**

1. Write the Applications of Computers.
2. Describe the usage of Control Panel.
3. Write the Features of MS-Word.
4. How to insert Headers, Footers and Page Numbers in MS-Word?
5. How to create Charts in MS-Excel.
6. How to Sort and Filter elements in MS-Excel.
7. How to insert objects, audio and video in MS-PowerPoint.
8. Write about Slide Transition and Custom Animation.

Section -B

Answer **all the questions**. Each answer carries **10 marks.** **3x10M = 30M**

9. Draw and explain the block diagram of Computer.

(OR)

10. Explain different types of Memories.
11. Explain about how to create a Table and Insert a chart to illustrate and compare data in MS-Word.

(OR)

12. Explain the procedure of Mail Merge with example.
13. Prepare a Marks Table with Total, Percentage and Result using Formulae in MS-Excel.

(OR)

14. Write the procedure to prepare a presentation with different animations in MS-PowerPoint.

UG- LIFE SKILL COURSE
INFORMATION AND COMMUNICATION TECHNOLOGY (ICT)

(w.e.f. 2020-2021 A.Y.)

Semester	Course Code (LS)	Course Title	Hrs/Sem	Hrs/wk	Credits	Sem End Exam (2 hrs)
II	Life skill course	Information and Communication Technology (ICT)	30	2	2	50 Marks

Objectives: This course aims at acquainting the students with basic ICT tools which help them in their day to day and life as well as in office and research.

Course outcomes: After completion of the course, student will be able to;

- Understand the literature of social networks and their properties.
- Explain which network is suitable for whom.
- Develop skills to use various social networking sites like twitter, flickr, etc.
- Learn few GOI digital initiatives in higher education.
- Apply skills to use online forums, docs, spreadsheets, etc for communication, collaboration and research.
- Get acquainted with internet threats and security mechanisms.

UNIT-I:Fundamentals of Internet: What is Internet?, Internet applications, Internet Addressing – Entering a Web Site Address, URL–Components of URL, Searching the Internet, Browser–Types of Browsers, Introduction to Social Networking: Twitter, Tumblr, LinkedIn, Facebook, flickr, Skype, yahoo, YouTube, WhatsApp.

UNIT-II: E-mail: Definition of E-mail -Advantages and Disadvantages –User Ids, Passwords, Email Addresses, Domain Names, Mailers, Message Components, Message Composition, Mail Management. G-Suite: Google drive, Google documents, Google spread sheets, Google Slides and Google forms.

UNIT-III: Overview of Internet security, E-mail threats and secure E-mail, Viruses and antivirus software, Firewalls, Cryptography, Digital signatures, Copyright issues. What are GOI digital initiatives in higher education? (SWAYAM, Swayam Prabha, National Academic Depository, National Digital Library of India, E-Sodh-Sindhu, Virtual labs, e-acharya, e-Yantra and NPTEL).

RECOMMENDED CO-CURRICULAR ACTIVITIES: Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/ independent and group learning.

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
2. Student seminars (on topics of the syllabus and related aspects (individual activity))
3. Quiz and Group Discussion
4. Slip Test
5. Try to solve MCQ's available online.
6. Suggested student hands on activities:

a. Create your accounts for the above social networking sites and explore them, establish a video conference using Skype.
b. Create an Email account for yourself- Send an email with two attachments to another friend. Group the email addresses use address folder.
c. Register for one online course through any of the online learning platforms like NPTEL, SWAYAM, Alison, Codecademy, Coursera. Create a registration form for your college campus placement through Google forms.

Reference Books:

1. In-line/On-line: Fundamentals of the Internet and the World Wide Web, 2/e –By Raymond Green law and Ellen Hepp, Publishers: TMH
2. Internet technology and Web design, ISRD group, TMH.
3. Information Technology – The breaking wave, Dennis P.Curtin, Kim Foley, Kunai Sen and Cathleen Morin, TMH.

MODEL QUESTION PAPER

LIFE SKILL COURSE
Semester: II
INFORMATION & COMMUNICATION TECHNOLOGY

Time: 2Hrs. Max. Marks: 50

Section -A

Answer any **four questions**. Each answer carries **5 marks.** **4 x 5M = 20M**

1. Write the Applications of Internet.
2. Write the advantages of Email.
3. Write the Features of Excel.
4. Write History of Internet.
5. Write about Firewalls.
6. Discuss about Domain Names
7. Write about any four social networking applications.
8. Write about Digital Signatures.

Section- B

Answer **all the questions**. Each answer carries **10 marks.** **3x10M = 30M**

9. What is URL? Discuss components of URL.

(OR)

10. Explain about different types of Browsers with examples.

11. Explain about Mail Management.

(OR)

12. Explain about G-Suite.

13. What are the GOI digital initiatives of Higher Education? Discuss.

(OR)

14. Explain about Email Threats and Secure Email.

UG- LIFE SKILL COURSE

INDIAN CULTURE AND SCIENCE(ICS)

(w.e.f. 2020-2021 A.Y.)

Semester	Course Code (LS)	Course Title	Hrs/Sem	Hrs/wk	Credits	Sem End Exam(2 Hrs)
II	Life skill course	Indian culture and science(ICS)	30	2	2	50 Marks

Learning Outcomes: By successful completion of the course, students will be able to:

- Understand the evolution of India's culture
- Analyze the process of modernization of Indian society and culture from past to future
- Comprehend objective education and evaluate scientific development of India in various spheres
- Inculcate nationalist and moral fervour and scientific temper

Unit – I: Unity in Diversity in India: (09 hrs)

Coexistence of various religions since ancient times - Hinduism, Buddhism, Jainism and Atheism, and later Sikhism, Islam and Christianity The Bhakti (Vishnavite and Saivaite) and Sufi Movements. The concepts of seela, karuna, kshama, maitri, vinaya, santhi and ahimsa Achievements in Literature, Music, Dance, Sculpture and Painting - Craftsmanship in cloth, wood, clay, metal and ornaments Cultural diversity, Monogamy, Family system, Important seasonal festivals

Unit – II: Social Reforms and Modern Society: (09 hrs)

Reforms by Basaveswara - Raja Rama Mohan Roy – Dayananda Saraswathi –Swamy Vivekananda –Mahatma Gandhi - B. R. Ambedkar - Reforms in Andhra by Vemana,Veerabrahmam, Gurajada, Veeresalingam and Gurram Jashua (only reforms in brief, biographies not needed). Modern Society: Family unity, Community service, Social Harmony, Civic Sense, Gender Sensitivity, Equality, National Fervor

Unit – III: Science and Technology: (11 hrs)

Objectivity and Scientific Temper – Education on Scientific lines (Bloom's Taxonomy) - Online Education. Developments in Industry, Agriculture, Medicine, Space, Alternate Energy, Communications, Media through ages

Co-curricular Activities Suggested: Assignments, Group discussions, Quiz etc

1. Invited Lecture by a local expert
2. Visit to a scientific institutions, local heritage sites, museums, industries etc**.**

Reference Books:

1. History of India and Culture (Upto 1526 A.D), Telugu Academy
2. History of India and Culture (1526 A.D to 1964), Telugu Academy
3. Basham, A.L (ed), A Cultural History of India
4. Hana S. Noor Al-Deen&J.A.Hendricks, Social Media : Usage and Impact
5. Bipan Chandra, Aditya Mukherjee, Mridula Mukherjee, India After Independence
6. S.K.Thakur, ISRO: History and Achievements
7. V. Ramakrishna, Social Reform Movement Andhra, Vikas Publications

MODEL QUESTION PAPER

LIFE SKILL COURSE

Semester: II

INDIAN CULTURE & SCIENCE(ICS)

Time: 2Hrs. Max. Marks: 50

Section -A

Answer any **FOUR** questions. Each answer carries **5 marks.** **4 x 5M = 20M**

1. Buddhism. బౌద్ధమతం.
2. Christianity క్రైస్తవ మతం.
3. Monogamy. ఏకస్వామ్యం.
4. Swami vivekananda. స్వామి వివేకానంద.
5. Dr. B. R. Ambedkar. డాక్టర్ బి.ఆర్ అంబేద్కర్
6. Important Seasonal Festivals. ప్రముఖ పండుగలు
7. Online Education. ఆన్లైన్ విద్య
8. Alternate Energy. ప్రత్యామ్నాయ శక్తి

Section- B

Answer any **THREE** Questions. Each question carries 10 marks. **3 x 10M = 30M**

9. Explain the impact of Islam on Indian Culture.
   భారతీయ సంస్కృతి పై ఇస్లాం ప్రభావం గురించి వివరించండి. (భక్తి ఉద్యమం)

(OR)

10. The concept of seela, karuna, kshama, mitre, venaya, santi and ahimsha.
    రామాయణం, మహాభారతం లో శీలం, కరుణ, శాంతి, క్షమ, మైత్రి వినయ మరియు అహింస లను వివరింపుము.

11. Describe social religious movement in India?
    భారతదేశంలో సాగిన మత సాంఘిక ఉద్యమాలను వివరించండి.

(OR)

12. Social reforms movement in andhra by gurazada veeresalingam and gurram jashuva.
    ఆంధ్ర దేశ మత సాంఘిక ఉద్యమాలలో గురజాడ వీరేశలింగం మరియు గుర్రం జాషువా పాత్రను వివరింపుము.

13. Describe the role Mahatma Gandhi in Indian freedom struggle?
    భారత జాతీయ ఉద్యమంలో మహాత్మాగాంధీ పాత్రను వివరించండి.

(OR)

14. Describe the development of Industry and Agriculture in independent India.
    స్వతంత్ర భారతదేశంలో పరిశ్రమలు మరియు వ్యవసాయ అభివృద్ధి వివరించండి.

UG- LIFE SKILL COURSE

ENVIRONMENTAL EDUCATION (EE) (Mandatory)

(w.e.f. 2020-2021 A.Y.)

Semester	Course Code (LS)	Course Title	Hrs/Sem	Hrs/wk	Credits	Sem End Exam (2 Hrs)
III	Life skill course	Environmental Education(EE)	30	2	2	50 Marks

Course objective: A Generic Course intended to create awareness that the life of human beings is an integral part of environment and to inculcate the skills required to protect environment from all sides.
Learning outcomes: On completion of this course the students will be able to …..

- Understand the nature, components of an ecosystem and that humans are an integral part of nature.
- Realize the importance of environment, the goods and services of a healthy biodiversity, dependence of humans on environment.
- Evaluate the ways and ill effects of destruction of environment, population explosion on ecosystems and global problems consequent to anthropogenic activities.
- Discuss the laws/ acts made by government to prevent pollution, to protect biodiversity and environment as a whole.
- Acquaint with international agreements and national movements, and realize citizen's role in protecting environment and nature.

Unit 1: Environment and Natural Resources: (06hrs)

1. Multidisciplinary nature of environmental education; scope and importance.
2. Man as an integral product and part of the Nature.
3. A brief account of land, forest and water resources in India and their importance.
4. Biodiversity: Definition; importance of Biodiversity - ecological, consumptive, productive, social, ethical and moral, aesthetic, and option value.
5. Levels of Biodiversity: genetic, species and ecosystem diversity.

Unit-2: Environmental degradation and impacts: (10hrs)

1. Human population growth and its impacts on environment; land use change, land degradation, soil erosion and desertification.
2. Use and over-exploitation of surface and ground water, construction of dams, floods, conflicts over water (within India).
3. Deforestation: Causes and effects due to expansion of agriculture, firewood, mining, forest fires and building of new habitats.
4. Non-renewable energy resources, their utilization and influences.
5. A brief account of air, water, soil and noise pollutions; Biological, industrial and solid wastes in urban areas. Human health and economic risks.
6. Green house effect - global warming; ocean acidification, ozone layer depletion, acid rains and impacts on human communities and agriculture.
7. Threats to biodiversity: Natural calamities, habitat destruction and fragmentation, over exploitation, hunting and poaching, introduction of exotic species, pollution, predator and pest control.

Unit 3: Conservation of Environment: (10hrs)

Concept of sustainability and sustainable development with judicious use of land, water and forest resources; a forestation.

1. Control measures for various types of pollution; use of renewable and alternate sources of energy.
2. Solid waste management: Control measures of urban and industrial waste.
3. Conservation of biodiversity: In-situ and ex-situ conservation of biodiversity.
4. Environment Laws: Environment Protection Act; Act; Wildlife Protection Act; Forest Conservation Act.
5. International agreements: Montreal and Kyoto protocols; Environmental movements: Bishnois of Rajasthan, Chipko, Silent valley.

Suggested activities to learner: (4 hours)

1. Visit to an area to document environmental assets: river/ forest/ flora/fauna, etc
2. Visit to a local polluted site-Urban/Rural/Industrial/Agricultural site.
3. Study of common plants, insects, birds and basic principles of identification.
4. Study of simple ecosystems-forest, tank, pond, lake, mangroves etc.
5. Case study of a Forest ecosystem or a pond ecosystem.

Suggested text book:

1. Erach Barucha (2004) *Text book of Environmental Studies for Undergraduate courses* (Prepared for University Grants Commission) Universities Press.
2. Purnima Smarath (2018) *Environmental studies* Kalyani Publishers, Ludhiana

Reference books:

1. Odum, E.P., Odum, H.T. & Andrews, J. (1971) *Fundamentals of Ecology*. Philadelphia: Saunders.
2. Pepper, I.L., Gerba, C.P. &Brusseau, M.L. (2011). *Environmental and Pollution Science*. Academic Press.
3. Raven, P.H., Hassenzahl, D.M. & Berg, L.R. (2012) *Environment. 8th edition*. John Wiley & Sons.
4. Singh, J.S., Singh, S.P. and Gupta, S.R. (2014) *Ecology, Environmental Science and Conservation.* S. Chand Publishing, New Delhi.
5. Sengupta, R. (2003) Ecology and economics: An approach to sustainable development. OUP.
6. Wilson, E. O. (2006) *The Creation: An appeal to save life on earth.* New York: Norton.
7. Groom, Martha J., Gary K. Meffe, and Carl Ronald Carroll (2006) *Principles of Conservation Biology.* Sunderland: Sinauer Associates.

MODEL QUESTION PAPERS

Life Skill courses
Semester: III
ENVIRONMENTAL EDUCATION(Mandatory)

Time: 2Hrs Max Marks: 50

SECTION – A

Answer any **FOUR** questions. Each question carries 5 marks . 4X5 = 20Marks

1. Write short notes on Ecosystem diversity
2. Write a brief account on Water resources in India
3. Describe about Green house effect
4. Soil erosion
5. Write about any two kinds of pollutions
6. Wildlife protection Act
7. Chipko & Silent valley movement
8. A forestation

SECTION – B

Answer any **THREE** questions. Each question carries 10 marks 3 x 10 = 30Marks

9. Write an essay on Scope & Importance of environmental education.
(or)
10. Give a detailed explanation on Biodiversity and its importance .

11. Explain about Non renewable energy resources, their utilization and influences.
(or)
12. Describe threats to biodiversity.

13. Write an detailed account and differences on In situ & Ex situ conservation.
(or)
14. Define sustainability? Explain sustainable development of Water and Forest resources.

UG- LIFE SKILL COURSE

PERSONALITY ENHANCEMENT AND LEADERSHIP (PDL)

(w.e.f. 2020-2021 A.Y.)

Semester	Course Code (LS)	Course Title	Hrs/Sem	Hrs/wk	Credits	Sem End Exam(2 Hrs)
III	Life skill course	Personality enhancement and leadership(PDL)	30	2	2	50 Marks

Learning Outcomes:

By successful completion of the course, students will be able to:

- Develop comprehensive understanding of personality
- Know how to assess and enhance one's own personality
- Comprehend leadership qualities and their importance
- Understand how to develop leadership qualities

Unit – I: (7 hrs)

Meaning of Personality – Explanations of Human Personality – Psychodynamic Explanations – Social Cognitive Explanation – Big Five traits of Personality

Unit – II: (8 hrs)

Assessment of Personality - Projective& Self Report Techniques - Building Self-Confidence – Enhancing Personality Skills

Unit – III: (10 hrs)

Leadership Characteristics – Types of Leaders – Importance of Leadership – Leadership Skills – Building and Leading Efficient Teams – Leadership Qualities of Abraham Lincoln, mahatma Gandhi, Prakasam Pantulu, Dr. B. R. Ambedkar & J.R.D.Tata

Co-curricular Activities Suggested: (05 hrs)

- Assignments, Group discussions, Quiz etc
- Invited Lecture by a local expert
- Case Studies (ex., on students behavior, local leaders etc.)

Reference Books:

1. Girish Batra, Experiments in Leadership, Chennai: Notion Press, 2018
2. Mitesh Khatri, Awaken the Leader in You, Mumbai: Jaico Publishing House, 2013
3. Carnegie Dale, Become an Effective Leader, New Delhi: Amaryllis, 2012
4. Hall, C.S., Lindzey. G. & Campbell, J.B Theories of Personality. John Wiley & Sons,1998

MODEL QUESTION PAPER

LIFE SKILL COURSE
Semester: III
PERSONALITY DEVELOPMENT AND LEADERSHIP

Time: 2Hrs Max Marks: 50

SECTION-A

Answer any **FOUR** Questions. Each question carries 5 marks. 4 x 5 = 20Marks

1. Write about meaning of Personality.
2. Explain about 'Social Cognitivism" .
3. Write a brief note on the leadership qualities of 'Prakasam Panthulu'.
4. Dr. B.R.Ambedkar is a successful leader. Explain.
5. Explain 'Psycho Dynamism' .
6. Building and leading efficient teams.
7. What are the qualities that made 'Abraham Lincoln' a great leader?
8. Types of leaders: Explain?

SECTION – B

Answer any **THREE** Questions. Each question carries 10 marks. 3x10=30Marks

9. Write a note on 'Explanations of Human Personality'

OR

10. What are 'big five traits' of Personality

11. How do you assess Personality.

OR

12. How can one enhance Personality skills.

13. Explaine the characteristics of leaderships.

OR

14. Write about the importance of leadership and elaborate the leadership qualities of Mahatma Gandhi.

UG- LIFE SKILL COURSE

ANALYTICAL SKILLS(AS)

(w.e.f. 2020-2021 A.Y.)

Semester	Course Code (LS)	Course Title	Hrs/Sem	Hrs/wk	Credits	Sem End Exam (2 Hrs)
III	Life skill course	Analytical skills(AS)	30	2	2	50 Marks

Course Objective: Intended to inculcate quantitative analytical skills and reasoning as an inherent ability in students.

Course Outcomes:

After successful completion of this course, the student will be able to;

- Understand the basic concepts of arithmetic ability, quantitative ability, logical reasoning, business computations and data interpretation and obtain the associated skills.
- Acquire competency in the use of verbal reasoning.
- Apply the skills and competencies acquired in the related areas
- Solve problems pertaining to quantitative ability, logical reasoning and verbal ability inside and outside the campus.

UNIT – 1: (10 Hrs)

Arithmetic ability: Algebraic operations BODMAS, Fractions, Divisibility rules, LCM & GCD(HCF).

Verbal Reasoning: Number Series, Coding & Decoding, Blood relationship, Clocks, Calendars.

UNIT – 2: (10 Hrs)

Quantitative aptitude: Averages, Ratio and proportion, Problems on ages, Time-distance–speed.

Business computations: Percentages, Profit & loss, Partnership, simple compound interest.

UNIT – 3: (07 Hrs)

Data Interpretation: Tabulation, Bar Graphs, Pie Charts, line Graphs. Venn diagrams.

Recommended Co-Curricular Activities **(**03 Hrs)

Surprise tests / Viva-Voice / Problem solving/Group discussion.

Text Book:

Quantitative Aptitude for Competitive Examination by R.S. Agrawal, S.Chand Publications.

Reference Books:

1. Analytical skills by Showick Thorpe, published by S Chand And Company Limited, Ramnagar, New Delhi-110055.
2. Quantitative Aptitude and Reasoning by R V Praveen, PHI publishers.
3. Quantitative Aptitude for Competitive Examination by Abhijit Guha, Tata Mc Graw Hill Publications.

ADIKAVI NANNAYA UNIVERSITY :: RAJAMAHENDRAVARAM

UG-LIFE SKILL COURSE

SEMESTER-III

ANALYTICAL SKILLS (AS)

(w.e.f 2020-2021 A.Y)

Time: 2 Hrs **Max.Marks: 50**

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1. The value of $[(4444 \div 44) - \{625 \div 25 + 1)] \div 25$ is

A) 4 B) 6 C) 3 D) 5

2. The value of $\frac{658\times658\times658-328\times328\times328}{658\times658+658\times328+328\times328}$ is

A) 340 B) 350 C) 320 D) 330

3. If $\frac{3}{5}$ of 350 - $\frac{4}{7}$ of 210 = ?

A) 80 B)70 C)90 D) 60

4. The value of $6\frac{5}{12} \times 3\frac{3}{8} + 2\frac{3}{16} \times 3\frac{1}{2}$ is

A) $29\frac{5}{32}$ B) $29\frac{3}{32}$ C) $29\frac{10}{32}$ D) $29\frac{3}{16}$

5. Which of the following number is not divisible by 11

A) 41745 B) 217316 C) 19756 D)153980

6. The remainder when $1753 \times 87 \times 171$ is divisible by 17 is

A) 6 B) 5 C) 4 D) 3

7. LCM of $\frac{6}{5}, \frac{5}{4}, \frac{4}{3}, \frac{3}{2}$ is

A) 360 B) 60 C)120 D) 240

8. Which of the following fractions is the largest?

A) $\frac{7}{8}$ B) $\frac{13}{16}$ C) $\frac{31}{40}$ D) $\frac{63}{80}$

9. What is the greatest number that will divide 964, 1238, 1400 leaving remainders 41, 31, 51 respectively?

A) 53 B) 47 C) 71 D) 79

10. HCF of 3.6, 0.24, 1.2 is

A) 3.6 B) 0.36 C) 0.24 D) 2.4

11. 1, 2, 6, 15, 31, 56, 92, -----

A) 140 B) 141 C) 145 D) 144

12. Find the wrong number of the series.

5, 7, 21, 23, 69, 70, 213.

A) 23 B) 7 C) 69 D) 70

13. If GOODNESS is coded as HNPCODTR, then how GREATNESS can be written in that code?

A) HQZSMFRT B) HQFZUFRTM

C) HQFZUODTR D) HQFZUMFRT

14. In a certain code language, 481 means 'sky is blue', 246 means 'sea is deep' and 698 means 'sea looks blue'. What number is the code for 'blue'?

A) 1 B) 6 C) 8 D) 9

15. If A + B means A is the brother of B; A - B means A is the sister of B and A x B means A is the father of B. Which of the following means that C is the son of M?

A) M - N x C + F B) F - C + N x M

C) N + M - F x C D) M x N - C + F

16. Pointing to a girl Sandeep said, "She is the daughter of the only sister of my father." How is sandeep related to the girl?

A) Uncle B) Cousin C) Father D) Grandfather

17. The angle between the minute hour and the hour hand of a clock when the time is 4.20, is

A) $0°$ B) $5°$ C) $10°$ D) $20°$

18. How many times in a day, the hands of a clock are straight?

A) 22 B) 24 C) 44 D) 48

19. What will be the day on 26^{th} July 2024?

A) Monday B) Tuesday C) Thursday D) Friday

20. The calendar for the year 2021 will be the same as the year?

A) 2032 B) 2026 C)2027 D) 2031

21. What is the average of first 81 natural numbers.

A) 81 B) 41 C) 51 D) 45

22. The average age of P, Q, R and S is 26 years. If the average age of Q and R is 24 years, the average age of R and S is 27 years, and the average age of Q and S is 25 years then find the ages of P.

A) 28 B) 22 C) 26 D) 24

23. If, $A:B = 3:5$, $B:C = 2:7$ and $C:D = 4:9$ then find $A:B:C:D$.

A) $24:40:140:315$ B) $12:40:140:330$

C) $12:40:140:315$ D) $24:40:140:330$

24. A box contains $Rs.5, Rs.10$ and $Rs.20$ notes in the ratio $7:5:11$. If the total amount in the box is $Rs.9{,}150$ then find the number of Rs. 10 notes

A) 210 B) 150 C) 330 D) 200

25. The present age of suri is 6 times of vani' s age. Vani's present age is 10 years less than suri's age . Find the present age of suri ?

A) 10 B) 12 C) 14 D) 16

26. Present ages of Seema and Naresh are in the respective ratio of 6:5. After 9 years the ratio of their ages will be 9:8. What is the difference in their ages?

A) 9 years B) 5 years C) 4 years D) 3 years

27. A van can cover a distance of 1260 km in 35 hours. then its speed in metres per second.

A) 36Kmph B) 10m/sec C) 54Kmph D) 15m/sec

28. The speed of a train is 60km/hr. What is the distance in meters covered by the train in 12 minutes?

A) 10km B) 12km C) 15km D) 20km

29. A 600 m long train passes a platform which is 400 m long. Find the distance covered by the train in passing the platform.

A) 600m B) 200m C) 1000m D) 400m

30. The speeds of three cars are in the ratio of 2 : 3: 5. Find the ratio of the time taken by the above cars to travel the same distance.

A) 2:3:5 B) 3:2:5 C) 5:3:2 D) 15:10:6

31. Anil spends 45% of his monthly salary on ration, 15% on house rent, 10% on entertainment, 2% on medicines and saves $Rs.5{,}600$. Calculate his annual income.

A) 9000 B) 20000 C) 12000 D) 18000

32. In an examination, it is required to get 65% of aggregate marks to pass. Sudheer gets 570 marks and he is failed by 8%. Find maximum aggregate marks.

A) 900 B) 1100 C) 1000 D) 800

33. Lucky buys a rice cooker for $Rs.2400$ and sells it for profit of 30%. Find the selling price of rice cooker.

A) 2400 B) 3120 C) 3000 D) 2700

34. Neha sells a toy for $Rs.546$ at loss of 9%. How much should Neha sell it to get 6% of profit?

A) 636 B) 646 C) 656 D) 626

35. A, B and C started a business by investing ₹ 90,000, ₹ 1,20,000 and ₹ 1,50,000 respectively. Find the profit of B out of an annual profit of ₹ 76,800.

A) ₹ 19,200 B) ₹ 32,000 C) ₹ 25,600 D) ₹ 36,000

36. A starts a business with ₹ 4,000 and B joins the business 4 months later with an investment of ₹ 5,000. After 1 year they earned a profit of ₹ 22,000. Find the share of A .

A) 6000 B) 12000 C) 10000 D) 5000

37. A sum of Rs.5000 amounts to Rs.6050 in 2 years, what is the rate of interest ?

A) 10% B) 11% C) 10.5% D) 11.5%

38. Rs800 becomes Rs.956 in 3 years at certain simple rate of interest. If the rate of interests is increased by 4%,what amount will Rs 800become in three years ?

A) 252 B) 852 C) 1052 D) None

39.The Compound interest on Rs.7500 at 4% per annum for 2years, compounded annually.

A) 600 B) 750 C) 900 D) 612

40. Find the compound interest on Rs. 16000 at 20% per annum for 9 months, compounded quarterly.

A) 2520 B) 2400 C) 18520 D) 18400

(41-45) Study the following table carefully and answer the following questions.

Number of paddy bags produced by 5 farmers over the years						
Years	Farmers					
	A	B	C	D	E	F
2000	420	360	396	528	492	444
2001	564	492	576	612	576	540
2002	588	612	624	648	576	564
2003	600	660	648	636	612	600
2004	648	708	684	672	660	672
2005	732	744	720	756	708	720

41. What is the average number of paddy bags produced by Farmer D over the years?

A) 624 B) 642 C) 674 D) 672

42. The number of paddy bags produced by Farmer B in the year 2003 are approximately what percent of the paddy bags produced by Farmer B over the years?

A) 24 B) 18 C) 21 D) 3

43. What is the respective ratio of the paddy bags produced by Farmer A to the Farmer E in the year 2005?

A) 60 : 61 B) 61 : 63 C) 60 : 63 D) 61 : 59

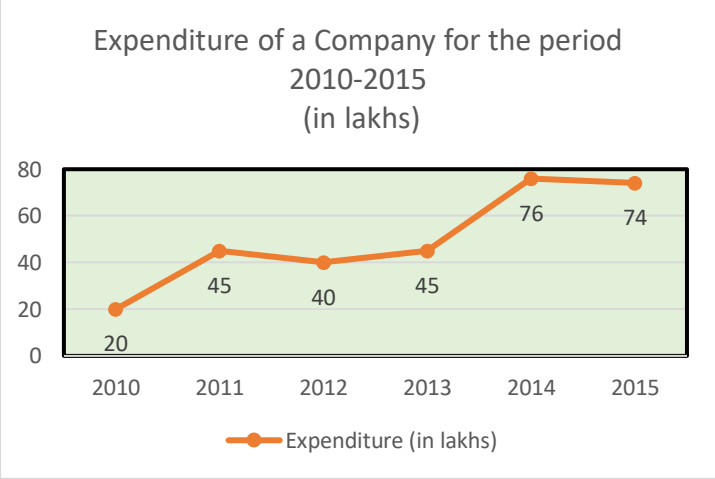
44. What is the respective ratio of the paddy bags produced by Farmers A, B and C together in the year 2000 to the paddy bags produced by Farmers D, E and F together in the same year?

A) 49 : 64 B) 51 : 61 C) 49 : 61 D) 51 : 55

45. What is the difference between the total number of paddy bags produced by all the farmers together in the year 2001 and the year 2004?

A) 684 B) 648 C) 846 D) 864

(46-50) Study the following graph and answer the questions given below.



46. If the income of the company in the year 2010 was Rs. 50 lakhs and the income of the company in the year 2013 was Rs. 95 lakhs find the ratio of the profits of the company in the year 2010 to the company in the year 2013?

A) 3:5 B) 5:3 C) 4:5 D) 5:4

47. What is the approximate percent of profit of the year 2014, if the income of the company was Rs. 136 lakhs?

A) 44% B) 79% C) 56% D)

48. The profit of the company in the year 2011 was RS. 15 lakhs, what was the income of the company in that year?

A) 45Lakhs B) 60Lakhs C) 30Lakhs D) 75Lakhs

49. In which year the percentage of increase/decrease in expenditure the highest from that of the previous year?

A) 2011 B) 2010 C) 2013 D) 2014

50. What is the average expenditure of the company over the given six years?

A) 50Lakhs B) 45Lakhs C) 55Lakhs D) 60Lakhs

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UG- SKILL DEVELOPMENT COURSE
TOURISM GUIDANCE
(w.e.f. 2020-2021 A.Y.)

Semester	Course Code (SD)	Course Title	Hrs/Sem	Hrs/wk	Credits	Sem End Exam (2 Hrs)
I	Skill Development Course	Tourism Guidance	30	2	2	50 Marks

Learning Outcomes:
By successful completion of the course, students will be able to:

- Understand the basic tourism aspects .
- Comprehend the requirements, role and responsibilities of profession of a Tourist Guide
- Apply the knowledge acquired in managing different groups and guiding in a tour
- Explain basic values related to tourism and heritage

Unit I: (06 hrs)
Tourism – What is Tourism - Characteristics of Tourist Places – Guidance in Tourism - Meaning of Guidance – Types of Tour Guidance - Government/Department Regulations

Unit II: (10 hrs)
Types of Guides – Characteristics of a Guide - Duties and Responsibilities of a Guide - The Guiding Techniques –Guide's personality- Training Institutions – Licence.
Leadership and Social Skills - Presentation and Communication Skills - Working with different age and linguistic groups - Working under difficult circumstances – Precautions at the site -Relationship with Fellow Guides and Officials.

Unit III: (10 hrs)
Guest Relationship Management- Personal and Official - Arrangements to Tourists – Coordinating transport - VISA/Passport -Accident/Death -Handling Guests with Special Needs/ Different Abilities – Additional skills required for Special/Adventure Tours - Knowledge of Local Security and Route Chart – Personal Hygiene and Grooming - Checklist - Code of Conduct

Co-curricular Activities Suggested: (04 hrs)

1. Assignments, Group discussion, Quiz etc.
2. Invited lecture/training by local tourism operators/expert/guides
3. Visit to local Tourism Department office and a tourist service office
4. Organisation of college level short-duration tours to local tourist sites.

Reference Books:

1. Jagmohan Negi (2006); Travel Agency and Tour Operations, Kanishka Publishers, New Delhi
2. Mohinder Chand (2009); Travel Agency and Tour Operations: An Introductory Text, Anmol Publications Pvt. Limited, New
3. Pat Yale(1995); Business of Tour Operations, Longman Scientific & Technical, New Delhi
4. Websites on Tourism guidance.

MODEL QUESTION PAPER

SKILL DEVELOPMENT COURSE
SEMESTER I
TOURISM GUIDANCE

Time: 2Hrs Max. Marks: 50

SECTION – A

Answer any **FOUR** questions. Each question carries 5 marks 4 x 5 = 20Marks
ఏవైనానాలుగుప్రశ్నలకైనాసమాధానములువ్రాయుముప్రతిప్రశ్నకుమార్కులుసమానము.

1.Tourism
పర్యాటకశాఖ

2. Explain the meaning of Tourism Guidance
మార్గదర్శకత్వము యొక్క అర్థమును వివరించండి

3. Training institutions
శిక్షణ సంస్థలు

4. Leadership and Social Skills
నాయకత్వము మరియు సామజిక నైపుణ్యము

5. .Passport
పాస్పోర్ట్

6..Hygiene and dressing
పరిశుభ్రత మరియు వస్త్రధారణ

7. Adventure Tourism
సాహస యాత్రలు

8.Checklist
చెక్లిస్ట్

SECTION – B

Answer **THREE** questions. Each question carries 10 marks. 3 X 10 = 30Marks
ఏవైనా మూడు ప్రశ్నలకు సమాధానములు వ్రాయుము ప్రతి ప్రశ్నకు 10 మార్కులు

9. Explain the features of Tourism on places
పర్యాటక ప్రదేశాలు యొక్క లక్షణములను తెలుపుము

. 10. Explain the duties and responsibilities of a mentor
మార్గదర్శకుని యొక్క విధులు మరియు బాధ్యతలను గూర్చి తెలుపుము

. 11.Explain the personal and official arrangements of the Tourism
పర్యాటకుల వ్యక్తిగత మరియు అధికారిక ఏర్పాట్లను గూర్చి తెలుపుము

. 12. Explain different types of Tourism Guidelines
వివిధ రకముల పర్యాటక మార్గదర్శకాలను గూర్చి తెలుపుము

. 13. Describe the display and communicate skills
ప్రదర్శన మరియు సమాచార నైపుణ్యమును గూర్చి తెలుపుము

. 14. Explain Knowledge of local security and route chart
రూట్చార్జ్మరియు స్థానికభద్రత యొక్క విజ్ఞానము గూర్చి తెలుపుము

UG- SKILL DEVELOPMENT COURSE
PLANT NURSERY
(w.e.f. 2020-2021 A.Y.)

Semester	Course Code (SD)	Course Title	Hrs/Sem	Hrs/wk	Credits	Sem End Exam (2 Hrs)
I	Skill Development Course	Plant Nursery	30	2	2	50 Marks

Learning Outcomes: On successful completion of this course students will be able to;

- Understand the importance of a plant nursery and basic infrastructure toestablish it.
- Explain the basic material, tools and techniques required for nursery.
- Demonstrate expertise related to various practices in a nursery.
- Comprehend knowledge and skills to get an employment or to become an entrepreneur in plant nursery sector.

Unit-1: Introduction to plant nursery: (06 Hrs)

1. Plant nursery: Definition, importance.
2. Different types of nurseries –on the basis of duration, plants produced, structure used.
3. Basic facilities for a nursery; layout and components of a good nursery.
4. Plant propagation structures in brief.
5. Bureau of Indian Standards (BIS-2008) related to nursery.

Unit- 2: Necessities for nursery: (09 Hrs)

1. Nursery beds – types and precautions to be taken during preparation.
2. Growing media, nursery tools and implements, and containers for plant nursery, in brief.
3. Seeds and other vegetative material used to raise nursery in brief.
4. Outlines of vegetative propagation techniques to produce planting material.
5. Sowing methods of seeds and planting material.

Unit-3: Management of nursery: (09 Hrs)

1. Seasonal activities and routine operations in a nursery.
2. Nursery management – watering, weeding and nutrients; pests and diseases.
3. Common possible errors in nursery activities.
4. Economics of nursery development, pricing and record maintenance.
5. Online nursery information and sales systems.

Suggested Co-curricular activities: (6 Hrs)

1. Assignments/Group discussion/Quiz/Model Exam.
2. Demonstration of nursery bed making.
3. Demonstration of preparation of media for nursery.
4. Hands on training on vegetative propagation techniques.
5. Hands on training on sowing methods of seeds and other material.
6. Invited lecture cum demonstration by local expert**.**
7. Watching videos on routine practices in plant nurseries.
8. Visit to an agriculture/horticulture /forest nursery.
9. Case study on establishment and success of a plant nursery.

Reference books:

1. Ratha Krishnan, M., et.al. (2014) *Plant nursery management: Principles and practices*, Central Arid Zone Research Institute (ICAR), Jodhpur, Rjasthan
2. Kumar, N., (1997) *Introduction to Horticulture*, Rajalakshmi Publications, Nagercoil.
3. Kumar Mishra, K., N.K. Mishra and Satish Chand (1994) *Plant Propagation*, John Wiley & Sons, New Jersey.

MODEL QUESTION PAPER

SKILL DEVELOPMENT COURSES
Semester: I
PLANT NURSERY

Time: 2Hrs. Max Marks: 50

SECTION – A

Answer any **FOUR** questions. Each question carries 5 marks. 4x5M= 20Marks

1. Components of good nursery
2. Plant propagation
3. Nursery tools
4. Sowing methods of seeds
5. Growing media
6. Seasonal activities
7. Errors in nursery activities
8. Importance of plan nursery

SECTION – B

Answer **all** the questions. Each question carries 10 marks. ` **3 X 10 = 30Marks**

9. Define Plant Nursery and Describe in detail its types.

(OR)

10. Describe in detail about Bureau of Indian Standards in relation to nursery.

11. Write a note on Nursery beds types and precautions for propagation.

(OR)

12. Write a note on outlines of Vegetative propagation techniques.

13. Describe in detail about Nursery management.

(OR)

14. Write a note on online nursery information and sales systems.

UG- SKILL DEVELOPMENT COURSE
ELECTRICAL APPLIANCES
(w.e.f. 2020-2021 A.Y.)

Semester	Course Code (SD)	Course Title	Hrs/Sem	Hrs/wk	Credits	Sem End Exam (2 Hrs)
I	Skill Development Course	Electrical Appliances	30	2	2	50 Marks

Learning Outcomes: By successful completion of the course, students will be able to:

- Acquire necessary skills/hand on experience/ working knowledge on multimeters, galvanometers, ammeters, voltmeters, ac/dc generators, motors, transformers, single phase and three phase connections, basics of electrical wiring with electrical protection devices.
- Understand the working principles of different household domestic appliances.
- Check the electrical connections at house-hold but will also learn the skill to repair the electrical appliances for the general troubleshoots and wiring faults.

UNIT-I : **(6 hrs)**

Voltage, Current, Resistance, Capacitance, Inductance, Electrical conductors and Insulators, Ohm's law, Series and parallel combinations of resistors, Galvanometer, Ammeter, Voltmeter, Multimeter, Transformers, Electrical energy, Power, Kilowatt hour (kWh), consumption of electrical power

UNIT-II : **(10 hrs)**

Direct current and alternating current, RMS and peak values, Power factor, Single phase and three phase connections, Basics of House wiring, Star and delta connection, Electric shock, First aid for electric shock, Overloading, Earthing and its necessity, Short circuiting, Fuses, MCB, ELCB, Insulation, Inverter, UPS

UNIT-III: **(10 hrs)**

Principles of working, parts and servicing of Electric fan, Electric Iron box, Water heater; Induction heater, Microwave oven; Refrigerator, Concept of illumination, Electric bulbs, CFL, LED lights, Energy efficiency in electrical appliances, IS codes & IE codes.

Co-curricular Activities (Hands on Exercises): **(04 hrs)**

[Any four of the following may be taken up]

1. Studying the electrical performance and power consumption of a given number of bulbs connected in series and parallel circuits.
2. Measuring parameters in combinational DC circuits by applying Ohm’s Law for different resistor values and voltage sources
3. Awareness of electrical safety tools and rescue of person in contact with live wire.
4. Checking the specific gravity of lead acid batteries in home UPS and topping-up with distilled water.
5. Identifying Phase, Neutral and Earth on power sockets.
6. Identifying primary and secondary windings and measuring primary and secondary voltages in various types of transformers.
7. Observing the working of transformer under no-load and full load conditions.
8. Observing the response of inductor and capacitor with DC and AC sources.
9. Observing the connections of elements and identify current flow and voltage drops.
10. Studying electrical circuit protection using MCBs, ELCBs
11. Assignments, Model exam etc.

Reference Books:

1. A Text book on Electrical Technology, B.L.Theraja, S.Chand& Co.,
2. A Text book on Electrical Technology, A.K.Theraja.
3. Performance and design of AC machines, M.G.Say, ELBSEdn.,
4. Handbook of Repair & Maintenance of domestic electronics appliances; BPB Publications
5. Consumer Electronics, S.P.Bali, Pearson
6. Domestic Appliances Servicing, K.P.Anwer, Scholar Institute Publications

MODEL QUESTION PAPER

SKILL DEVELOPMENT COURSE
Semester –I
Electrical Appliances

Time: 2 Hrs Max Marks: 50

Section – A

Answer any **FOUR** questions. each question carry 5 marks. 4 x 5 = 20Marks

1. Explain the terms (i) Voltage and (ii) Current.
2. Write a short notes on short circuiting?
3. Write about Galvanometer
4. What is the difference between Inverter and UPS
5. What is the variation of Electrical energy and Power
6. Define IS codes and IE codes
7. What is the principle of Microwave oven
8. Explain the parts and servicing of Electric fan

Section – B

Answer any **THREE** questions . each question carry 10marks. 3x10M = 30Marks

9. Explain about the series and parallel combinations of resistors

(OR)

10. Distinguish between Electrical conductors and Insulators

11. Discuss about single phase and three phase connections

(OR)

12. What is electric shock and discuss necessary steps for first aid for electric shock

13. Write the concept of illumination and discuss about LED light

(OR)

14. Distinguish between Water heater and Induction heater.

UG- SKILL DEVELOPMENT COURSE
INSURANCE PROMOTION

(w.e.f. 2020-2021 A.Y.)

Semester	Course Code (SD)	Course Title	Hrs/Sem	Hrs/wk	Credits	Sem End Exam (2 Hrs)
I	Skill Development Course	Insurance Promotion	30	2	2	50 Marks

Learning Outcomes:
By successful completion of the course, students will be able to;

- Understand the field level structure and functioning of insurance sector and it's role in protecting the risks.
- Comprehend pertaining skills and their application for promoting insurance coverage
- Prepare better for the Insurance Agent examination conducted by IRDA
- Plan 'promoting insurance coverage practice' as one of the career options.

UNIT I:
Section I: **(06 Hrs)**
Introduction of Insurance - Types of insurances. Growth of Insurance sector in India - Regulatory mechanism (IRDA) - Its functions

UNIT II:
Section II: **(10 Hrs)**
Life Insurance plans. Health insurance plans. Products and features. Contents of documents– Sales Promotion methods - Finding prospective customers –Counselling – Helping customers in filing - Extending post-insurance service to customers.

UNIT III:
Section III: **(10 Hrs)**
General Insurance - It's products (Motor, Marine, Machinery, Fire, Travel and Transportation) and features. Contents of documents. Dealing with customers – Explaining Products to Customers - Promoting Customer loyalty. Maintenance of Records.

Co-curricular Activities Suggested: **(4 hrs)**

1. Collection of pamphlets of various insurance forms and procedures
2. Invited Lectures by Development Officers concerned
3. Mock practice of selling of insurance products
4. Preparation of working documents
5. Assignments, Group discussion, Quiz etc.

Reference books:

1. Principles of Insurance, Himalaya publishing House
2. Principles and Practice of Insurance, "
3. Fundamentals of insurance, "
4. Life and General Insurance Management, "
5. Financial services, Tata McGraw hill
6. Insurance Principles and Practices, Sultan Chand &Sons
7. Websites on insurance promotion

MODEL QUESTION PAPERS

SKILL DEVELOPMENT COURSES)
Semester: I

PAPER: INSURANCE PROMOTION

Time:2Hrs. Max Marks: 50

SECTION – A

Answer any **FOUR** questions. Each question carries 5 marks. 4 x 5 = 20Marks

1. Functions of IRDA.
2. Point Insurance Services.
3. Five Insurance.
4. Sales promotion methods.
5. Customer Royalty
6. Insurance product promotion.
7. Types of Insurances.
8. Health Insurance.

SECTION – B

Answer **all** the questions. Each question carries 10 marks. 3 x10 =30Marks

9. Explain the need and significance of Insurance.

(OR)

10. Briefly discuss the role of IRDA in Insurance promotions and regulations.

11. Write in detailed about life Insurance products and features?

(OR)

12. Discuss the doubts for health Insurance ? Narrate the issues in helping customer in filing.
13. Write about the significance of general Insurance? Explain any TWO general insurance productives

(OR)

14. Explain the procedure in handling and dealing with the customers and enhancing the customer royalty .

UG- SKILL DEVELOPMENT COURSE

SURVEY & REPORTING

(w.e.f. 2020-2021 A.Y.)

Semester	Course Code (SD)	Group 'A'	Course Title	Hrs/Sem	Hrs/wk	Credits	Sem End Exam (2 Hrs)
II	Skill Development Course		Survey & Reporting	30	2	2	50 Marks

Learning Outcomes:

After successful completion of this course, the student will be able to:

- Understand the basics of survey and reporting needs and methods
- Comprehend designing of a questionnaire
- Conduct a simple and valid survey and Collect data
- Organize and interpret data and Prepare and submit report.

Unit I: (08Hrs)

Survey: Meaning and Definition –Identifying need for survey - Identifying Sample –Characteristics of Sample - Types of Survey – Survey Methods – Advantages and Disadvantages of Survey – Essential Steps in Survey – Online Survey.

Unit II: (09Hrs)

Preparing Questionnaire: Types and Parts of Questionnaire – Qualities of good Questionnaire – Precautions in Preparing Questionnaire. Administering/Piloting Questionnaire –Collection of data - Dealing with People – Maintaining objectivity/neutrality.

Unit III: (10 Hrs): Methods of Organizing data – Forms of data presentation - Tables and Figures – Basic Statistical Methods of Analysis of data –Percentages - Mean, Mode and Median –Simple Ways of showing Results– Tables/Graphs/Diagrams

Report Writing: Forms of Reporting - Parts of a Report - Title page to Acknowledgements - Characteristics of a Good Report – Style of language to be used - Explaining Data in the Report – Writing fact-based Conclusions – making Recommendations – Annexing required material.

Recommended Co-curricular Activities (3 hrs):

1. Invited Lecture/Training by a Local Expert
2. Collection and study of questionnaires
3. Preparation of sample questionnaire and conduct a live sample survey
4. Preparation of a sample Report
5. Assisting a real time field survey and report writing
6. Assignments, Group discussion, Quiz etc.

Reference books:

1. Denscombe M., The Good Research Guide: For Small-Scale Social Research Projects, Open Uni. Press, 1998
2. Sudman S &Bradburn N.M., Asking Questions, 1973

MODEL QUESTION PAPER

SKILL DEVELOPMENT COURSE
Semester: II-(Group A)
SURVEY & REPORTING

Time:2Hrs. Max Marks: 50

SECTION-A

Answer any **FOU**R questions. Each question carries 5 marks. 4 x 5 = 20Marks

1. Online surveys - ఆన్లైన్ సర్వే.
2. Piloting Questionnaire - పైలా టింగ్ ప్రశ్నావళి.
3. Forms of Reporting - రిపోర్టింగ్ రూపాలు.
4. Survey Advantages and Disadvantages - సర్వే ప్రయోజనాలు లోపాలు.
5. Group Discussion - బృంద చర్చ.
6. Types of survey - సర్వే రకాలు.
7. Analysis of Data - డేటా విశ్లేషణ.
8. Sample report - శాంపిల్ నివేదిక.

SECTION – B

Answer **all** the questions. Each question carries 10 marks. 3 x 10=30Marks

9. A) Define Survey and explain its characteristics ?

   సర్వేను నిర్వచించి, లక్షణాలను తెలపండి ?

   OR

   B) Evaluate Survey methods and explain the importance of research area?
   సర్వే పద్ధతిని వివరించి పరిశోధనలో దాని ప్రాముఖ్యతను తెల్పండి?

10. A) Explain the characteristics of Good Questionnaire?

    మంచి ప్రశ్నావళి యొక్క లక్షణాలను తెలియజేయండి?

    OR

    B) Questionnaire plays a dominant role in the process of Research. Explain it?

    "పరిశోధన ప్రక్రియలో ప్రశ్నావళి కీలక పాత్ర పోషిస్తుంది" -వివరించండి?

11 A) Explain the importance of primary and secondary data in Research?

   పరిశోధనలలో ప్రాథమిక మరియు ద్వితీయ డేటాను మధ్య సంబంధమును మరియు ప్రాధాన్యతను

   వివరించండి?

   OR

   B) Explain the detailed procedure of writing research report?

   పరిశోధన రచన నివేదిక పద్ధతిని వివరించండి?

UG- SKILL DEVELOPMENT COURSE
BUSINESS COMMUNICATION
(w.e.f. 2020-2021 A.Y.)

Semester	Course Code (SD)	Group 'A'	Course Title	Hrs/ Sem	Hrs/wk	Credits	Sem End Exam (2 Hrs)
II	Skill Development Course		Business Communication	30	2	2	50 Marks

Learning Outcomes:
After successful completion of this course, students will be able to;

- Understand the types of business communication and correspondence
- Comprehend the processes like receiving, filing and replying
- Acquire knowledge in preparing good business communications
- Acquaint with organizational communication requirements and presentations.

UNIT I: **(06hrs)**
Introduction and Importance of communication an overview - meaning and process of communication - organizational communication and its barriers.

UNIT II: **(10hrs)**
Types of Business Communications –Categories, methods and formats - Business vocabulary - Business idioms and collocations – Organisational Hierarchy - Various levels of communication in an organization – Top-down, Bottom-up and Horizontal-Business reports, presentations– Online communications.

UNIT III: **(10hrs)**
Receiving business communications -Filing and processing -Sending replies. Routine cycle of communications – Writing Communications - Characteristics of a good business communication - Preparation of business meeting agenda – agenda notes - minutes –circulation of minutes – Presentations of communication using various methods.

Recommended Co-curricular Activities **(04hrs)**:
1. Collection of various model business letters
2. Invited lecture/field level training by a local expert
3. Reading of various business reports and minutes and its analysis
4. Presentations of reports, charts etc.
5. Assignments, Group discussion, field visit etc.

Reference books:

1. Chaturvedi. P.D.Chaturvedi.M - Business Communication concepts, Cases and applications - Pearsons Education.
2. Kaul Asha - Effective Business Communication - PHI Learning pvt Ltd .
3. www.swayam.gov.in
4. Websites on business communication

MODEL QUESTION PAPER

SKILL DEVELOPMENT COURSE
Semester: II-(Group A)
BUSINESS COMMUNICATION

Time:2Hrs. Max Marks: 50

SECTION-A

Answer any **FOU**R questions. Each question carries 5 marks. 4 x 5 = 20Marks

1. What is the meaning and process of communication?
2. Explain the types of Business communication
3. Write a brief note on organizational Hierarchy.
4. Write about online communications
5. Make a brief note on business idioms and collocations.
6. Write about 'Preparation of business meeting agenda'
7. Write a brief note on 'agenda notes'
8. Write about circulation of minutes.

SECTION – B

Answer **all** the questions. Each question carries 10 marks. 3 x 10=30Marks

9. Explaine organizational communication and its barriers.

OR

10. Give an overview regarding the importance of communication in your own words.
11. What are the categories, methods and formats in Business communication

OR

12. Explain various levels of communication in an organization.
13. What are the characteristics of a good business communication

OR

14. Write about presentations of communication using various method

UG- SKILL DEVELOPMENT COURSE

SOLAR ENERGY

(w.e.f. 2020-2021 A.Y.)

Semester	Course Code (SD)	Group 'A'	Course Title	Hrs/Sem	Hrs/wk	Credits	Sem End Exam (2 Hrs)
II	Skill Development Course		Solar Energy	30	2	2	50 Marks

Learning Outcomes: After successful completion of the course, students will be able to:

- Acquire knowledge on solar radiation principles with respect to solar energy estimation.
- Get familiarized with various collecting techniques of solar energy and its storage
- Learn the solar photovoltaic technology principles and different types of solar cells for energy conversion and different photovoltaic applications.
- Understand the working principles of several solar appliances like Solar cookers, Solar hot water systems, Solar dryers, Solar Distillation, Solar greenhouses

UNIT-I – Solar Radiation: (6 hrs)

Sun as a source of energy, Solar radiation, Solar radiation at the Earth's surface, Measurement of Solar radiation-Pyroheliometer, Pyranometer, Sunshine recorder, Prediction of available solar radiation, Solar energy-Importance, Storage of solar energy, Solar pond

UNIT-II – Solar Thermal Systems: (10 hrs)

Principle of conversion of solar radiation into heat, Collectors used for solar thermal conversion: Flat plate collectors and Concentrating collectors, Solar Thermal Power Plant, Solar cookers, Solar hot water systems, Solar dryers, Solar Distillation, Solar greenhouses.

UNIT-III – Solar Photovoltaic Systems: (10 hrs)

Conversion of Solar energy into Electricity - Photovoltaic Effect, Solar photovoltaic cell and its working principle, Different types of Solar cells, Series and parallel connections, Photovoltaic applications: Battery chargers, domestic lighting, street lighting and water pumping

Co-curricular Activities (Hands on Exercises): (04 hrs)

[Any four of the following may be taken up]

1. Plot sun chart and locate the sun at your location for a given time of the day.
2. Analyse shadow effect on incident solar radiation and find out contributors.
3. Connect solar panels in series & parallel and measure voltage and current.
4. Measure intensity of solar radiation using Pyranometer and radiometers.
5. Construct a solar lantern using Solar PV panel (15W)
6. Assemble solar cooker
7. Desigining and constructing photovoltaic system for a domestic house requiring 5kVA power
8. Assignments/Model Exam.

Reference Books:

1. Solar Energy Utilization, G. D. Rai, Khanna Publishers
2. Solar Energy- Fundamentals, design, modeling& applications, G.N. Tiwari, Narosa Pub., 2005.
3. Solar Energy-Principles of thermal energy collection & storage, S.P. Sukhatme, Tata Mc-Graw Hill Publishers,1999.
4. Solar Photovoltaics- Fundamentals, technologies and applications, Chetan Singh Solanki, PHI Learning Pvt. Ltd.,
5. Science and Technology of Photovoltaics, P. Jayarama Reddy, BS Publications, 2004.

MODEL QUESTION PAPER

SKILL DEVELOPMENT COURSE
Semester –II-(Group A)
SOLAR ENERGY

Time: 2 Hrs Max Marks: 50

Section – A

Answer any **FOUR** questions. Each question carries 5 marks. 4 x 5 = 20Marks

1. What is Photovoltaic Effect
2. Discuss about Solar greenhouses
3. Define Solar radiation and its uses
4. Write about domestic lighting
5. Discuss about Sunshine recorder
6. Explain about the solar hot water systems,
7. Explain the Solar dryers
8. How can we Store the solar energy

Section – B

Answer **all** the questions. Each question carries 10 marks . 3 x 10M = 30Marks

9. Discuss about the Solar radiation at the Earth's surface

(OR)

10. What is solar energy? Explain its importance
11. What is the principle of conversion of solar radiation into heat?

(OR)

12. Discuss about the Solar Thermal Power Plant and its importance in daily life.

13. Describe solar photovoltaic cell and its working principle

(OR)

14. Define a solar cell. what are the types of Solar cells.

UG- SKILL DEVELOPMENT COURSE

AGRICULTURAL MARKETING

(w.e.f. 2020-2021 A.Y.)

Semester	Course Code (SD)	Group 'A'	Course Title	Hrs/ Sem	Hrs/wk	Credits	Sem End Exam (2 Hrs)
II	Skill Development Course		Agricultural Marketing	30	2	2	50 Marks

Learning Outcomes:
By the successful completion of this course, the student will be able to;

- Know the kinds of agricultural products and their movement
- Understand the types, structure and functioning of agricultural marketing system
- Comprehend related skills and apply them in sample situations
- Extend this knowledge and skills to their production/consumption environment

Unit- I: **(06hrs)**
Introduction of Agriculture and agricultural products (including agriculture, horticulture, sericulture, floriculture, aquaculture- genetic culture and dairy product) - Agricultural Marketing - Role of marketing - Concepts - Goods and services - Movement of product from farm to consumer –Middlemen – Moneylenders - Types of agricultural markets (basic classification).

Unit- II: **(09hrs)**
Basic structure and facilities of an agricultural market – Primary, secondary and tertiary markets– Functioning of Market Yards–Market information – Rythu Bharosa Kendras (RBK) – Govt market policies and regulations- Contract farming -Govt Apps for marketing of agri products.

Unit- III: **(10hrs)**
Planning production – assembling – grading - transportation– storage facilities. Price fixation. Dissemination of market information –and role of ICT. Marketing - Mix- Product element- Place element- Price element- Promotion element. Selection of target market. Government programs in support of Agricultural marketing in India.

Suggested Co-curricular Activities: **(05hrs)**

1. Study visit to agricultural markets and Rythu Bharosa Kendras (RBK)
2. Invited lecture by field expert
3. Survey of various involved activities e.gassembling, grading, storage, transportation and distribution
4. Identify the demand for food processing units
5. Application of Govt Apps as one Nation and one Market
6. Assignments, Group discussion, Quiz etc.

Reference books:

1. S.S.Acharya & N.L.Agarwala, Agricultural Marketing in India - Oxford and IBH Publications
2. K.S.Habeeb - Ur - Rahman Rural Marketing in India - Himalaya publishing
3. S.S.Chinna Agricultural Marketing in India - KALYANI publishers
4. Publications of National Institute of Agricultural Marketing, Odisha
5. Wikiepedia and other websites on Agricultural Marketing.

MODEL QUESTION PAPER

SKILL DEVELOPMENT COURSE
Semester –II-(Group A)
AGRICULTURAL MARKETING

Time: 2 Hrs Max Marks: 50

Section – A

Answer any **FOUR** questions. Each question carries 5 marks. 4 x 5 = 20Marks

1. Agriculture marketing - వ్యవసాయ మార్కెటింగ్.
2. Horticulture - తోటల పెంపకము.
3. Milk Products - పాల ఉత్పత్తులు.
4. Rythu Bharosa Kendra's - రైతు భరోసా కేంద్రాలు(RBK).
5. Contract Farming - ఒప్పంద సేద్యం.
6. Market Yards - మార్కెట్ స్థలాలు.
7. Storage Facilities - గిడ్డంగి సదుపాయాలు.
8. Role of ICT in Marketing - మార్కెటింగ్ లో ICT పాత్ర.

Section – B

Answer **all** the questions. Each question carries 10 marks . 3 x 10M = 30Marks

9. A) Explain the types of Agriculture Marketing .
   వ్యవసాయ మార్కెట్ల రకాలను వివరించండి.

   (OR)

   B) Explain the importance of Agriculture Marketing in India?.
   భారతదేశంలో వ్యవసాయ మార్కెట్ యొక్క ప్రాధాన్యతను వివరించండి.

10. A) Write an essay on structure and facilities of Agriculture Markets in India?
    భారతదేశంలో వ్యవసాయ మార్కెట్ యొక్క నిర్మాణము మరియు సదుపాయాల పై వ్యాసం రాయండి

    (OR)

    B) Write about root Agriculture Market polices and Regularities?
    ప్రభుత్వ వ్యవసాయ మార్కెట్ విధానాలను మరియు నియంత్రణ ల గురించి రాయండి

11. A) Explain the stages of Agriculture Marketing ?
    వ్యవసాయ మార్కెట్ల దశలను వివరింపుము

    (OR)

    B) Write recent Govt. programms in support of Agriculture Marketing in India ?
    భారతదేశంలో వ్యవసాయ మార్కెటింగ్ ను అభివృద్ధి చేయడానికి ఇటీవల ప్రభుత్వ కార్యక్రమాలను వివరింపుము.

UG- SKILL DEVELOPMENT COURSE

SOCIAL WORK METHODS

(w.e.f. 2020-2021 A.Y.)

Semester	Course Code (SD)	Group 'B'	Course Title	Hrs/Sem	Hrs/wk	Credits	Sem End Exam (2 Hrs)
II	Skill Development Course		Social work Methods	30	2	2	50 Marks

Learning Outcomes: By successful completion of the course, students will be able to:

- Understand the basic concepts relating to social work practice, values, principles of social work and social problems in India
- List out different approaches of providing help to the people in need.
- Acquaint the process of primary methods of social work
- Get to know the skills of working with individuals, groups and communities.

Unit-I: (07Hrs)- Introduction to social work and concepts related to social work : Introduction to Social Work- Definition- Scope- objectives - Functions- social service, social welfare services, social reform, major social problems in India; Social work philosophy, values, objectives, principles, methods and fields of social work.

Unit-II: (09Hrs) Methods of Working with Individuals and Groups

Social case work –Definition-scope and importance of social case work, principles and process of social case work -Tools and techniques in social case work- Counselling skills.

Social Group Work-Definition-scope- the need for social group work –Group work process - Principles of Group Work -Stages of Group Work-Facilitation skills and techniques.

Unit-III: (09Hrs) Working with Communities and Field Work in social work

Community – definition - characteristics- types- community organisation as a method of social work-definition-objectives-principles- phases of community organization - 3 concepts of community development, community participation and community empowerment.

Field work in social work – Nature, objectives and types of field work - Importance of field work supervision.

Suggested Co-curricular Activities: (05 hours)

1. Divide the students into groups, each group containing not exceeding 10 students depending upon the total number of students in a class or section. Each group can search in internet about any one of the institutions which work for the welfare of children or women or elderly or scheduled caste and scheduled tribe children or differently abled persons or Juvenile homes or Correctional homes or hospitals or Mahila Pragathi pranganam or Swadhar project or any social welfare project or non governmental organizations (NGOs) to have an idea about welfare agencies working for the needy.
2. Ask each group to exchange and discuss the information with other groups in the classroom with the information they collected on Internet.
3. Group Discussion with the students- what type of community problems they observe in their villages/towns/cities? Ask them to tell what are the line departments which will help to solve the problems of their communities and suggest them what type strategies help the communities to empower.
4. Invited lectures/Training by local experts
5. Visit to a community
6. Assignments, Quiz etc.

Reference books:

1. Chowdhary, Paul. D. (1992). Introduction to Social Work. New Delhi: Atma Ram and Sons.
2. Friedlander W.A. (1955). Introduction to social welfare, New York, Prentice Hall.
3. Government of India, (1987). Encyclopedia of Social Work in India (Set of 4 Volumes). New Delhi, Publications Division, Ministry of Information and Broadcasting.
4. Lal Das, D.K. (2017). Practice of Social Research – Social Work Perspective, Jaipur, Rawat Publications.
5. Madan, G.R. (2009). Indian Social Problems (Volume 1 & 2). New Delhi: Allied publishers Private Limited.
6. Siddiqui, H.Y. (2007). Social Group Work. Jaipur: Rawat Publications
7. Pasty McCarthy &Carolin Hatcher, (2002). Presentation skills. The Essential Guide for Students. New Delhi, Sage Publications.
8. Websites on Social work methods.

MODEL QUESTION PAPER

SKILL DEVELOPMENT COURSES
Semester: II-(Group B)
SOCIAL WORK METHODS

Time: 2Hrs. Max Marks: 50

SECTION – A

Answer any **FOUR** Questions. Each question carries 5 marks. 4x5= 20 Marks
ఈ క్రింది వాటిలో ఏదైనా నాలుగు ప్రశ్నలకు సమాధానం రాయండి.

1. Social Work Philosophy.
   సంఘ సంక్షేమ కృషి వావ్వికవ్వ.
2. Methods of Social Work.
   సంఘ సంక్షేమ పద్ధతులు
3. Social Group Work .
   సమూహ పని.
4. Counselling Skills.
   సలహాలు నైపుణ్యాలు.
5. Stages Group work.
   సమూహ పని యొక్క దశలు.
6. Community Development.
   సముదాయిక అభివృద్ధి.
7. Community Empowerment.
   సముదాయ సాధికారత.
8. Important of Field work.
   క్షేత్ర స్థాయి పని ప్రాముఖ్యత (క్షేత్ర కృషి ప్రాముఖ్యత).

SECTION – B

Answer any **THREE** Questions. Each question carries 10 marks. 3x10= 30 Marks
ఈ క్రింది వాటిలో ఏదైనా మూడింటికి ప్రశ్నలకు సమాధానములు రాయండి.

9. A) Explain the Nature and Scope of Social Work.
   సంఘ సంక్షేమ కృషి స్వభావం మరియు పరిధి వివరించండి.

   (OR)

   B) Write an essay on major social problems in India.
   భారతదేశంలోని ప్రధాన సామాజిక సమస్యల పై ఒక వ్యాసం రాయండి.

10. A) Explain the importance of social case work?
    వ్యక్తి సేవ పద్ధతి యొక్క ప్రాముఖ్యతను వివరించండి.

    (OR)

    B) What are the Objectives and types of Filed work.
    క్షేత్ర కృషి యొక్క లక్ష్యాలను మరియు అందలి రకాలను పేర్కొనండి.

11. A) Write an essay on social group work.
    సమూహ సేవ పద్ధతి పై ఒక వ్యాసం రాయండి.

    (OR)

    B) Explain the characteristics and types of Community Orgnisation.
    సాముదాయిక వ్యవస్థాపన యొక్క లక్షణాలను మరియు అందలి రకాలను వివరించండి.

UG- SKILL DEVELOPMENT COURSE
ADVERTISING
(w.e.f. 2020-2021 A.Y.)

Semester	Course Code (SD)	Group 'B'	Course Title	Hrs/Sem	Hrs/wk	Credits	Sem End Exam (2 Hrs)
II	Skill Development Course		Advertising	30	2	2	50 Marks

Learning Outcomes:
After Successful completion of this course, the students are able to;

- Understand the field of Advertising
- Comprehend opportunities and challenges in Advertising sector
- Prepare a primary advertising model
- Understand applying of related skills
- Examine the scope for making advertising a future career

UNIT I: **(06hrs)**
Introduction of advertising concepts- functions - Types of advertising - Creative advertising messages - Factors determining opportunities of a product/service/Idea

UNIT II: **(10 hrs)**
Role of advertising agencies and their responsibilities - scope of their work and functions - - Ethical issues - Identifying target groups -Laws in advertising. Advertising Statutory Bodies in India - Role of AAAI (Advertising Agencies Association of India), ASCI (Advertising Standard Council of India)

UNIT III: **(10hrs)**
Types of advertising – Basic characteristics of a typical advertisement –Reaching target groups - Local advertising – Feedback on impact of advertisement - Business promotion.

Recommended Co-curricular Activities: **(04 hrs)**

1. Collection and segmentation of advertisements
2. Invited Lectures/skills training on local advertising basics and skills
3. Visit to local advertising agency
4. Model creation of advertisements in compliance with legal rules
5. Assignments, Group discussion, Quiz etc.

Reference books:

1. Bhatia. K.Tej - Advertising and Marketing in Rural India - Mc Millan India
2. Ghosal Subhash - Making of Advertising - Mc Millan India
3. JethWaneyJaishri& Jain Shruti - Advertising Management - Oxford university Press
Publications of Indian Institute of Mass Communications
4. Websites on Advertising

MODEL QUESTION PAPER

SKILL DEVELOPMENT COURSES
Semester: II-(Group B)
ADVERTISING

Time: 2Hrs. Max Marks: 50

SECTION – A

Answer any **FOUR** Questions. Each question carries 5 marks. 4x5= 20 Marks

1. Types of Advertising
2. Objectives of Advertising
3. Advertising Agency
4. Laws in Advertising
5. Typical advertisement
6. Role of ASCI
7. Local Advertising
8. Advertising Copy

SECTION – B

Answer any **THREE** Questions. Each question carries 10 marks. 3x10= 30 Marks

9. What is the meaning of Advertising? Explain the Characteristics and importance of advertising.

(OR)

10. What factors determining opportunities a Product/service in Advertising?
11. What are the basic objectives and functions of Advisory Statutory Bodies in India?

(OR)

12. Briefly explain the role and responsibilities of AAAI.
13. Explain the process of Advertising.

(OR)

14. Discuss how the advertising industry contributes to the economic growth of the country.

UG- SKILL DEVELOPMENT COURSE

DAIRY TECHNOLOGY

(w.e.f. 2020-2021 A.Y.)

Semester	Course Code (SD)	Group 'B'	Course Title	Hrs/Sem	Hrs/wk	Credits	Sem End Exam (2 Hrs)
II	Skill Development Course		Dairy Technology	30	2	2	50 Marks

Learning Outcomes:

After successful completion of the course, students will be able to;

- Understand the pre-requisites for starting a Dairy farm
- Recognize different breeds of Cows & buffaloes following safety precautions.
- Prepare and give recommended feed and water for livestock
- Maintain health of livestock along with productivity
- Vaccination of cattle, nutrients requirements
- Entrepreneurship i.e., Effectively market dairy products
- Ensure safe and clean dairy farm and Standard safety measures to be taken Efficiently start and manage to establish or develop a Dairy Industry

Unit- I (Introduction and Establishment of a Dairy Farm): (05 Hrs)

1.1 Dairy development in India – Dairy Cooperatives (NDRI, NDDB, TCMPF) (1hr)
1.2 Constraints of Present Dairy Farming and Future Scope of Dairy Farmer. (1 hr)
1.3 Selection of site for dairy farm; Systems of housing – Loose housing system, Conventional Dairy Farm; Records to be maintained in a dairy farm. (2 hrs)

Unit - II (Livestock Identification and Management): (13 Hrs)

2.1 Breeds of Dairy Cattle and Buffaloes – Identification of Indian cattle and buffalo breeds and Exotic breeds; Methods of selection of Dairy animals. (5 hrs)
2.2 Systems of inbreeding and crossbreeding. (2 hrs)
2.3 Weaning of calf, Castration, Dehorning, Deworming and Vaccination programme (3 hrs)
2.4 Care and management of calf, heifer, milk animal, dry and pregnant animal, bulls and bullocks.(3 hrs)

Unit- III (Feed Management, Dairy Management, Cleaning and Sanitation): (8 Hrs)

3.1 Basic Principles of Feed, Important Feed Ingredients, Feed formulation and Feed Mixing (2 hrs)
3.2 Operation Flood –Definition of Milk and Nutritive value of milk and ICMR recommendation of nutrients –Per Capita Milk production and availability in India and Andhra Pradesh – Methods of Collection and Storage of Milk–Labelling and Storage of milk products (4 hrs)
3.3 Cleaning and sanitation of dairy farm – Safety precautions to prevent accidents in an industry. (2 hrs)

Co-curricular Activities Suggested: **(**4 hrs)

1. Group discussion & SWOT analysis
2. Visit to a Dairy Farm
3. Visit to Milk Cooperative Societies
4. Visit to Feed Milling Plants
5. Market Study and Identification of Government Schemes, Insurance and Bank Loans in relation

.**Reference books**:

1. Dairy Science: Petersen (W.E.) Publisher – Lippincott & Company
2. Principles and practices of Dairy Farm –Jagdish Prasad
3. Text book of Animal Husbandry - G C Benarjee
4. Hand book of Animal Husbandry - ICAR Edition
5. Outlines of Dairy Technology – Sukumar (De) – Oxford University press
6. Indian Dairy Products – Rangappa (K.S.) & Acharya (KT) – Asia Publishing House.
7. The technology of milk Processing – Ananthakrishnan, C.P., Khan, A.Q. and Padmanabhan, P.N. – Shri Lakshmi Publications.
8. Dairy India 2007, Sixth edition
9. Economics of Milk Production – Bharati Pratima Acharya Publishers.
10. http://www.asci-india.com/BooksPDF/Dairy%20Farmer%20or%20Entrepreneur.pdf
11. https://labour.gov.in/industrial-safety-health

MODEL QUESTION PAPER

SKILL DEVELOPMENT COURSE
SEMESTER-II(Group B)
DAIRY TECHNOLOGY

Time: 2Hrs. Max. Marks: 50

SECTION –A

Answer any **FOUR** questions. Each question carries 5 Marks. 4 x 5 =20Marks

1. Write about conventional dairy farming
2. Write about role of NDRI in dairy development in India
3. Write in detail about Heifer
4. Write a note on Exotic breeders in India
5. Enumerate about important feed ingredients
6. Write short notes on methods of collection and storage of milk
7. Write short notes on records to be maintain in a Dairy farm
8. Write in detail about vaccination programme in dairy farm

SECTION –B

Answer **all** the questions. Each Question carries 10 Marks. 3x10=30Marks

9. Write an essay on constrains of present dairy farming and future scope of dairy Farmer.

OR

10. Write an essay on selection of site for dairy farming

11. Write in detailed about systems of inbreeding and cross breeding

OR

12. Enumerate about care and management of bulls and bullocks

13. Write an essay on cleaning and sanitation of dairy farm .

OR

14. Write an essay on feed formulation and feed mixing

UG- SKILL DEVELOPMENT COURSE

PERFORMING ARTS

(w.e.f. 2020-2021 A.Y.)

Semester	Course Code (SD)	Group 'B'	Course Title	Hrs/Sem	Hrs/wk	Credits	Sem End Exam (2 Hrs)
II	Skill Development Course		Performing Arts	30	2	2	50 Marks

Learning Outcomes:

After successful completion of this course, the student will be able to:

- Acquire the basic knowledge in performing arts
- Understand the modern stage and performance on the stage
- Comprehend and improve the skills related to performing arts on the stage
- Understand various Telugu folk arts and their significance
- Know the modes of presentation and skills pertaining to folk arts.

Unit-I: Introduction to performing Arts **(**06 Hrs)

Arts – and its definition; Fine Arts; Arts - Learning &Imitation – Rasaas, Bhaavas and Rasa Sutra. Dasaroopakaas; Nrittha, Nrithya,Natya; Action – Kinds of Actions; Ancient Costume style

Unit-II: Performing Arts – Stage Arts **(**10 Hrs)

Origin of Drama (Theatre); Features of Stage; Varieties of Modern Telugu Drama; Famous Telugu Dramas. Stage performance; Dramatic Actor and its definition; Actor–characteristics, Functions and Responsibilities. Traits of an Actor – Diction, Articulation, Dialogue modulation, Time sense, Observation, Mime, Improvisation, Commentary, Dress code, Make-up, lighting &Stage Direction.

Unit-III: Performing Arts – Forms **(**10 Hrs)

Folk Arts, their nature and significance – Brief introduction to Pagativeshaalu, Bommalaatalu, Veedhinaatakaalu, Yakshagaanaalu, Harikathalu, Burrakathalu, Oggukathalu, Chindu,Yakshagaanam, KolaatamandPulivesham.

Co-curricular Activities Suggested: **(**4 hrs)

1. Collection of information on modern stage plays, natakasamajams and audio visual material.
2. Providing training classes/inviting lectures with the help of local artists
3. Visit to a real time performing folk arts, if possible.
4. Mock experience classes of Stage plays and Folk arts.
5. Assignments, Group discussion, Quiz etc.

Reference books:

1. Andhra Naataka Ranga Charithra –Mikkilineni Radha Krishna Murthy
2. Telugu SahithyaSameeksha (Vol-II) – Dr. G. Nagaiah
3. Telugu NaatakaVilaasam – Dr.P.S.RAppa Rao
4. Telugu JaanapadaVignanam – Prof. Tangirala Venkata Subba Rao
5. JaanapadaVignandhyayanam – Prof. G.S. Mohan
6. NaatyaSasthramu (VisleshanathmakaAdhyayanam) – Dr.P.S.RAppa Rao
7. SahithyaSilpaSameeksha – Prof. PingaliLakshmikantham
8. Nurella Telugu NatakaRangam – Prof. ModaliNagabhushanaSarma
9. Websites on Performing Arts.

MODEL QUESTION PAPER

SKILL DEVELOPMENT COURSE
SEMESTER-II-(Group B)
PERFORMING ARTS (ప్రదర్శన కళలు)

Time: 2Hrs. Max. Marks: 50

SECTION –A

Answer any **FOUR** questions. Each question carries 5 Marks. 4 x 5 =20Marks
ఈ క్రింది వాటిలో ఏదైనా నాలుగు ప్రశ్నలకు సమాధానం రాయండి.

1. Introduce about the Rasa sidhantham?
   రస సిద్ధాంతం పరిచయం చేయండి.
2. write about the Fine Arts.
   లలిత కళల గురించి రాయండి.
3. Explain the Nrittha, Nrithya,Natya by example.
   నాట్యం, నృత్త, నృత్య ములను సోదాహరణంగా వివరించండి.
4. Give the various State theatrical morphological preferences.
   రంగస్థల స్వరూప ప్రాధాన్యతను తెలియజేయండి.
5. Explain the theatrical Stage of dialogue style.
   నాటక సంభాషణ శైలి గురించి వివరించండి.
6. Explain the Actor of costume characteristics and Responsibilities of the artists.
   కళాకారుల ఆహార్య అభినయ సంభాషణ గురించి వివరించండి.
7. Explain the importance and uniqueness of the Kolaatam.
   కోలాటం ప్రదర్శన విశిష్టతను తెలియజేయండి.
8. Explain and Introduce about Veedhinaatakaalu.
   వీధి నాటకాలను పరిచయం చేయండి .

SECTION –B

Answer **all** the questions. Each Question carries 10 Marks. 3x10=30Marks
ఈ క్రింది వాటిలో ఏదైనా మూడింటికి ప్రశ్నలకు సమాధానములు రాయండి.

9. Write about the Dasaroopakaas.
   దశ రూపకాలు గురించి తెలియజేయండి.
10. Describe the famous Dramatic Artist and its works.
    ప్రసిద్ధ నాటక కళాకారుల కృషిని వివరించండి.
11. Write about the development of Telugu drama.
    తెలుగు నాటక వికాసం గురించి రాయండి?
12. Explain the performing of folk Arts.
    జానపద ప్రదర్శన కళారూపాల వైవిధ్యాన్ని వివరించండి.
13. Give a Brief introduction abou Pagativeshaalu, Bommalaatalu.
    జానపద కళారూపాలైన పగటి వేషాలు, బొమ్మలాటల గురించి రాయండి.
14. Explain in deatil about Runjakathalu, Burrakathalu.
    రన్జకథలు మరియు బుర్రకథలు గురించి వివరంగా రాయండి.

UG- SKILL DEVELOPMENT COURSE
DISASTER MANAGEMENT
(w.e.f. 2020-2021 A.Y.)

Semester	Course Code (SD)	Course Title	Hrs/Sem	Hrs/wk	Credits	Sem End Exam (2 Hrs)
III	Skill Development Course	Disaster Management	30	2	2	50 Marks

Learning Outcomes:
After successful completion of the course, the students are able to;

- Understand the nature, cause and effects of disasters
- Comprehend the importance of Disaster Management and the need of awareness
- Acquire knowledge on disaster preparedness, recovery remedial measures and personal precautions
- Volunteer in pre and post disaster management service activities

UNIT-I: **(06 hrs)**
Introduction of Disaster - Different types of disasters- Natural- (flood, cyclone, earthquake, famine and pandemic) - Accidental- (Fire, Blasting, Chemical leakage, Rail, Aviation, Road boat tragedies and nuclear pollution) - Disaster Management Act 2005

UNIT-II: **(09hrs)**
Causes and immediate effects of Disasters - Preparedness of disasters –Precautions – Dissemination of information - Nature and concepts - Role of National Disaster Management Authority and Role of Government and non governmental organizations in protecting human livestock and natural resources.- Use of technology -Role of Citizens and Youth in the prevention.

UNIT-III: **(09 hrs)**
Post disaster effects - short term - Procedures for Rehabilitation and Recovery - Role of volunteers and Safety Precautions - Long term remedial and preventive measures – Collection, filing and storage of information - Case studies

Suggested co curriculum Activities: **(06 hrs)**

1. Invite lectures by local experts
2. Training on preparedness, post disaster services
3. Analysis of Case studies
4. Visit to a disaster management office and facility
5. Assignments, Group discussion, quiz etc.

Reference books:

1. Jagbirsingh - Disaster Management Future challenges and opportunities- - K.W.Publishers
2. GOI - UNDP Disaster Management Guidelines
3. J.P.Singhal - Disaster Management - Laxmi Publications
4. www. ndma. gov.in
5. Wikipedia and other websites on Disaster management.

MODEL QUESTION PAPER

SKILL DEVELOPMENT COURSE
Semester: III
DISASTER MANAGEMENT

Time:2Hrs. Max Marks: 50

SECTION-A

Answer any **FOUR** questions. Each question carries 5 marks. 4 x 5 = 20Marks.

1. Define Disaster.
2. Write down causes and immediate effects of Disaster.
3. Write the role of citizens and youth in preventing natural Disasters.
4. What are post Disaster effects?
5. Define Preparedness of Disasters and explain with illustrations?
6. Write the importance of Dissemination of information during Disasters.
7. Explain the use of technology during Disasters.
8. Write the importance of collection, filing and storage of information in Disaster management?

SECTION – B

Answer **all** the questions. Each question carries10 marks. 3 x 10 =30Marks

9. Explaine different types of Disasters.

OR

10. Write about Disaster management act – 2005.
11. Write a note on Role of National Disaster Management Authority

OR

12. Comprehend the importance of Disaster Management and the need of awareness.

OR

13. What are the procedures to be followed for rehabilitation and recovery after disaster

OR

14. What are the long term remedial and preventive measures to be taken in prevention of Disasters?

UG- SKILL DEVELOPMENT COURSE

ONLINE BUSINESS

(w.e.f. 2020-2021 A.Y.)

Semester	Course Code (SD)	Course Title	Hrs/Sem	Hrs/wk	Credits	Sem End Exam (2 Hrs)
III	Skill Development Course	Online Business	30	2	2	50 Marks

Learning Outcomes:
After successful completion of the course, students will be able to;

- Understand the online business and its advantages and disadvantages
- Recognize new channels of marketing, their scope and steps involved
- Analyze the procurement, payment process, security and shipping in online business
- Create new marketing tools for online business
- Define search engine, payment gateways and SEO techniques.

Unit-I: **(06 Hrs)**
Introduction to Online-business-Definition-Characteristics-Advantages of Online Business-Challenges-Differences between off-line business, e-commerce and Online Business.

Unit-II: **(10 Hrs)**
Online-business Strategies-Strategic Planning Process- Procurement -Logistics & Supply Chain Management- Customer Relationship management.

Unit-III: **(10 Hrs)**
Designing Online Business Website – Policies - Security & Legal Issues - Online Advertisements - Payment Gateways - Case Study

Co-curricular Activities Suggested: **(4 hrs)**

1. Assignments, Group discussion, Quiz etc.
2. Short practical training in computer lab
3. Identifying online business firms through internet
4. Invited Lectures by e-commerce operators
5. Working with Google and HTML advertisements.
6. Visit to a local online business firm.

Reference books:

1. David Whiteley, "E-Commerce", Tata McGraw Hill, 2000.
2. E Business by Jonathan Reynolds from Oxford University Press.
3. Soka, From EDI to Electronic Commerce, McGraw Hill.
4. Websites on Online business.

MODEL QUESTION PAPER

SKILL DEVELOPMENT COURSES
Semester: III
ONLINE BUSINESS

Time:2Hrs. Max Marks: 50

SECTION – A

Answer any **FOUR** Questions. Each question carries 5 marks. 4X5= 20 Marks

1. E-Commerce
2. Models of E-Business
3. Business Strategies
4. Supply Chain Management
5. Procurement
6. Online Business Policy
7. Online Vs Offline Business
8. Strategic Planning

SECTION – B

Answer any **THREE** Questions. Each question carries 10 marks 3 x 10= 30Marks

9. What are the advantages and limitation of Online Business?

(OR)

10. Differences between Off-line Business, E-commerce and Online Business.
11. Suggest strategies for existing business to migrate to Online Business.

(OR)

12. Elaborate on recent trends in Customer Relationship Management.
13. Discuss the advantages and disadvantages of online advertisement in detail.

(OR)

14. Explain the legal issues and ethical issues related to Online Business.

UG- SKILL DEVELOPMENT COURSE

POULTRY FARMING

(w.e.f. 2020-2021 A.Y.)

Semester	Course Code (SD)	Course Title	Hrs/Sem	Hrs/wk	Credits	Sem End Exam (2 Hrs)
III	Skill Development Course	Poultry Farming	30	2	2	50 Marks

Learning Outcomes: By successful completion of the course, students will be able to;

- Understand the field level structure and functioning of insurance sector and it's role in protecting the risks
- Comprehend pertaining skills and their application for promoting insurance coverage
- Prepare better for the Insurance Agent examination conducted by IRDA
- Plan 'promoting insurance coverage practice' as one of the career options.

Unit I (Introduction to Poultry Farming): (10Hrs)

1.1 General introduction to poultry farming -Definition of Poultry; Past and present scenario of poultry industry in India.

1.2 Principles of poultry housing. Poultry houses. Systems of poultry farming.

1.3 Management of chicks, growers and layers. Management of Broilers.

1.4 Preparation of project report for banking and insurance

Unit II (Feed and Livestock Health Management): (10 Hrs):

2.1 Poultry feed management – Principles of feeding, Nutrient requirements for different stages of layers and broilers. Feed formulation and Methods of feeding.

2.2 Poultry diseases – viral, bacterial, fungal and parasitic(two each); symptoms, control and management; Vaccination programme.

Unit III (Harvesting of Eggs and Sanitation): (10 Hrs)

3.1 Selection, care and handling of hatching eggs. Egg testing. Methods of hatching.

3.2 Brooding and rearing. Sexing of chicks.

3.3 Farm and Water Hygiene, Recycling of poultry waste.

Co-curricular Activities Suggested: (4 hrs)

1. Group discussion& SWOT analysis
2. Visit to a poultry farm
3. Invited Lectures by Concerned officers of government or private farms
4. Cheap and Healthy Feed preparation by students based on government standards
5. Market study and Survey (Monitoring of daily price hike in poultry market and analysis)
6. Online Swayam Moocs course on poultry farming (see reference 9 below)

Reference books:

1. Sreenivasaiah., P. V., 2015. Textbook of Poultry Science. 1st Edition. Write & Print Publications, New Delhi
2. 2. Jull A. Morley, 2007. Successful Poultry Management. 2nd Edition. Biotech Books, New Delhi"
3. Hurd M. Louis, 2003. Modern Poultry Farming. 1st Edition. International Book Distributing Company, Lucknow.
4. Life and General Insurance Management
5. Financial services, Tata McGraw hill
6. http://www.asci-india.com/BooksPDF/Small%20Poultry%20Farmer.pdf
7. https://nsdcindia.org/sites/default/files/MC_AGR-Q4306_Small-poultry-farmer-.pdf
8. http://ecoursesonline.iasri.res.in/course/view.php?id=335
9. https://swayam.gov.in/nd2_nou19_ag09/preview

MODEL QUESTION PAPERS

SKILL DEVELOPMENT COURSES
Semester: III
POULTRY FARMING

Time:2Hrs. Max Marks: 50

SECTION – A

Answer any **FOUR** questions. Each question carries 5 marks. 4 x 5 = 20Marks

1. Management of Broilers
2. Debeaking
3. Culling
4. Vaccination
5. Methods of feeding
6. Parasitic diseases in Poultry
7. Egg testing
8. Recycling of Poultry wastes

SECTION – B

Answer **all** the questions. Each question carries 10 marks. 3 x10 =30Marks

9. Define Poultry. Discuss the past and present scenario of Poultry industry in India

(OR)

10. Write in detail about the Principles involved in Poultry housing.

11. Give an account on Principles of feeding in poultry. Add a note on nutrient requirements for different stages of layers and broilers.

(OR)

12. Describe the commonly encountered viral, bacterial and fungal diseases in poultry.
13. Write an essay on methods of hatching.

(OR)

14. Explain the management practices involved in brooding and rearing.

...

UG- SKILL DEVELOPMENT COURSE

FINANCIAL MARKETS

(w.e.f. 2020-2021 A.Y.)

Semester	Course Code (SD)	Course Title	Hrs/Sem	Hrs/wk	Credits	Sem End Exam (2 Hrs)
III	Skill Development Course	Financial Markets	30	2	2	50 Marks

Learning Outcomes:

After successful completion of this course, the students will be able to;

- Acquire knowledge of financial terms
- Know the concepts relating to and markets and different avenues of investment
- Understand the career skills related to Stock Exchanges
- Comprehend the personal financial planning and money market skills

UNIT-I: **(06hrs)**

Indian Financial System- its components - Financial markets and institutions

UNIT-II: **(10hrs)**

Capital Market - its function - organizations - elements - (shares, debentures, bonds, mutual funds) debt market - Equity market (SEBI) and secondary market (NSE)

UNIT-III: **(10hrs)**

Money market - Organized - Unorganized - Sub market (call money, commercial bills, Treasury bill, Certificate of Deposit, Commercial papers)

Co-curricular activities: **(04 hrs)**

1. Collection and study of pamphlets, application forms etc.
2. Invited lectures on the field topics by local experts
3. Introducing Online classes from NSE
4. Field visit to mutual fund offices/share brokers
5. Observation, study and analysis of selected companies share prices
6. Assignments, Group discussion, quiz etc.

Reference books:

1.T.R. Jain R.L.Sarma - Indian Financial System- VK Global publisher
2. Jithendra Gala - Guide to Indian Stock markets Buzzing Stock publishing house
3. Saha Siddhartha- Indian financial System- and Markets - McGraw hill
4. Websites on Indian Financial markets.

MODEL QUESTION PAPERS

SKILL DEVELOPMENT COURSES
Semester: III
FINANCIAL MARKETS

Time:2Hrs. Max Marks: 50

SECTION – A

Answer any **FOUR** questions. Each question carries 5 marks. 4 x 5 = 20Marks
ఈ క్రింది వాటిలో ఏదైనా నాలుగు ప్రశ్నలకు సమాధానం రాయండి.

1. Financial Institutions - విత్త సంస్థలు.
2. Call Money - తక్షణ ద్రవ్యము.
3. Certificate of Deposits - డిపాజిట్ల సర్టిఫికేట్.
4. Shares - షేర్లు.
5. Mutual Funds - మ్యూచువల్ ఫండ్స్.
6. Commericial Bills - వాణిజ్య బిల్లులు.
7. Treasury Bills - ఖజానా బిల్.
8. Primary Market - ప్రైమరీ మార్కెట్.

SECTION – B

Answer **all** the questions. Each question carries 10 marks. 3 x10 =30Marks
ఈ క్రింది వాటిలో ఏదైనా మూడింటికి ప్రశ్నలకు సమాధానములు రాయండి.

9. A) Write an essay on Financial system and its components in India.
విత్త పద్ధతి అనగా ఏమి? అందలి భాగాలను వివరింపుము.

(OR)

B) Explain various financial Markets and their Institutions?
వివిధ విత్త మార్కెట్లను విశదీకరించి వాటి సంస్థలను తెలుపుము?

10. A) Explain the functions of capital markets in India?.
భారతదేశంలోని మూలధన మార్కెట్ విధులను వివరించుము?

(OR)

B) Explain the functions of SEBI?
సెబీ విధులను వివరించుము

11. A) Explain the types money market instruments?
ద్రవ్య మార్కెట్ యొక్క వివిధ రకాల సాధనాల ను వివరించండి

(OR)

B) Write an essay on Indian money Market?
భారతదేశం యొక్క ద్రవ్య మార్కెట్ గురించి వ్యాసం రాయండి.

UG PROGRAM (4 Year Honors)
2020-21

B.Sc/B.A/B.Com/BCA/BBM,etc
ENGLISH

Syllabus and Model Question Papers

DETAILS OF COURSE TITLES & CREDITS

Sem	Course no.	Course Name	Course type (T/L/P)	Hrs./Week	Credits	Max.Marks Cont/ Internal/Mid Assessment	Max. Marks Sem-end Exam
I	1	A Course in Communication and Soft Skills	T	4	3	25	75
II	2	A Course in Reading &Writing Skills	T	4	3	25	75
III	3	A Course in Conventional Skills	T	4	3	25	75

UG(English)	Semester - I	Credits: 03
Course - 1	A Course In Communication And Soft Skills	Hrs/Week: 04

Learning Outcomes:

By the end of the course the learner will be able to :

- Use grammar effectively in writing and speaking.
- Demonstrate the use of good vocabulary
- Demonstrate an understating of writing skills
- Acquire ability to use Soft Skills in professional and daily life.
- Confidently use the tools of communication skills

UNIT I: Listening Skills

i. Importance of Listening
ii. Types of Listening
iii. Barriers to Listening
iv. Effective Listening

UNIT II: Speaking Skills

a. Sounds of English: Vowels and Consonants
b. Word Accent
c. Intonation

UNIT III: Grammar

a) Concord
b) Modals
c) Tenses (Present/Past/Future)
d) Articles
e) Prepositions
f) Question Tags
g) Sentence Transformation (Voice, Reported Speech & Degrees of Comparison)
h) Error Correction

UNIT IV: Writing

v. Punctuation
vi. Spelling
vii. Paragraph Writing

UNIT V: Soft Skills

a. SWOC
b. Attitude
c. Emotional Intelligence
d. Telephone Etiquette
e. Interpersonal Skills

UG(English)	Semester -II	Credits: 03
Course - 2	A Course In Reading & Writing Skills	Hrs/Week: 04

Learning Outcomes:
By the end of the course the learner will be able to :

- Use reading skills effectively
- Comprehend different texts
- Interpret different types of texts
- Analyse what is being read
- Build up a repository of active vocabulary
- Use good writing strategies
- Write well for any purpose
- Improve writing skills independently for future needs

UNIT I:

Prose : 1. How to Avoid Foolish Opinions Bertrand Russell
Skills : 2. Vocabulary: Conversion of Words
: 3. One Word Substitutes
: 4. Collocations

UNIT II:

Prose : 1. The Doll's House Katherine Mansfield
Poetry : 2. Ode to the West Wind P B Shelley
Non-Detailed Text : 3. Florence Nightingale Abrar Mohsin
Skills : 4. Skimming and Scanning

UNIT III:

Prose : 1. The Night Train at Deoli Ruskin Bond**Poetry** : 2. Upagupta Rabindranath Tagore
Skills : 3. Reading Comprehension
: 4. Note Making/Taking

UNIT IV

Poetry : 1. Coromandel Fishers Sarojini Naidu
Skills : 2. Expansion of Ideas
: 3. Notices, Agendas and Minutes

UNIT V:

Non-Detailed Text : 1. An Astrologer's Day R K Narayan
Skills : 2. Curriculum Vitae and Resume
: 3. Letters
: 4. E-Correspondence

UG(English)	Semester -III	Credits: 03
Course - 3	A Course In Conversational Skills	Hrs/Week: 04

Learning Outcomes

By the end of the course the learner will be able to :

- Speak fluently in English
- Participate confidently in any social interaction
- Face any professional discourse
- Demonstrate critical thinking
- Enhance conversational skills by observing the professional interviews

UNIT I:

Speech : 1. Tryst with Destiny Jawaharlal Nehru
Skills : 2. Greetings
: 3. Introductions

UNIT II:

Speech : 1. Yes, We Can Barack Obama
Interview : 2. A Leader Should Know How to Manage Failure Dr.A.P.J.Abdul Kalam/ India Knowledge at Wharton
Skills : 3. Requests

UNIT III:

Interview : 1. Nelson Mandela's Interview With Larry King
Skills : 2. Asking and Giving Information
: 3. Agreeing and Disagreeing

UNIT IV:

Interview : 1. JRD Tata's Interview With T.N.Ninan
Skills : 2. Dialogue Building
: 3. Giving Instructions/Directions

UNIT V:

1. **Speech** : 1. You've Got to Find What You Love Steve Jobs
Skills : 2. Debates
: 3. Descriptions
: 4. Role Play

UG- BLUE PRINT (2020-21 onwards)

MODEL QUESTION PAPER

UG EXAMINATIONS

Semester: I

Course 1: A Course in Communication and Soft Skills

Time: 3 hours **Max Marks: 75**

SECTION – A

Answer any 5 questions. Each question carries 5 marks **(5 X 5M = 25M)**

1. What is the importance of listening?

2. Write a note on accent in the connected speech.

3. Fill in the blanks with suitable prepositions:

1. I came here_train.

2. John has been working in this office_____2005.

3. What is so great___the news.

4. The teacher explained____the students the value of time.

5. It is important to make a distinction_____prose and poetry.

4. Insert punctuation marks in the given sentence wherever necessarythere was a villager. he didnt know how to read and write

5. What is positive thinking and its advantages?

6. What are the barriers to effective listening?

7. B) Match the following sentences under Column "A" with their correct "Question Tags"under Column "B"

A		B
1. He is an engineer	[ ]	**a)** Are you?
2. We are Indians	[ ]	**b)** Will you?
3. She has been to London	[ ]	**c)** Isn't he?
4. You are not paying attentions	[ ]	**d)** hasn't she?
5. Don't waste your time	[ ]	**e)** Aren't we?

8. Write a note on Telephone etiquette

SECTION – B

Answer all the questions. Each question carries 10 marks **(5 X 10M = 50M)**

9. a)Write a note on the types of listening?

(OR)

b)List out various strategies we can adopt for effective listening?

10. a)Write an essay on sounds of English

(OR)

b)What is an intonation? Illustrate with suitable examples

11. a) A. Fill in the blanks in the following sentences with suitable Form of the Verb given in thebrackets.

a) Dolphins_(live) in water.

b) Srilatha____(work) in Hyderabad Publin School for the last ten years.

c) The train____(leave), when we reached the station yesterday.

d) The men_____(repair) the telephone cables. Do not disturb them.

e) Health_(be) wealth.

B. Correct the following sentences wherever necessary

a) I and Gopal went to the exhibition

b) The population of Chennai is greater than Hyderabad.

c) My uncle lives in United Kingdom

d) Being a hot day, the old man did not go out.

e) This book will not only be liked by men but also women

(OR)

b). Change the following sentences as instructed

i) Children like chocolates (Change the voice)

ii) Sasi is playing tennis (Change the voice)

iii) Krupa wrote a novel (Change the voice)

iv) Malli has bought a new car (Change the voice)

v) He said "I am busy now" (Change into indirect speech)

vi) She said to me "I will meet you tomorrow" (Change into indirect speech)

vii) He said, "Do you speak English?" (Change into indirect speech)

viii) Tea is as popular as coffee (Into Comparative Degree)

ix) Imaginary fear is more dangerous the real experience (Into Positive Degree)

x) Very few sights in nature are as beautiful as a rainbow (Into Superlative Degree)

12. a) What are the features of a good paragraph? Mention different types of paragraphs

(OR)

b)Correct the spelling in the following words

1) Tution 2) Commite 3) Athlet 4) Adventrous 5) Costli
6) Comunication 7) Planing 8) Reciept 9) Disire 10) Campain

13. a)Discus the importance of SWOT/SWOC analysis for individuals**.**

(OR)

b) What is emotional intelligence and its importance?

MODEL QUESTION PAPER

UG EXAMINATIONS

Semester: II

Course 2: A Course in Reading & Writing Skills

Time: 3 hours **Max Marks: 75**

SECTION – A

Answer any 5 questions. Each question carries 5 marks (5 X 5M = 25M)

1. Write one word substitutes for the following
   1. The scientific study of skin diseases.
   2. One who collects stamps
   3. One who doesn't believe in the existence of God
   4. Speech given without any previous thought or preparation
   5. One who looks at the bright side of things

2. Write a note on skimming

3. Read the following paragraph and make notes on the topic and main ideas.

There are different forms of environmental pollution. Air pollution is caused by the burning of coal and oil. It can damage the earth's vegetation and cause respiratory problems in humans. A second type of pollution is noise pollution. It is the result of the noise of aircraft and heavy traffic. Further, loud music is also a cause of noise pollution, which has been seen to affect people's hearing and give them severe headaches and high blood pressure. Another source of pollution is radioactivity, which occurs when there is a leak from a nuclear power station. Radioactivity is a deadly pollutant, which kills and causes irreparable harm to those exposed to it. Land and water pollution is caused by the careless disposal of huge quantities of rubbish, sewage and chemical wastes. Pollution of rivers and seas kills fishes and other marine life and also becomes the cause of water-borne diseases. Land pollution, on the other hand, poisons the soil, making the food grown in it unfit for consumption.

4. Write a neat paragraph on 'Healthy Diet'

5. Write a note on E-Correspondence

6. Read the following passage and answer the questions that follow

The two dominant features of our age are science and democracy. They have come to stay. We cannot ask educated people to accept the deliverances of faith without rational evidence. Whatever we are called upon to accept must be justified and supported by reason. Otherwise our religious beliefs will be reduced to wishful thinking. Modern man must learn to live with a religion which commends itself to his intellectual and spiritual development of every human being irrespective of his caste, creed, community or race. Any religion which divides man from man or supports privileges, exploitation, wars, cannot commend itself to as today.

   a. In the passage it is said that democracy should…….
   b. The writer of the passage stresses the importance of…….
   c. What according to the writer is the role of religion in the present age?
   d. What according to the writer, a good religion should support…….
   e. Writer says that faith without___may not be accepted to the educated people.

7. Write a note on Florence Nightingale

8. Write a letter to the editor of a local newspaper, highlighting the sanitation problems of your area.

SECTION – B

Answer all the questions. Each question carries 10 marks (5 X 10M = 50M)

9. a).Bring out the message of the lesson "How to Avoid Foolish Opinions'.

(OR)

b).Write definition, meaning and types of collocations

10.a).What does Katherine Mansfield want to convey through the story 'The Doll's House?'

(OR)

b).Trace the evolution of thoughts in Shelley's "Ode to the West Wind"

11. a).Summarize the essay 'The Night Train at Deoli' by Ruskin bond

(OR)

b).Write central idea of the poem 'Upagupta'

12.a).Attempt a critical appreciation of the poem 'Coromandel Fishers'

(OR)

b).Write a note on Agendas and Minutes

13. a).Retell the story 'An Astrologer's Day' from the point of view of Guru Nayak

(OR)

b).A reputed cement factory requires a C.E.O. for their factory. Apply with a CurriculumVitae to the address given below. Rajahmundry Cement Factory, Danavaipet, Rajahmundry, E.G.dt.

ADIKAVI NANNAYA UNIVERSITY, RAJAMAHENDRAVARAM

B.Sc/B.A/B.Com/BCA/BBM,etc. ENGLISH Syllabus (w.e.f:2020-21 A.Y)

MODEL QUESTION PAPER
UG EXAMINATIONS
Semester: III

Course 3: A COURSE IN CONVERSATIONAL SKILLS

Time: 3hours **Max Marks: 75**

SECTION—A

Answer any FIVE Questions. **5x5=25 Marks**
Each question carries 5 Marks

1. Write short note on Greetings.
2. Write a paragraph on how you introduce yourself in the interview?
3. Match the sentences in **Group A** with the correct responses in **Group B.**

A		B
a) Can I have a glass of water?	( )	1) Well, all right, if it's a local call.
b) Is it ok if make a phone call?	( )	2) Yes, sorry. I didn't realise you wanted to sit down.
c) Could you say that again please?	( )	3) Oh Sure!The remote is on the table.
d) Do you mind if I turn the TV up?	( )	4) Yes, of course! What about?
e) Could you move over please?	( )	5) Of course, there is a bottle in the fridge.

4. A stranger meets you at the college gate. He wants to know a good hotel nearby. How do you direct him to Athidhi Hotel? (Giving information)
5. Agree with your friend, Malli who is discussing the merits of Government Colleges.
6. How do you build a dialogue between a teacher and student who wants your counselling? (5 Steps)
7. How a Doctor instruct a patient on how to use an inhaler?
8. Describe your favorite city in your own words highlighting your preferences?

SECTION—B

Answer ALL the questions. **5x10=50 Marks**
Each question carries 10 Marks

9. a) What is the central theme and the Unique Aspects of the Speech 'A Tryst with Destiny'?

(Or)

b) How does Obama warn those who tear the world down?

10. a) What are the leadership traits that Kalam talks about in his interview?

(Or)

b) Write a dialogue between two friends about their future plans (10 Steps)

11. a) What was the message given by Nelson Mandela as seen in the interview with Larry King?

(Or)

b) How do you direct your friend to reach your home from the Railway Station?

12. a) Analyze how JRD Tata explains the Voltas case?

(Or)

b) What are the important features and rules of the debate?

13. a) Why is Steve Jobs' advice "Love What You Do" essential to a meaningful Life?

(Or)

b) Krupa's grandfather died due to Covid complications. Sasi meets him and expresses his condolences (Role play).

UG PROGRAM(4 Years Honors)

CBCS - 2020-21

SUBJECT
SANSKRIT

DETAILS OF COURSE TITLES & CREDITS

Sem	Course no.	Course Name	Course type (T/L/P)	Hrs./Week	Credits	Max.Marks Cont/ Internal/Mid Assessment	Max. Marks Sem-end Exam
I	1	Poetry, Prose & Grammar	T	4	3	25	75
II	2	Poetry, Prose & Grammar.	T	4	3	25	75
III	3	Drama, Upanishad, Alankara And History of Literature.	T	4	3	25	75

UG Courses	Semester - I	Credits:03
Course: 1	Poetry, Prose & Grammar	Hrs/Weeks:04

UNIT – I OLD POETRY: 1. "**Arya Padukabhishekaha**",

Valmiki Ramayanam- Ayodhya Kanda, Sarga-100 Geetha Press, Gorakhpur.

2. " **YakshaPrasnaha**", Mahabharatam of Vedavyasa, Vanaparva, Adhyaya -313, Geeta Press, Gorakhpoor.

UNIT – II MODERN POETRY:1." **Mevada Rajyastapanam"** 4th Canto, Srimat Pratapa Ranayanam, Mahakavyam, Pt.Ogeti Parikshit sarma, Published by, Pt.Ogeti Parikshitsarma, 10/11, Sakal nagar, Pune, 1989.

2.**"VivekanandaSuktayaha**", Vivekanandasuktisudha by Dr.SamudralaLakshmanaiah, Published by Author, 18-1-84, Yasoda Nagar, Tirupati. Selected Slokas 25.

UNIT – III PROSE: 1. "**Atyutkataihi papapunyairihaiva phalamasnute**",

Hitopadesaha-Mitralabha 2 & 3 stories, Pages 61-84.

2. '' **Sudraka -Veeravarakatha''**, Hitopadesaha-Vigraham, 8th story, Pages 63-70,Chowkhamba krishadas academy,Varanasi, 2006.

UNIT - IV GRAMMAR:1.**DECLENSIONS**Nouns ending in vowels
Deva, Kavi, Bhanu, Dhatru, Pitru, Go, Ramaa, Mati.

2.CONJUGATIONS

1st Conjugation - Bhoo, Gam, Shtha, Drusir, Labh, Mud.

2nd Conjugation - As. 10th Conjugation – Bhaash.

UNIT – V GRAMMAR: 1. **SANDHI** - **Swara Sandhi** : Savarnadeergha, ayavayava, Guna,Vruddhi, yaanadesa.
-**Halsandh**i:Schutva, Stutva, Anunasika.2.**SAMASA**
Dwandwa, Tatpurusha, Karmadharaya,, Dwigu.

UG Courses	Semester - II	Credits:03
Course: 2	Poetry, Prose & Grammar	Hrs/Weeks:04

UNIT – I OLD POETRY:

1."**Indumateeswayamvaram**'', Raghuvamsam of kalidasa, 6thcanto, Chowkhamba krishadas academy, Varanasi-2012.

2. "**Deekshaapradanam**'', Buddacharitam of Aswagosha, 16thcanto. Selected verses.

UNIT – II MODERN POETRY:

1. "**Gangavataranam**'', Bhojas Champu Ramayanam, Balakanda.
2. "**Mohapanodaha**'', 4th cant. Dharma Souhrudam by P.Pattabhi Ramarao, , Published by Author, Ramanth Nagar.
3. "**VandeKasmeerabharatam**'', by Doolypala Ramakrishna from Samskrita pratibha, sahitya academy , New Delhi -2018.

UNIT – III PROSE:

1. "**Avantisundarikatha**'', 5th Chapter. Dasakumara Charitam, Purva peetika.
2. ''**Charudattacharitam**'', Bhasakathasaraha by Y.Mahalingasastry.

UNIT - IV GRAMMAR:

1. **DECLENSIONS** :Nouns ending in vowels
Nadee, Janu, vadhoo, Matru, Phala, Vaari & Madhu.
2. **CONJUGATIONS**
III Conjugation- Yudh, IV Conjugation- Ish, VIII Conjugation- Likh, Kru, IX Conjugation-Kreen X, Conjugation-Kath, Ram, Vand.

UNIT – V GRAMMAR:

1. **SANDHI** - Halsandhi : Latva, Jastva
-Visarga sandhi: Utva, Visargalopa, Rephadesa, Ooshma.

2.**SAMASA**
Avyayeebhava, Bahruvrihi.

UG Courses	Semester - III	Credits:03
Course: 3	Drama, Upanishad, Alankara and History of Literature.	Hrs/Weeks:04

UNIT – I : OLD DRAMA

1.''**Madhyamavyayogaha**''. Bhasa Natakachakram.
krishadas academy, Varanasi 1998.

UNIT – II :MODERN DRAMA

''Sankalpabalam'' by Prof.G.S.R.Krishna Murthy,
Published by Semushi, R.S.Vidyapeetam, Tirupati-2019.

UNIT – III :UPANISHAD

1. ''**Sishyanusasanam**'' – Sikshavalli of Taittireeyopanishad.
2. **''Sraddatrayavibhagayoga''**,

17th Chapter, Bhagavadgita, Geetapress, Gorakhpoor.

UNIT - IV : 1. ALANKARAS:

1. Upama 2. Ananvaya 3. Utpreksha 4. Deepakam
5. Aprastutaprasamsa 6.Drushtanta 7. Prateepa.

2. HISTORY OF SANSKRIT LITERATURE

1. Panini 2.Kautilya 3.Bharatamuni 4. Bharavi 5.Magha
6.Bhavabhuti 7. Sankaracharya, 8.Jagannatha. 9. Dandi.

UNIT – V : HALANTA SABDAS

1. Jalamuch 2.Vaach 3.Marut 4.Bhagavat 5.Bhavat
6.Pachats 7. Naman 8.Rajan 9.Gunin 10.Vidwas 11. Manas.

CBCS SEMESTER WISE SYLLABUS

PART 1 (B) SUBJECT :SANSKRIT

SAMESTER -1

PAPER -1:POETRY ,PROSE,&GRAMMAR.(W.e.f. 2020 -2021)

QUESTION PAPER PATTERN

TIME 3 HRS MARKS 75

Section –A (5x5=25MARKS)

Answer any five of the following.

1. श्लोकपूरणं तथा भावं च । one poem from

Arya Padukabhishekaha 1 unit 1 lesson

2. श्लोकपूरणं तथा भावं च । one poem from

Yakshaprasnaha 1 unit 2 nd lesson

3. सविभक्तिकं सम्पूर्णतया शब्द रूपाणि । one sabhda

Unit 1v पुंलिंग शब्दाः

4. सविभक्तिकं सम्पूर्णतया शब्द रूपाणि । one sabhda

Unit 1v स्त्रीलिंग शब्दाः

5. द्वयोः निर्दिष्ट लकारयोः सर्वाणि धातुरूपाणि

Unit 1v conjugations

6. सन्धत्त । 5x1=5

Unit V

7. विघटयत । 5x1=5

Unit V

8. नामनिर्देशपूर्वकंविग्रहवाक्यानि लिखत । 5x1=5

Unit V samasaha

SECTION-B

Answer any five of the following. 5x10=50MARKS

9. Essay Questions from old poetry प्राचीन साहित्यं unit -1 Arya Padukabhishekaha& Yakshaprasnaha (essays each one from each lesson) 1x10=10marks (1 out of 2)

10. Essay Questions two from Modernpoetry unit- 2 - only vivekananda suktayaha 2nd lesson.
One question should be answer A Or B 1x10=10marks (1 out of 2)

11. Essay Questions from prose unit- 3 Atyutkatathi papapunyairihaiva phalamasnute & Sudraka -veeravarakatha.
One question should be answer A Or B 1x10=10marks (1 out of 2)

12. Annotations two from old poetry lesson -2 Yaksh prasnaha& two from Modernpoetry unit- 2 - only vivekananda suktayaha. 5x2=10marks (2 out of 4)

13. Annotations two from prose lesson -1 Atyutkatihi papapunyairihaiva phalamasnute two from Sudraka -veeravarakatha. 5x2=10marks (2 out of 4)

CBCS SEMESTER WISE SYLLABUS

PART 1 (B) SUBJECT :SANSKRIT

SAMESTER -2

PAPER -1:POETRY ,PROSE,&GRAMMAR.(W.e.f. 2020 -2021)

QUESTION PAPER PATTERN

TIME 3 HRS MARKS 75

Section –A (5x5=25MARKS)

Answer any five of the following.

1. श्लोकपूरणं तथा भावं च । one poem from

Indumateeswayamvaram 1 unit 1 lesson

2. श्लोकपूरणं तथा भावं च । one poem from

Deekshaapradanan 1 unit 2 nd lesson

3. सविभक्तिकं सम्पूर्णतया शब्द रूपाणि । one sabhda

Unit 1v स्त्रीलिंग शब्दाः

4. सविभक्तिकं सम्पूर्णतया शब्द रूपाणि । one sabhda

Unit 1v नपुंसकलिंग शब्दाः

5. द्वयोः निर्दिष्ट लकारयोः सर्वाणि धातुरूपाणि

Unit IV conjugations

6. सन्धत्त । 5x1=5

Unit V

7. विघटयत । 5x1=5

Unit V

8. नामनिर्देशपूर्वकंविग्रहवाक्यानि लिखत । 5x1=5

Unit V samasaha

SECTION-B

Answer any five of the following. 5x10=50MARKS

9. Essay Questions from old poetry प्राचीन साहित्यं unit -1 Indumateeswayamvaram& Deekshaapradanan (essays each one from each lesson) 1x10=10marks (1 out of 2)

10. Essay Questions two from Modernpoetry unit- 2 - only Gangaavataranam 1st lesson. & 3rd lesson Vandekasmeerabharatam One question should be answer A Or B 1x10=10marks (1 out of 2)

11. Essay Questions from prose unit- 3 Avantisundarikatha & charudattacharitam One question should be answer A Or B 1x10=10marks (1 out of 2)

12. Annotations two from old poetry lesson -1 Indumateeswayamvaram & two from Modernpoetry unit- 2 – 1st Gangaavataranam only 5x2=10marks (2 out of 4)

13. Annotations two from Unit-3 prose lesson -1 Avantisundarikatha two from charudattacharitam 5x2=10marks (2 out of 4)

ADIKAVI NANNAYA UNIVERSITY

RAJAMAHENDRAVARAM – 533296 (A.P.)

CBCS SEMESTER WISE SYLLABUS

PART 1 (B) SUBJECT :SANSKRIT

SEMESTER – III – MODEL QUESTION PAPER

PAPER -2 DRAMA, UPANIDHADS, ALANKARAS (w.e.f. 2020 -2021)

TIME 3 HRS **MARKS 75**

Section –A (5x5=25MARKS)

ANSWER ANY FIVE OF THE FOLLOWING

1. उपमालङ्कारं सोदाहरणं विवृणुत ।

2. दीपकालङ्कारं सोदाहरणं विवृणुत ।

3. कौटिल्यमधिकृत्य लिखत।

4. माघकविमधिकृत्य लिखत।

5. वाक् शब्दं सम्पूर्णतया लिखत ।

6. श्लोकं पूरयित्वा भावं च लिखत।

यातयामं---------- तामसप्रियम्॥

7. श्लोकं पूरयित्वा भावं च लिखत।

आयुः---------- सात्विक प्रियाः॥

8. मनस् शब्दं सम्पूर्णतया लिखत ।

Section (5X10=50)

ANSWER ANY FIVE OF THE FOLLOWING

9. मध्यमव्यायोगरूपकस्य कथां लिखत।

अथवा

केशवदासकुटुम्बः कथं भीमेन अभिरक्षित:।

10.सङ्कल्पबलम् रूपकस्य कथासारं लिखत।

अथवा

गान्धिमहाशयस्य सङ्कल्पबलं विशदयत।

11.गुरुः शिष्यान् किम् अनुशास्ति।

अथवा

श्रध्दात्रयविभागयोगस्य सारांशं लिखत।

12.<u>दौ</u>ससन्दर्भं व्याख्यात। **2x5=10**

(अ) वनं निवासाभिमतं मनस्विनाम् ।

(आ) माता किल मनुष्याणां देवतानां च दैवतम् ।

(इ) पतिमात्रधर्मिणी पतिव्रतेति नाम ।

(ई) द्विजोत्तमा: पूज्यतमा: पृथिव्याम् ।

13.<u>दौ</u> ससन्दर्भं व्याख्यात। **2x5=10**

(अ) सत्यं वद ।धर्मं चर।

(आ)मातृदेवो भव ।

(इ) स्वाध्यायान्मा प्रमद:।

(ई) श्रद्धया देयम् ।अश्रद्धयाऽदेयम् ।

ADIKAVI NANNAYA UNIVERSITY :: RAJAMAHENDRAVARAM

B.A., B.Com., & B.Sc., etc., Programmes

Revised Syllabus under CBCS Pattern
w.e.f. 2020-21

Language Subjects - TELUGU
Revised Syllabus of
GENERAL TELUGU

బి.ఎ., బి.కాం., బి.యస్.సి., తదితర ప్రోగ్రాములు

సి.బి.సి.ఎస్.పద్ధతిలో సవరించబడిన పాఠ్యప్రణాళిక

2020-21 విద్యా సంవత్సరం నుంచి

జనరల్ తెలుగు - పాఠ్య ప్రణాళిక

Subject Curricular Framework

Sem	Course	Title	Hrs/Wk	Credits	Max. Marks IA	SE	Total
I	I	Pracheena Telugu Kavithvam	04	03	25	75	100
II	II	Aadhunika Telugu Sahithyam	04	03	25	75	100
III	III	Srujanaathmaka Rachana	04	03	25	75	100

పాఠ్యప్రణాళిక (3 కోర్సులు)

సెమి.	కోర్సు	శీర్షిక	పీరియడ్లు/వారానికి	క్రెడిట్లు	మొత్తం మార్కులు
I	I	ప్రాచీన తెలుగు కవిత్వం	04	03	25 75 100
II	II	ఆధునిక తెలుగు సాహిత్యం	04	03	25 75 100
III	III	సృజనాత్మక రచన	04	03	25 75 100

బి.ఏ., బి.కాం., బి.యస్‌సి., తదితర ప్రోగ్రాములు

అంశం: జనరల్ తెలుగు సెమిస్టర్-1

కోర్సు-1 : ప్రాచీన తెలుగు కవిత్వం

యూనిట్ల సంఖ్య:5 పీరియడ్ల సంఖ్య:60

✦ **అభ్యసన ఫలితాలు:-**

ఈ కోర్సు విజయవంతంగా ముగించాక, విద్యార్థులు క్రింది అభ్యసన ఫలితాలను పొందగలరు.

1. ప్రాచీన తెలుగుసాహిత్యం యొక్క ప్రాచీనతను, విశిష్టతను గుర్తిస్తారు. తెలుగుసాహిత్యంలో ఆదికవి నన్నయ కాలంనాటి భాషాసంస్కృతులను, ఇతిహాసకాలం నాటి రాజనీతి విషయాలపట్ల పరిజ్ఞానాన్ని సంపాదించగలరు.

2. శివకవుల కాలంనాటి మతపరిస్థితులను, భాషావిశేషాలను గ్రహిస్తారు. తెలుగు నుడికారం, సామెతలు, లోకోక్తులు మొదలైన భాషాంశాల పట్ల పరిజ్ఞానాన్ని పొందగలరు.

3. తిక్కన భారతంనాటి మత, ధార్మిక పరిస్థితులను, తిక్కన కవితాశిల్పాన్ని, నాటకీయతను అవగాహన చేసుకోగలరు.

4. ఎఱ్ఱన సూక్తివైచిత్రిని, ఇతిహాస కవిత్వంలోని విభిన్న రీతులపట్ల అభిరుచిని పొందగలరు. శ్రీనాథుని కాలం నాటి కవితావిశేషాలను, మొల్ల కవితా విశిష్టతను గుర్తించగలరు.

5. తెలుగు పద్యం స్వరూప-స్వభావాలను, సాహిత్యాభిరుచిని పెంపొందించుకుంటారు. ప్రాచీన కావ్యభాషలోని వ్యాకరణాంశాలను అధ్యయనం చేయడం ద్వారా భాషాసామర్థ్యాన్ని, రచనల మెళకువలను గ్రహించగలరు.

పాఠ్య ప్రణాళిక

యూనిట్–I

రాజనీతి – నన్నయ

మహాభారతం–సభాపర్వం–ప్రథమాశ్వాసం–(26–57 పద్యాలు)

యూనిట్–II

దక్షయజ్ఞం – నన్నెచోడుడు

కుమారసంభవం–ద్వితీయాశ్వాసం–(49–86 పద్యాలు)

యూనిట్–III

ధౌమ్య ధర్మోపదేశము – తిక్కన

మహాభారతం–విరాటపర్వం–ప్రథమాశ్వాసం–(116–146) పద్యాలు

యూనిట్–IV

పలనాటి బెబ్బులి – శ్రీనాథుడు (పలనాటి వీరచరిత్ర–ద్విపద కావ్యం పుట 108–112
'బాలచంద్రుడు భీమంబగు సంగ్రామం బొనర్చుట.. (108)..
..... వెఱగంది కుంది' (112) సం. అక్కిరాజు ఉమాకాంతం
ముద్రణ.వి.కె.స్వామి, బెజవాడ 1911.

యూనిట్–V

సీతారావణ సంవాదం – మొల్ల

రామాయణము–సుందరకాండము–(40–87 పద్యాలు)

✦వ్యాకరణం

సంధులు: ఉత్వ, త్రిక, ద్రుతప్రకృతిక, నుగాగమ,ద్విరుక్తటకారాదేశ, యణాదేశ, వృద్ధి, శ్చుత్వ, జశ్త్వ, అనునాసిక సంధులు.

సమాసాలు: అవ్యయీభావ, తత్పురుష, కర్మధారయ, ద్వంద్వ, ద్విగు, బహువ్రీహి.

అలంకారాలుఃఅర్థాలంకారాలు ఃఉపమ, ఉత్ప్రేక్ష, రూపక, స్వభావోక్తి, అర్థాంతరవ్యాస, అతిశయోక్తి.

శబ్దాలంకారాలు ఃఅనుప్రాస (వృత్యనుప్రాస, ఛేకానుప్రాస లాటానుప్రాస, అంత్యానుప్రాస)

ఛందస్సు

వృత్తాలు: ఉత్పలమాల, చంపకమాల, శార్దూలము, మత్తేభము;

జాతులు : కందం, ద్విపద; ఉపజాతులు : ఆటవెలది, తేటగీతి, సీసం మరియు ముత్యాలసరాలు

ఆధార గ్రంథాలు:

1. శ్రీమదాంధ్ర మహాభారతము : సభాపర్వము–తిరుమల తిరుపతి దేవస్థానం ప్రచురణ
2. శ్రీమదాంధ్ర మహాభారతము : విరాటపర్వము–తిరుమల తిరుపతి దేవస్థానం ప్రచురణ
3. కుమార సంభవం – నన్నెచోడుడు
4. పలనాటి వీరచరిత్ర – శ్రీనాథుడు
5. రామాయణము – మొల్ల

✦ **సూచించబడిన సహపాఠ్య కార్యక్రమాలు:**

1. నన్నయ్య, తిక్కన, ఎఱ్ఱన మొదలైన ప్రసిద్ధ కవుల పాఠ్యాంశేతర పద్యాలను ఇచ్చి, విద్యార్థులచేత సమీక్షలు రాయించడం; ఆయా పద్యాల్లోని యతిప్రాసాది ఛందోవిశేషాలను గుర్తింపజేయడం.
2. విద్యార్థులచేత పాఠ్యాంశాలకు సంబంధించిన వ్యాసాలు రాయించడం (సెమినార్/అసైన్‌మెంట్)
3. ప్రాచీన పాఠ్యాంశాలలోని సమకాలీనతను గూర్చిన బృంద చర్చ, ప్రాచీన సాహిత్యాన్ని నేటి సామాజిక దృష్టితో పునర్మూల్యాంకనం చేయించడం.
4. చారిత్రిక, సాంస్కృతిక అంశాలకు సంబంధించిన పర్యాటక ప్రదేశాలను సందర్శించడం.
5. వ్యక్తిగత/బృంద ప్రాజెక్టులు చేయించడం. ప్రశ్నాపత్ర నిర్మాతలకు సూచనలు ప్రతిపదార్థ పద్యాలు, కంఠస్థ పద్యాలు "రాజనీతి, దక్షయజ్ఞం, ధౌమ్య ధర్మోపదేశం, సీతారావణ సంవాదం" అనే నాలుగు పాఠ్యాంశాల నుండి మాత్రమే ఇవ్వాలి.

ప్రశ్నాపత్ర నమూనా

అ. ప్రతిపదార్థ పద్యాలు–(అంతర్గత ఛాయిస్)	(2–1)	1×8=8 మా
ఆ. కంఠస్థ పద్యం–(అంతర్గత ఛాయిస్)	(2–1)	1×3=3 మా
ఇ. సందర్భ వాక్యాలు–	(6–4)	4×3=12 మా
ఈ. సంగ్రహ సమాధాన ప్రశ్నలు	(6–4)	4×3=12 మా
ఉ. వ్యాస ప్రశ్నలు (అంతర్గత ఛాయిస్)	(6–3)	3×8=24 మా
ఊ. వ్యాకరణం–సంధులు	(6–4)	4×1=4 మా
సమాసాలు	(6–4)	4×1=4 మా
అలంకారాలు	(2–1)	1×4=4 మా
ఛందస్సు	(2–1)	1×4=4 మా

బి.ఏ., బి.కాం., బి.యస్‌సి., తదితర ప్రోగ్రాములు

అంశం: జనరల్ తెలుగు సెమిస్టర్–2

కోర్సు–2 : ఆధునిక తెలుగు సాహిత్యం

యూనిట్ల సంఖ్య:5 **పీరియడ్ల సంఖ్య:60**

✦ **అభ్యసన ఫలితాలు:–**

ఈ కోర్సు విజయవంతంగా ముగించాక, విద్యార్థులు క్రింది అభ్యసన ఫలితాలను పొందగలరు.

1. ఆంగ్లభాష ప్రభావం కారణంగా తెలుగులో వచ్చిన ఆధునిక సాహిత్యాన్ని, దాని విశిష్టతను గుర్తిస్తారు.

2. సమకాలీన ఆధునిక సాహిత్య ప్రక్రియలైన “వచన కవిత్వం, కథ, నవల, నాటకం, విమర్శ”లపై అవగాహన పొందుతారు.

3. భావకవిత, అభ్యుదయ కవితాలక్ష్యాలను గూర్చిన జ్ఞానాన్ని పొందుతారు.అస్తిత్వవాద ఉద్యమాలపుట్టుకను, ఆవశ్యకతను గుర్తిస్తారు.

4. కథాసాహిత్యం ద్వారా సామాజిక చైతన్యాన్ని పొందుతారు. సిద్ధాంతాల ద్వారా కాకుండా, వాస్తవ పరిస్థితులను తెలుసుకోవడం ద్వారా సిద్ధాంతాన్ని సమీక్షించగలరు.

5. ఆధునిక తెలుగు కల్పనాసాహిత్యం ద్వారా సామాజిక, సాంస్కృతిక,రాజకీయ చైతన్యాన్ని పొందుతారు.

పాఠ్య ప్రణాళిక

యూనిట్–I : ఆధునిక కవిత్వం

1. ఆధునిక కవిత్వం– పరిచయం
2. కొండవీడు – దువ్వూరి రామిరెడ్డి
   ('కవికోకిల' గ్రంథావళి–ఖండకావ్యాలు–నక్షత్రమాల సంపుటి నుండి)
3. మాతృసంగీతం – అనిసెట్టి సుబ్బారావు ('అగ్నివీణ' కవితాసంపుటి నుండి)
4. 'తాతకో నూలుపోగు' – బండారు ప్రసాదమూర్తి ('కలనేత' కవితాసంపుటి నుండి)

యూనిట్–II : కథానిక

5. తెలుగు కథానిక – పరిచయం
6. భయం (కథ) – కాళీపట్నం రామారావు
7. స్వేదం ఖరీదు....? – (కథ) – రెంటాల నాగేశ్వరరావు

యూనిట్–III : నవల

8. తెలుగు 'నవల' – పరిచయం
9. రథచక్రాలు (నవల) – మహీధర రామ్మోహన రావు (సంక్షిప్త ఇతివృత్తం మాత్రం)
10. రథచక్రాలు (సమీక్షా వ్యాసం) – డా॥ యల్లాప్రగడ మల్లికార్జునరావు

యూనిట్–IV: నాటకం

11. తెలుగు 'నాటకం' – పరిచయం
12. యక్షగానము (నాటిక) – ఎం.వి.ఎస్. హరనాథరావు.
13. "అపురూప కళారూపాల విధ్వంసదృశ్యం 'యక్షగానము' (సమీక్షా వ్యాసం)"
    –డా॥కందిమళ్ళసాంబశివరావు

యూనిట్–V: విమర్శ

14. తెలుగు సాహిత్య విమర్శ – పరిచయం
15. విమర్శ–స్వరూప స్వభావాలు; ఉత్తమ విమర్శకుడు–లక్షణాలు

ఆధార గ్రంథాలు/వ్యాసాలు:

1. ఆధునిక కవిత్వం–పరిచయం : చూ. 'దృక్పథాలు' పుట 1–22, ఆచార్య ఎస్వీ. సత్యనారాయణ
2. తెలుగు కథానిక–పరిచయం : చూ. మన నవలలు–మన కథానికలు, పుట 118–130, ఆచార్య రాచపాళెం చంద్రశేఖర రెడ్డి
3. తెలుగు నవల–పరిచయం : చూ. నవలాశిల్పం, పుట 1–17, వల్లంపాటి వెంకటసుబ్బయ్య
4. తెలుగు నాటకం–పరిచయం : చూ. తెలుగు నాటకరంగం, పుట 17–25 ఆచార్య ఎస్.గంగప్ప
5. తెలుగుసాహిత్య విమర్శ–పరిచయం: చూ.తెలుగుసాహిత్య విమర్శ–నాడు,నేడు పుట 213–217 తెలుగువాణి, అయిదవ అఖిలభారత తెలుగు మహాసభల ప్రత్యేక సంచిక ఆచార్య జి.వి.సుబ్రహ్మణ్యం
6. నూరేళ్ళ తెలుగు నాటక రంగం – ఆచార్య మొదలి నాగభూషణశర్మ
7. నాటకశిల్పం – ఆచార్య మొదలి నాగభూషణశర్మ
8. సాంఘిక నవల–కథన శిల్పం – ఆచార్య సి.మృణాళిని.

✦ **సూచించబడిన సహపాఠ్య కార్యక్రమాలు:**

1. ఆధునిక కవిత్వానికి సంబంధించిన కొత్త కవితలను/అంశాలను ఇచ్చి, విద్యార్థులచేత వాటిమీద అసైన్‌మెంట్లు రాయించడం
2. పాఠ్యాంశాలకు సంబంధించిన విషయాలపై వ్యాసాలు రాయించడం (సెమినార్/అసైన్‌మెంట్)
3. తెలుగు సాహిత్యంలోని ప్రసిద్ధ కథలపై, కవితలపై సమీక్షలు రాయించడం.
4. ఆధునిక పద్యనిర్మాణ రచన చేయించడం.
5. విద్యార్థులను బృందాలుగా విభజించి, నాటకలపై/నవలలపై సమీక్షలు రాయించడం.
6. సాహిత్యవ్యాసాలు సేకరించడం, బృందచర్చ నిర్వహించడం, క్షేత్రపర్యటనలు.
7. ప్రసిద్ధుల విమర్శావ్యాసాలు చదివించి, వాటిని విద్యార్థుల సొంత మాటల్లో రాయించడం.
8. పాఠ్యాంశాలపై స్వీయ విమర్శావ్యాసాలు రాయించడం.

✦ప్రశ్నాపత్ర నమూనా ✦

అ–విభాగము

సంక్షిప్త సమాధాన ప్రశ్నలు – ప్రతి యూనిట్ నుంచి తప్పనిసరిగా ఒక ప్రశ్న ఇస్తూ, మొత్తం ఎనిమిది ప్రశ్నలు ఇచ్చి, ఐదింటికి సమాధానం రాయమనాలి. 5×5=25 మా.

ఆ–విభాగము

వ్యాసరూప సమాధాన ప్రశ్నలు–ప్రతి యూనిట్ నుంచి తప్పనిసరిగా రెండు ప్రశ్నలు ఇచ్చి ఒక ప్రశ్నకు సమాధానం రాయమనాలి. మొత్తం ప్రశ్నలు 5. 5×10=50 మా.

బి.ఏ., బి.కాం., బి.యస్‌సి., తదితర ప్రోగ్రాములు

అంశం: జనరల్ తెలుగు సెమిస్టర్-3

కోర్సు-3 : సృజనాత్మక రచన

యూనిట్ల సంఖ్య:5 **పీరియడ్ల సంఖ్య:60**

✦ **అభ్యసన ఫలితాలు:-**

ఈ కోర్సు విజయవంతంగా ముగించాక, విద్యార్థులు క్రింది అభ్యసన ఫలితాలను పొందగలరు.

1. తెలుగు సాహిత్య అభ్యసన ద్వారా నేర్చుకున్న నైపుణ్యాలను, సృజనాత్మక నైపుణ్యాలుగా మార్చుకోగలరు.
2. విద్యార్థులు భాషాతత్వాన్ని, భాష యొక్క ఆవశ్యకతను, భాష యొక్క ప్రాధాన్యాన్ని గుర్తిస్తారు. మనిషి వ్యక్తిగత జీవనానికి, సామాజికవ్యవస్థ పటిష్టతకు భాష ప్రధానమని తెలుసుకుంటారు. తెలుగుభాషలోని కీలకాంశాలైన 'వర్ణం-పదం-వాక్యా'ల ప్రాధాన్యాన్ని గుర్తిస్తూ, వాగ్రూప- లిఖితరూప వ్యక్తీకరణ ద్వారా భాషానైపుణ్యాలను మెరుగుపరచుకోగలరు.
3. భాషానైపుణ్యాలను అలవరచుకోవడంతోపాటు వినియోగించడం నేర్చుకుంటారు. రచనా, భాషణానైపుణ్యాలను సృజనాత్మక రూపంలో వ్యక్తీకరించగలరు.
4. ప్రాచీన పద్యరచనతో పాటు ఆధునిక కవిత, కథ, వ్యాసం, మొదలైన సాహిత్యప్రక్రియల నిర్మాణాలకు సంబంధించిన సిద్ధాంతవిషయాలను నేర్వడంతో పాటు వారిలో రచనా నైపుణ్యాలను పెంపొందించుకోగలరు.
5. సృజన రంగం, ప్రసారమాధ్యమ రంగాల్లో ఉపాధి అవకాశాలను అందిపుచ్చుకోగలరు.
6. అనువాద రంగంలో నైపుణ్యం సంపాదించగలరు.

పాఠ్య ప్రణాళిక

యూనిట్–I: వ్యక్తీకరణ నైపుణ్యాలు

1. భాష–ప్రాథమికాంశాలు: భాష–నిర్వచనం, లక్షణాలు, ఆవశ్యకత, ప్రయోజనాలు
2. వర్ణం–పదం–వాక్యం', వాక్య లక్షణాలు, సామాన్య–సంయుక్త–సంశ్లిష్టవాక్యాలు
3. భాషా నిర్మాణంలో 'వర్ణం–పదం–వాక్యం' ప్రాధాన్యత

యూనిట్–II సృజనాత్మక రచన

4. కవితా రచన : ఉత్తమ కవిత – లక్షణాలు
5. కథారచన : ఉత్తమ కథ – లక్షణాలు
6. వ్యాస రచన : ఉత్తమ వ్యాసం–లక్షణాలు

యూనిట్–III: అనువాద రచన

7. అనువాదం–నిర్వచనం, అనువాద పద్ధతులు,
8. అనువాద సమస్యలు–భౌగోళిక,భాషా,సాంస్కృతిక సమస్యలు, పరిష్కారాలు
9. అభ్యాసము : ఆంగ్లం నుండి తెలుగుకు,తెలుగు నుండి ఆంగ్లానికి ఒక పేరానుఅనువదించడం

యూనిట్ IV మాధ్యమాలకు రచన–1 (ముద్రణామాధ్యమం/ప్రింట్ మీడియా)

10. ముద్రణామాధ్యమం (అచ్చుమాధ్యమం) : పరిచయం, పరిధి, వికాసం
11. వివిధ రకాల పత్రికలు–పరిశీలన, పత్రికాభాష, శైలి, వైవిధ్యం
12. పత్రికా రచన : వార్తా రచన, సంపాదకీయాలు, సమీక్షలు–అవగాహన

యూనిట్ V మాధ్యమాలకు రచన–2 (ప్రసార మాధ్యమం/ఎలక్ట్రానిక్ మీడియా)

13. ప్రసారమాధ్యమాలు : నిర్వచనం, రకాలు, విస్తృతి, ప్రయోజనాలు
14. శ్రవణ మాధ్యమాలు – రచన: రేడియో రచన, ప్రసంగాలు, నాటికలు, ప్రసార సమాచారం
15. దృశ్యమాధ్యమాలు – రచన: వ్యాఖ్యానం (యాంకరింగ్), టెలివిజన్ రచన

ఆధార గ్రంథాలు/వ్యాసాలు:

1. వ్యక్తీకరణ నైపుణ్యాలు – చూ. 1. ఆధునిక భాషాశాస్త్ర సిద్ధాంతాలు–ఆచార్య పి.ఎస్.సుబ్రహ్మణ్యం
   2. తెలుగు భాషా చరిత్ర – సం.ఆచార్య భద్రిరాజు కృష్ణమూర్తి
   3. తెలుగు వాక్యం – డా. చేకూరి రామారావు
2. ఉత్తమ కవిత–లక్షణాలు – చూ. నవ్యకవిత్వ లక్షణములు– ఆచార్య సి.నారాయణరెడ్డి
   ఆధునికాంధ్ర కవిత్వము–సంప్రదాయములు, ప్రయోగములు: చతుర్థ ప్రకరణము.
3. ఉత్తమ కథ–లక్షణాలు – చూ.కథాశిల్పం–వల్లంపాటి వెంకటసుబ్బయ్య, పుటలు 11–17
4. ఉత్తమ వ్యాసం–లక్షణాలు– చూ.చదువు–సంస్కృతి (వ్యాసం) – కొడవటిగంటి కుటుంబరావు
5. అనువాద రచన – చూ.1. అనువాద సమస్యలు – రాచమల్లు రామచంద్రారెడ్డి
   పుటలు 61–75, 85–94
   2. అనువాదన పద్ధతులు ఆచరణ సమస్యలు–చేకూరి రామారావు
   "భాషాంతరంగం", పుటలు 130–146, తెలుగు విశ్వవిద్యాలయం ప్రచురణ
6. ముద్రణా మాధ్యమం – చూ. మాధ్యమాలకు రచన, పుటలు 9–12
   – డా॥ బి.ఆర్.అంబేద్కర్ విశ్వవిద్యాలయ ప్రచురణ
7. పత్రికా భాష – చూ. మాధ్యమాలకు రచన, పుటలు 67–74
   – డా॥ బి.ఆర్.అంబేద్కర్ విశ్వవిద్యాలయ ప్రచురణ
8. పత్రికా రచన – చూ. తెలుగు– మౌలికాంశాలు, పుటలు 59–69
   – డా॥ బి.ఆర్.అంబేద్కర్ విశ్వవిద్యాలయ ప్రచురణ
9. ప్రసార మాధ్యమాలు – చూ. మాధ్యమాలకు రచన, పుటలు 3-10
   – డా॥ బి.ఆర్.అంబేద్కర్ విశ్వవిద్యాలయ ప్రచురణ
10. రేడియో రచన – చూ.మాధ్యమాలకు రచన, పుటలు 141-148
    – డా॥ బి.ఆర్.అంబేద్కర్ విశ్వవిద్యాలయ ప్రచురణ
11. వ్యాఖ్యానం (యాంకరింగ్) – చూ.మాధ్యమాలకు రచన, పుటలు 178-181
    – డా॥ బి.ఆర్.అంబేద్కర్ విశ్వవిద్యాలయ ప్రచురణ
12. టెలివిజన్ రచన – చూ.మాధ్యమాలకు రచన, పుటలు 153-160
    – డా॥ బి.ఆర్.అంబేద్కర్ విశ్వవిద్యాలయ ప్రచురణ
13. తెలుగు జర్నలిజం – డా॥ బూదరాజు రాధాకృష్ణ

సూచించబడిన సహపాఠ్య కార్యక్రమాలు

1. భాషాంశాలపై, వాక్య నిర్మాణంపై అసైన్‌మెంట్లు రాయించడం, పత్రికల్లోని సాహిత్య/భాషాంశాలను సేకరింపజేయడం.
2. విద్యార్థులచేత తెలుగుభాషా సాహిత్యాలపై ప్రసంగవ్యాసం ఇప్పించడం (సెమినార్/ అసైన్‌మెంట్)
3. వ్యాసరచన, లేఖారచన, స్వీయకవితలు రాయించి, తరగతిలో చదివింపచేయడం మొదలైనవి.
4. వివిధ కార్యక్రమాల్లో విద్యార్థులచేత సదస్సు నిర్వహణ, వ్యాఖ్యానం (యాంకరింగ్) చేయించడం.
5. సమకాలీన భాషాసమస్యలపై / ఉద్యమాలపై/సాంఘిక సమస్యలపై 'బృందచర్చ' (Group Discussion) నిర్వహింపచేయడం.
6. తెలుగుభాషా దినోత్సవం/అంతర్జాతీయ మాతృభాషా దినోత్సవం మొదలైన రోజుల్లో జరిగే సాంస్కృతిక కార్యక్రమాలు విద్యార్థులచేత నిర్వహింపజేయడం, వాటిపై సమీక్షలు/పత్రికా ప్రకటనలు రాయించడం.
7. సమకాలీన సంఘటనలపై సామాజిక మాధ్యమాల్లో/ టి.వి.ల్లో జరిగే చర్చలను నమోదు చేయించి సంకలనం చేయడం.
8. సాంస్కృతిక / చారిత్రక ప్రాశస్త్యం కలిగిన కట్టడాలు , దేవాలయాలు, కళానిలయాలను 'బృందపర్యటన/ క్షేత్ర పర్యటన' ద్వారా విద్యార్థులచేత సందర్శింపజేయడం.

✦ప్రశ్నాపత్ర నమూనా ✦

అ-విభాగము

సంక్షిప్త సమాధాన ప్రశ్నలు – ప్రతి యూనిట్ నుంచి తప్పనిసరిగా ఒక ప్రశ్న ఇస్తూ, మొత్తం ఎనిమిది ప్రశ్నలు ఇచ్చి, ఐదింటికి సమాధానం రాయమనాలి. 5×5=25 మా.

ఆ-విభాగము

వ్యాసరూప సమాధాన ప్రశ్నలు-ప్రతి యూనిట్ నుంచి తప్పనిసరిగా రెండు ప్రశ్నలు ఇచ్చి ఒక ప్రశ్నకు సమాధానం రాయమనాలి. మొత్తం ప్రశ్నలు 5. 5×10=50 మా.

ఆదికవి నన్నయ విశ్వవిద్యాలయం

జనరల్ తెలుగు

ప్రాచీన తెలుగు సాహిత్యం

మాదిరి ప్రశ్నా పత్రం

సెమిస్టర్-1 పేపర్ - 1

(బి.ఎ., బి.కాం., బి.ఎస్.సి., బి.బి.ఏ., బి.సి.ఏ.,)

సమయం: 3 గంటలు **మార్కులు: 75**

సెక్షన్-ఎ

I. ఈ క్రింది పద్యాలలో ఒకదానికి ప్రతిపదార్థ తాత్పర్యాన్ని రాయండి. 8 మా

(అ) కడుఁజనువాఁడునై పురుషకారియు దక్షుఁడునైన మంత్రి పెం
పడంఁగ రాజపుత్రుల మహాధనవంతుల ఁజేసి వారితో
నొడఁబడి పక్ష మేర్పడఁగ నుండఁడుగా, ధనమెట్టి వారికిం
గడుకొని చేయకుండునె జగన్నుత! గర్వము దుర్విమోహమున్

(లేదా)

(ఆ) సంగరరంగమందు నతిశౌర్యమునన్ రఘురాముతోడ మా
తంగతురంగసద్భటశ తాంగబలంబుల(గూడి నీవు పో
రంగను నోప కిప్పుడు విరాధఖరాదుల పాటు (జూచియున్
దొంగిలినన్ను(దెచ్చితివి తుచ్ఛపు(బల్కులు పల్క(బాడియే.

II. ఈ క్రింది పద్యాలలో ఒక దానికి పాదభంగం లేకుండా పూరించండి. 1x3=3 మా

(అ) ఖురవదఘట్టనన్ ధరణి గ్రుంగ..... లోక భయంకరాకృతిన్

(లేదా)

(ఆ) ధరణిపు జక్క గట్టెదరు దక్కి..... నీతి కొల్వునన్

III. ఈ క్రింది వానిలో నాల్గింటికి సందర్భసహిత వ్యాఖ్యలు రాయండి. 4x3=12 మా

1. "తనువు లస్థిరములు ధనములుకల్ల"
2. "వానిననుష్ఠింతు (బ్రియముతోడ"
3. "ఎలుక మీది కోపమున నిల్లేర్చునట్లు"
4. పురుషార్థంబునకు హాని పుట్టుక యున్నే"
5. కీర్తి యొక్కటి భువి నిఖిలముగాకుండ"
6. "చెప్ప నేటికి నీవె చూచెదవు గాక"

IV. ఈ క్రింది వానిలో నాల్గింటికి సమాధానాలు రాయండి. 4x3=12 మా

1. దక్షుని యజ్ఞవాటిక భీతావహమైన వేళ, ఇంద్ర కుబేరుల స్థితి తెల్పండి?
2. రాజు కొలువులో ఉన్న ఉద్యోగులు గోప్యముగా ఉంచవలసిన అంశము లేవి?
3. నలగామ రాజు ఎందుకు కలత చెందను?
4. శ్రీనాథుని రచనలేవి?
5. త్రిజట స్వప్న వృత్తాంతాన్ని వివరించండి?
6. నారదుడు చెప్పిన పధ్నాలుగు రకాల రాజలక్షణాలను తెలపండి?

V. ఈ క్రింది వ్యాసరూప ప్రశ్నలలో మూడింటికి సమాధానాలు రాయండి.

1. (అ) రాజనీతి పాఠ్యభాగం ఆధారంగా నన్నయ కవితారీతులను వివరించండి? 1x8=8 మా

(లేదా)

(ఆ) దక్షయజ్ఞం పాఠ్యభాగ సారాంశాన్ని తెలియజేయండి?

2. (అ) ధౌమ్యుడు చేసిన ధర్మోపదేశాన్ని వివరించండి? 1x8=8 మా

(లేదా)

(ఆ) "పలనాటి బెబ్బులి" కథా సారాంశం వివరించండి?

3. (అ) "సీతా రావణ సంవాదం" పాఠ్యభాగం ఆధారంగా సీత రావణునితో పలికిన అంశాలను తెలియజేయండి? 1x8=8 మా

(లేదా)

(ఆ) శ్రీనాథుని కవితా రీతులను రాయండి?

సెక్షన్-బి

VI. ఈ క్రింది పదాలలో నాల్గింటిని విడదీసి సంధి పేరు రాయండి. 4x1=4 మా

(1) రాజాన్వయ (2)పక్షమేర్పడ (3)వీధిఁ జొచ్చె (4)కట్టెదుట (5) ఇంధనౌఘ (6) నరేంద్రోత్తమ

VII. ఈ క్రింది పదాల్లో నాల్గింటికి విగ్రహ వాక్యం రాసి,సమాసాల పేరు తెల్పండి.

(1) సహస్రాక్షుడు (2) తనయుల్లు (3) ఉత్తమాసనములు 4x1=4 మా

(4)మానావమానములు (5)శింశుపావృక్షము (6) అష్టాంగములు.

VIII ఈ క్రింది వానిలో ఒక దానికి లక్ష్యలక్షణ సమన్వయం చేయండి. 1x4=4 మా

(1) వృత్యానుప్రాసము (2) అర్థాంతరన్యాసము

IX. ఈ క్రింది వానిలో ఒకదానికి లక్షణాలు తెలిపి ఉదాహరణతో సమన్వయం చేయండి.

(1) మత్తేభం (2) కందం 1x4=4 మా

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ఆదికవి నన్నయ విశ్వవిద్యాలయం

జనరల్ తెలుగు

ఆధునిక తెలుగు సాహిత్యం

మాదిరి ప్రశ్నా పత్రం

సెమిస్టర్-2 పేపర్ -2

(బి.ఎ., బి.కాం., బి.ఎస్.సి., బి.వి.ఏ., బి.సి.ఏ.,)

సమయం: 3 గంటలు మార్కులు:75

అ-విభాగం

I. ఈ క్రింది ప్రశ్నల్లో ఐదింటికి సమాధానాలు రాయండి 5x5=25మా

1. కొండపీడు గొప్పతనాన్ని రాయండి?
2. అనిశెట్టి సుబ్బారావు రచనలేవి?
3. రెంటాల నాగేశ్వరరావు గారి జీవిత విశేషాలు రాయండి?
4. 'నవల' నిర్వచనం రాయండి?
5. 'రథచక్రాలు' గూర్చి సంక్షిప్త సమీక్ష రాయండి?
6. 'యక్షగానాల ప్రాముఖ్యతను వివరించండి?
7. 'కట్టమంచి రామలింగారెడ్డి విమర్శ స్థానాన్ని వివరించండి?
8. 'సి.నారాయణరెడ్డిని రచనలు పరిచయం చేయండి?

అ-విభాగం

II. ఈ క్రింది వానిలో అన్ని ప్రశ్నలకు సమాధానాలు రాయండి 5x10= 50 మా

9. (అ) అధునిక కవిత్వ ఆవిర్భావ వికాసాలను వివరించండి?

(లేదా)

(ఆ) తాతకో సూలు పోగు కవిత ప్రత్యేకతను వివరించండి?

10. (అ) తెలుగు కథానికను పరిచయం చేయండి.

(లేదా)

(ఆ) భయం కథలోని సారాంశం రాయండి?

11) (అ) సాహిత్య ప్రక్రియగా నవల స్థానాన్ని వివరించండి?

(లేదా)

(ఆ) "రథచక్రాలు" ఇతివృత్తాన్ని వివరించండి?

12)(అ) "తెలుగు కథానిక" పరిమాణాన్ని తెలియజేయండి?

(లేదా)

(ఆ) "యక్షగానం" ఆవిర్భావ వికాసాలను రాయండి?

13)(అ) తెలుగు సాహిత్య వివర్శను పరిచయం చేయండి?

(లేదా)

(ఆ) ఉత్తమ విమర్శకుని లక్షణాలను రాయండి.

ఆదికవి నన్నయ విశ్వవిద్యాలయం

జనరల్ తెలుగు

(బి.ఎ., బి.కాం., బి.ఎస్.సి., బి.బి.ఏ., బి.సి.ఏ.,)

సృజనాత్మక రచన

మాదిరి ప్రశ్నా పత్రం

సెమిస్టర్-3 పేపర్ - 3

సమయం: 3 గంటలు **మార్కులు: 75**

అ-విభాగం

1. ఈ క్రింది ప్రశ్నలలో ఐదింటికి సమాధానాలు రాయండి? 8 వ ప్రశ్నకు తప్పనిసరిగా సమాధానం రాయాలి?

1. భాషా ప్రయోజనాలు తెలియజేయండి? **5×5=25 మా**
2. వ్యాస లక్షణాలను వివరించండి?
3. సంక్లిష్ట వాక్యాల గురించి రాయండి?
4. టెలివిజన్ రచనా పద్ధతులను తెలియజేయండి?
5. ఉత్తమ సంపాదకుని లక్షణాలు తెలపండి?
6. అనువాదంలో తలయెత్తే సమస్యలను వివరించండి?
7. భద్రిరాజు కృష్ణమూర్తిగారి కృషిని వివరించండి?
8. **ఈ క్రింది అంశాన్ని తెలుగులోకి అనువదించండి**

The daily life of the students is a life of studies and discipline. During the student days, one has to be very active and busy. If the student neglect his studies, he would fail in his examinations. If he is not punctual to his classes, he would be looser to that effect. If the student fails to work hard regularly, he would lag behind his classmates.

ఆ-విభాగం

2. ఈ క్రింది వానిలో అన్ని ప్రశ్నలకు సమాధానాలు రాయండి **5×10= 50 మా**

9. భాషను నిర్వచించి వాటి లక్షణాలను వివరించండి?

(లేదా)

వాక్యాన్ని నిర్వచించి, భేదాలను తెలపండి?

10. ఉత్తమ కథా లక్షణాలను వివరించండి?

(లేదా)

ఉత్తమ కవిత లక్షణాలు రాయండి?

11. అనువాద పద్ధతులను గురించి తెలపండి?

(లేదా)

అనువాద నిర్వచనాలను రాసి, ఉత్తమ అనువాదాలను గురించి రాయండి?

12. ముద్రణ మాధ్యమాన్ని పరిచేయం చేస్తూ దాని పరిధి, వికాసాలను వివరించండి?

(లేదా)

పత్రిక రచనలను గూర్చి విశ్లేషణాత్మక వ్యాసం రాయండి?

13. ప్రసార మాధ్యామాల పరిధి, ప్రయోజనాలను రాయండి?

(లేదా)

దృశ్య మాధ్యమాలలో సమాచార సేకరణ (రిపోర్టింగ్) వ్యాఖ్యానం (యాంకరింగ్) గురించి రాయండి?

Skill Enhancement Courses(SECs) for Semester -V,

From2022-23(Syllabus-Curriculum)
Structure of SECs for Semester–V

(To choose One pair from the Four alternate pairs of SECs)

Courses 6 & 7	Name of the Course	Hours/ Week	Credits	Marks	
				IA-20 Field Work-5	Sem End
6A	Human Resource and Logistic Management	5	4	25	75
7A	Leadership styles and Conflict Management	5	4	25	75

OR

Courses 6 & 7	Name of the Course	Hours/ Week	Credits	Marks	
				IA-20 Field Work-5	Sem End
6B	Basic Research Writing Skills	5	4	25	75
7B	Personality Development and Communication Skills	5	4	25	75

OR

Courses 6 & 7	Name of the Course	Hours/ Week	Credits	Marks	
				IA-20 Field Work-5	Sem End
6C	Social Audit	5	4	25	75
7C	Management of NGO's	5	4	25	75

***Note**: FIRST and SECOND PHASES (2 spells) of APPRENTICESHIP between 1st and 2nd year and between 2nd and 3rd year (two summer vacations)

***Note**: THIRD PHASE of APPRENTICESHIP Entire 6th Semester

Note-1: Note: For Semester–V, for the domain subject Public Administration, any one of the three pairs of SECs shall be chosen as courses 6 and 7, i.e., 6A & 7A or 6B & 7B or 6C & 7C. The pair shall not be broken (ABC allotment is random, not on any priority basis).

Note-2: One of the main objectives of Skill Enhancement Courses (SEC) is to inculcate skills related to the domain subject in students. The syllabus of SEC will be partially skill oriented. Hence, teachers shall also impart practical training to students on the skills embedded in syllabus citing related real field situation

B.A	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course:6A	Human Resource And Logistic Management	Hrs/Wk:5

Learning Outcomes:

On successful completion of the course the students will be able to;

- Discuss the human resource management.
- Also understand the challenges of human resource planning and Problems.
- Also, to identify the systems and processes of financial and material management.
- Apply the knowledge to observe the field level phenomena.

Syllabus: (Hours: Teaching: 60, Skills Training: 10, others including unit tests: 05. Total:75)

UNIT-I

Introduction: Meaning, Nature, Scope and Significance of Human Resource Management, Objective and Functions of Human Resource Management, Qualities of Human Resource Manager

UNIT-II

Meaning, Objectives and Need of Human Resource Planning, Factors affecting Human Resource Planning, Human Resource Problems

UNIT-III

Procurement and Development Functions: Job Analysis, Job description, job specification, recruitment and selection, placement and induction and socialization

UNIT-IV

Logistic Management: Meaning, Objectives and Need of logistic Management, Concept, Principles and Forms, Procurement of material and inventory control, material handling and packing, transportation, Logistic Information System

UNIT-V

Emerging Trends: Logistic Management Emerging Trends, Green Logistic, Effective Logistic
Management, Challenges: Human Resource Management, Financial Management, Inventory/Material, Outsourcing, Customer Satisfaction etc.

References

1. Dr. C.B. Gupta - Sultan and Sons, Human Resource Management
2. P. SubbaRao, Personnel & Human Resource Management - - Himalaya Publishing House.
3. K. Aswathappa,Human Resource and Personnel Management - - Tata McGraw Hill Publishing Co. Ltd.
4. Allawadi, Satish Chand rakeshP. Singh, 2001, Logistic Management (Second Edition), Prentice Hall India, New Delhi.
5. Agarwal, D.K. 2012 Text book of Logistic and Supply Chain Management (Reprint), Macmillan, Delhi.
6. Bhattacharya, S.K. 2010 Logistic Management-Definition, Dimensions and Functional Applications (Reprint), Sultan Chand and Sons, Delhi.
7. Ismail Reji, 2013 Logistic Management, Excel Books India, Delhi.
8. Raghuram, G and N. Rangaraj, Logistics and Supply Chain Management –Case and Concepts, Macmillan India, Delhi.
9. Sople, Vinod, V.2013, Logistics Management 9Third edition, Dorling Kindersley India, New Delhi.

Co-Curricular Activities (Training of students by the teacher: Total 10 hours):

a) Mandatory:

1. FOR TEACHER: Training of students by teacher in the classroom for a total of not less than10 hours on various practical skills related to Humana Resource Management and Logistic Management sector, with the help of local experts. The teacher shall also train the students to identify the best qualities of Manager and Human Resource Problems and Challenges to Logistic Management. The teacher shall lead students to visit local industrialsites and guide them to work with the local Human Resource Manager.

2. FOR STUDENT: Students have to go to the field, observe activities related to Human Resource Management and Logistic Management. Observe their functioning and problems to gain experience, including suggestions for improving the best qualities of the Human Resource Manager. These individual observations shall be written in the given format not exceeding 10 pages and submitted to the teacher as Fieldwork/Project work Report.

3. Suggested Fieldwork/Project work Format: Title Page, Student Details, Acknowledgements, Index page, Objectives, Step-wise process, Findings, Conclusion and References.

b) Suggested Co-Curricular Activities

1) Invited Lectures

2) Hands-on experience with the help of field experts.

3) Debates on interesting topics

4) Seminars, Group Discussions, Quiz, etc.

5) Assignments

6) Alumni Interactions

7) Periodical interactions with Human Resource Managers

B.A	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course:7A	Leadership Styles And Conflict Management	Hrs/Wk:5

Learning Outcomes:

On successful completion of the course the students will be able to;

- understand the different styles of leadership given by administrative thinkers.
- They will also understand the causes and level of conflicts in an organization.
- Students will also be able to understand the handling of inter-personal conflict
- Describe a leader's role in managing conflict in the Organization
- Understand how to turn conflict into an opportunity for redemption and reconciliation.

Syllabus: (Hours: Teaching: 60, Skills Training: 10, others including unit tests: 05. Total:75)

UNIT-I

Introduction: Meaning, Nature and Scope of Leadership, Types of Leadership and Importance of Leadership.

UNIT-II

Qualities and Functions: Qualities and Functions of Leadership, Leadership Styles Viz Autocratic Style, Democratic Style and Laizzez Faire Styles.

UNIT-III

Organization Conflicts: Nature and causes of Organizational Conflicts, Types and Levels of Conflicts and Criteria for Conflicts Management.

UNIT-IV

Negotiations: Bargaining strategies in negotiation, negotiation process stages. Techniques of Negotiations and Third Party Negotiations.

UNIT-V

Case Studies: Styles of Handling Inter-Personal Conflicts and Managing Conflict Management Process-Case Studies, The Arbitration and Conciliation (Amendment) Act, 2015.

References

1. Bernard M. Bass, 1985, Leadership and Performance Beyond Expectations, Free Press, New York.
2. C.K.W. DeDreu&E.Van de Vliert (Eds.), 1997, Using Conflict in Organizations, Sage, London.
3. D.G. Pruitt & P.J. Carnevale, 1993, Negotiation and Social Conflict, Open University Press, England. 4. Deepak Malhotra, 2016, Negotiating the Impossible: How to Break Deadlocks and Resolve Ugly Conflicts (without Money or Muscle).BerrettKoehler Publishers, Oakland CA
4. Deepak Malhotra and Max H. Bazerman, 2008, Negotiation Genius: How to Overcome Obstacles and Achieve Brilliant Results at the Bargaining Table and Beyond, Bantam Dell, Random House Inc., New York.
5. I William Zartman, 2007, Negotiation and Conflict Management: Essays on Theory and Practice (Security and Conflict Management), Routledge, New York.
6. L.D. Brown, 1983, Managing Conflict at Organizational Interfaces, Reading, Addison-Wesley, M.A.
7. M.Afzalur.Rahim, 2001, Managing Conflict in Organizations (3rd Ed.), Quorum Books, Westport, CT.
8. Disagreements and Develop Trust and Understanding, How to Books Ltd., U.K.
9. Wendel.L. French &Cecil.H. Bell Jr, 1999, Organization Development : Behavioral
10. Science Interventions for Organization Improvement(6th Ed.) Englewood Cliffs, Prentice-Hall, N.J.
11. William W.Wilmot and Joyce L. Hocker, 2005, Interpersonal Conflict, McGraw-Hill Higher Education.

Co-Curricular Activities (Training of students by the teacher: Total 10 hours):

a) Mandatory:

1. FOR TEACHER: Training of students by teacher in the classroom for a total of not less than10 hours on different types of leaders, qualities and functions of Leaders and conflict management skills and techniques to effectively manage conflicts at the work place and community. And also train them to understand the different approaches and methods of conflict management. The teacher shall also train the students to acquire various skills and techniques for conflict Management and to cultivate in them effective leadership and managerial skills. The teacher shall lead students to visit and meetlocal Leaders and interact with them.

2. FOR STUDENT: Students have to go to the field, observe activities of different types of leaders andmanaging conflict and bargaining strategies in negotiation. Observe their functioning and problems to gain experience, including suggestions for the improving the best qualities of Leader and conflict management in organization. These individual observations shall be written in the given format not exceeding 10 pages and submit to the teacher as Fieldwork/Project work Report.

3. Suggested Fieldwork/Project work Format: Title Page, Student Details, Acknowledgements, Index page, Objectives, Step-wise process, Findings, Conclusion and References.

b) Suggested Co-Curricular Activities

1) Invited Lectures
2) Hands on experience with the help of field experts.
3) Debates on interesting topics
4) Seminars, Group Discussions, Quiz, etc.
5) Assignments
6) Alumni Interactions 7) Periodical interactions with local leaders.

B.A	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course:6B	Basic Research Writing Skills	Hrs/Wk:5

Learning Outcomes:

Students at the successful completion of the course will be able to

- Describe why research is important.
- Describe scientific methods.
- Describe research report.
- Describe library use.
- Demonstrate dictionary usage.
- Demonstrate thesaurus usage.
- Demonstrate encyclopedias, almanacs, and atlases usage.
- Demonstrate internet search engines usage for research.
- Identify Internet news sources.
- Identify internet magazines, blogs, and images.
- Identify journals, papers, and more.
- Summarize bibliographies and their usage in research.

Syllabus: (Hours: Teaching: 60, Skills Training: 10, others including unit tests: 05. Total:75)

UNIT-I:Introduction to Research

Concept of research – Importance of research – Types of research – Various methods of research- Scientific methods of research

UNIT II:Writing skills

Basic concepts of writing- introduction to writing- reports- importance of reports-types of reports.

UNIT III: Contents of Report

Planning of Report Writing- Format of Research Report

UNIT IV: Principles of Writing

Principles of writing- Bibliography- Documentation of Bibliography

UNIT V: Evaluation of Report

Typing the Report- Evaluating the Research report

Reference Books:

1. Ballou, Stephen.V, *A Model for Theses and Research Papers*, Boston: Houghton Mifflibn, 1970.
2. Barzun, Jacques and Henry F. Graff, *The Modern Researcher*, New York: Harcourt, Brace & World, 1970.
3. Berenson, Conrad and Raymod Colton, *Research and Report Writing for Business and Economics,* New York: Random House, 1971 chapters 8 to 17.
4. Bernstein, Theodore, *The Careful Writer: A Modern Guide to English Usage,* New York: Atheneum, 1965.
5. Bowers, Fredson, *Principles of Bibliographical Description*, New York: Russell & Russell, 1949.
6. Campbell, William GiIes and Stephen Vaughan Ballou*Form and Style: Theses, Reports,* Term Papers. in Co. 1974.
7. Corbett, Edward P.J., *Classical Rhetoric for the Modern Student,* New York: Oxford University Press, 1971.
8. Dawe, Jessamon, *Writing Business and Economics Term Papers, Theses and Dissertations*, Totowa, NJ.:Littefield Adams and Co., 1965.
9. Flower, H.W. *ADictionary of Modern English Usage,* New York: Oxford University Press, 1965.
10. Gallagher, William J,, *Report Writing for Management*, Reading, Mass: Addison Wesley Publishing Co., 1969.
11. Jonis. J.Harold, *The Business Research Paper,* New York: Hobbs Dorman & Co.,1967.
12. Kapp, R.O., *The Presentation of Technical Information*, London: Constable, 1948.
13. Strunk, William, Jr., and E.b. White, *The Elements of Style*, New York: Macmillanm, 1972.
14. Jurabian, Kate L., *A Manual for Writers of Term Papers, Theses and Dissertations,* Chicago: University of Chicago Press, 1971.
15. University of Chicago, *A Manual of Style,* Chicago: University of Chicago, 1969.
16. Zeisel, Hans, *Say it with Figures,* New York: Harper & Row, Publishers. 1957.

Co-Curricular Activities:

a). Mandatory:

1. FOR TEACHER: Training of students by teacher in the classroom for a total of not less than 10 hours on Concept of research, its importance, Types, Scientific methods of research, Basic concepts of writing, introduction to writing, reports, its importance, of reports, types, planning, Format of Research Report, Principles of writing, Bibliography, Documentation of Bibliography, Typing the Report, Evaluating the Research report.thereby encouraging and enlightening the students. Lecturers by Experts and Psychologists.

2. FOR STUDENT: Students have to involve in activities like prepare report, Study reports, planning reports, enhance writing skills, Assignments etc.

3. Suggested Fieldwork/Project work Format: Title Page, Student Details, Acknowledgements, Index page, Objectives, Step-wise process, Findings, Conclusion and References.

b). Suggested Co-Curricular Activities:

1. Training of students by a related expert.
2. Assignments
3. Planning a report, Evaluating a report etc.
4. Presentations by students on Report and Writing skills.
5. Invited lectures and presentations on related topics by Experts such as English Trainers, Research Scholars etc.

B.A	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course:7B	Personality Development And Communication Skills	Hrs/Wk:5

Learning Outcomes:

Students at the successful completion of the course will be able to

- Understand the meaning, process,importance, types and barriers to communication;
- Develop public speaking, oral and written communication skills;
- Understand the importance of preparation of communication material;
- Gain knowledge of media of communication.
- Identify how to the participate in meetings and interviews;
- Understand the concept of personality and personality development and its significance.
- Understand and develop the traits and factors determining personality and
- Know how to assess and enhance one's own personality

Syllabus: (Hours: Teaching: 60, Skills Training: 10, others including unit tests: 05. Total:75)

UNIT-I:Introduction to Personality Development

The concept of personality - Dimensions of personality – Theories of Freud & Erickson- Significance of personality development. The concept of success and failure: What is success? - Hurdles in achieving success - Overcoming hurdles - Factors responsible for success – What is failure - Causes of failure. SWOT analysis.

UNIT II:Attitude & Motivation

Attitude - Concept - Significance - Factors affecting attitudes - Positive attitude – Advantages –Negative attitude- Disadvantages - Ways to develop positive attitude - Differences between personalities having positive and negative attitudes. Concept of motivation - Significance – Internal and external motives - Importance of self-motivation- Factors leading to de-motivation

UNIT III: Self-esteem

Term self-esteem - Symptoms - Advantages - Do's and Don'ts to develop positive self-esteem – Low self-esteem - Symptoms - Personality having low self-esteem - Positive and negative self-esteem. Interpersonal Relationships – Defining the difference between aggressive, submissive and assertive behaviors – Lateral thinking.

UNIT IV: Introduction to Communication

Meaning and Definition – Process – Functions – Objectives – Importance – Essentials of Good Communication – Communication Barriers – Overcoming Communication Barriers – Cross-Cultural Communication.

UNIT V: Types of Communication & Essential soft skills

(a) Written Communication

Need and functions of business letters – Planning and layout of business letters – Essentials of effective correspondence – Advantages and limitations of written communication.

(b) Oral Communication

Meaning, nature and scope – Principles of Effective Oral Communication – Techniques of Effective Speech – The Art of Listening – Principles of Good Listening – Advantages and Limitations of Oral Communication. (Principles and good practices in online communication e.g. Telephonic, Internet – VOIP Voice over Internet Protocol.)

(c) Essential soft skills

(i) Group discussion

(ii) Presentation skills

(iii) Problem-solving

(iv) Decision-making

(v) Creativity

(vi) Innovation

(vii) Team Work

A. Reference Books:

1. Agrawal, Vijay.Dr. *Personality Development for students*. New Delhi. Benten Books. 2014
2. Mile, D.J *Power of positive thinking*. New Delhi. Rohan Book Company, 2004.
3. Pravesh Kumar. *All about Self- Motivation*. New Delhi. Goodwill Publishing House. 2005.
4. Smith, B .*Body Language.* New Delhi: Rohan Book Company. 2004
5. Hurlock, E.B. *Personality Development*, 28th Reprint. New Delhi: Tata McGraw Hill.2006
6. Mohan, Krishna. MeeraBenerjee. *Developing communication skills*. Macmillan India Ltd, New Delhi. 1990,
7. Barker, Alan. *Improve your Communication Skills*. Kogan Page India Private Ltd. New Delhi. 2008.
8. Sing, O.P. *Art of effective Communication in Group Discussion and Interview-For Competitive Examinations*. New Delhi. S.Chand and Company Ltd. 2012.

Co-Curricular Activities:

a).Mandatory:

1.FOR TEACHER: Training of students by the teacher in the classroom for a total of not less than 10 hours on techniques on understanding communication establishment, observing of Debates, Team Work, Group Discussion, Role Plays, etc thereby encouraging the students. Lecturers by Experts and Psychologists.

1. **FOR STUDENT:** Students have to involve in activities like Quiz, Study Projects, Debates, Team Work, Group Discussions, Assignments, Role-plays etc.

2. **Suggested Fieldwork/Project work Format:** Title Page, Student Details, Acknowledgements, Index page, Objectives, Step-wise process, Findings, Conclusion and References.

b). Suggested Co-Curricular Activities:

1. Training of students by a related expert.
2. Assignments
3. Seminars, Group Discussions, Debates etc.
4. Presentations by students on personality Development and communication skills.
5. Invited lectures and presentations on related topics by Experts such as English Trainers, Psychologists etc.

B.A	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course:6C	Social Audit	Hrs/Wk:5

Learning Outcomes

- Conceptual and theoretical understanding of social audit
- Acquiring appropriate skills among students to conduct social audit independently
- Assimilating social audit process
- Writing a social audit report
- To understand the poverty-Rural development and Right based frame work.
- To understand the institutional framework for social audit.

UNIT - I Conceptual Constructs

Meaning, objectives, principles, types, process, advantages and disadvantages; Social Audit Rules 2011; Ecology of social audit; Impediments of Social Audit; Appropriate institutional level for social audit.

UNIT - II Application of Social Audit

Tools and modes of social audit; Training module; Public Hearing – Jan Sunwai; Case Studies – national and international – for instance Dungarpur, Rajasthan; Ananatpur, Andhra Pradesh and likewise from other countries; Project Report (maximum 20 pages);Report writing.

UNIT-III Poverty and Rural Development programs

Poverty, Inequality, Vulnerability, Multi-Dimensional Poverty- key development issues in the villages;

Constitutional framework- Right to Life, History Of Rural Development, Rural development programs

UNIT-IV Rights Based Framework and Social Accountability

Rights based approach: public works programs, right to work campaign, Social rights-based legislations.

Principles of Social Accountability, Right To Information, Public Service Delivery Act

UNIT- V

Social Audit for the MGNREGS: Practical Experiences from the Ground

Accountability under MGNREGS, Social Audit of the MGNREGS; MGNREGA and Entitlements; Technical field visit-MGNREGA works, field visit – worksite, GP office and block development office

MGNREGA MIS, Grievance Redressal Mechanism,

Reference Books:

1. Aggarwal, Nomita (Ed.) (2003) Social Auditing of Environmental Laws in India. New Century Publications: New Delhi
2. Eavani, Farzad; Nazari, Kamran and Emami, Mostafa (2012) Social Audit: From Theory to Practice. Journal of Applied Sciences Research, 8(2),Pp. 1174-1179
3. Rahim, Mia; Mahmudur, Idowu and Samuel, O (2015) Social Audit Regulation Development, Challenges and Opportunities. Springer:
4. Switzerlandal Saunders, Peter (1995) Capitalism: A Social Audit (Concept in Social Thought) University of Minnesota Press: Minnesota

Co-Curricular Activities (Training of students by the teacher: Total 10 hours):

a) Mandatory:

1. FOR TEACHER: Training of students by teacher in the classroom for a total of not less than10 hours on various practical skills related to social audit with the help of local experts. The teacher shall also train the students to identify the best practices to address the Challenges to social audit. The teacher shall lead students to visit local gram sabha to guide them to work with social audit activists and experts.

2. FOR STUDENT: Students have to go to the field, observe activities related to social audit. Observe their functioning and problems to gain experience, including suggestions for the improving the best practices of Social audit. These individual observations shall be written in the given format not exceeding 10 pages and submit to the teacher as Fieldwork/Project work Report.

3.Suggested Fieldwork/Project work Format: Title Page, Student Details, Acknowledgements, Index page, Objectives, Step-wise process, Findings, Conclusion and References.

b) Suggested Co-Curricular Activities

1. Training of students by a related expert.
2. Assignments
3. Seminars, Group Discussions, Debates etc.
4. Hands on experience with the help of field experts.
5. Alumni Interactions

B.A	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course:7C	Management Of Ngo	Hrs/Wk:5

Learning Objectives:

- To acquire specific knowledge on project and NGO management.
- To understand the Project management Dimensions, Planning and its implementation of projects.
- To enhance skills and techniques of project evaluation / Resource Mobilization.
- To understand the basic concepts and principles involved in managing NGOs.
- To understand the Human resource management in NGO's.
- To enhance knowledge on project proposal writing and maintenance of the accounts in NGO's.

UNIT –I FOUNDATION OF MANAGEMENT AND NGO'S UNDERSTANDING

Management: Meaning, Definition, Concepts, Objectives and Functions- NGO's: Meaning, Definition, Concepts, Types, Functions, Approaches and Models - Vision, Mission and Goals in NGOs - Role of NGO's in Community Development- classification of NGO's

UNIT –II LEGAL FRAME WORK FOR ESTABLISHING NGO'S

Legal - rational structure of Non-profits: Trusts and Societies with Special reference to Trust and Society Registration Acts- Foreign contributions and Regulation Act (FCRA) - Statutory Obligations- Income Tax Exemption (80-G, 12-A, & 35AC): Rules and Regulation.

UNIT–III HUMAN RESOURCE MANAGEMENT IN NGO'S AND CSR ACTIVITIES

Leadership in the NGO's Context – Practice of Human resources Management in NGO's - Human resources management and role of creating change agents – Staffing, recruiting, induction and training- CSR Activities: Definition, concepts and need - Concentration areas of CSR - Role of social workers in CSR- National and International CSR activities: TVS, Infosys and Tata.

UNIT –IV PROJECT MANAGEMENT

Concept, Definition, Objectives, principles, Scopes, Importance and Methodology - Micro and Macro Level Planning - Project Dimensions: Identification – Need assessment –

UNIT –V PROJECT MANAGEMENT IN NGO'S

Concept, Meaning, Definition and Types of projects – Projects Implementation and Management: Project Cycle Management - Identification and Formulation of Details Projects Report (DPP) with reference to Action AID and Save the Children- Monitoring and Evaluation (PERT and CPM) - Rural Appraisal (PRA): Tools and Techniques, SWOC (Strengths, Weaknesses, Opportunities, Challenges) Analysis.

Note: Students are expected to Practice of PRA technique in any rural area.

Reference Books:

1. Behera M. C. (2006). *Globalizing Rural Development*. New Delhi: Sage.
2. Chowdhry Paul. (1973). *Administration of Social Welfare Programmes in India*. Bombay: Somaiy.
3. Emmanuvel. S. Fermando. (1999). *Prospect from Problems. Mumbai*: St. Francis Xavier's Church.
4. Ginsbery Leon. H. (2001). *Social Work Evaluation – Principles and Methods*. Singapore: Allyn and Bacon.
5. Jack Rothman, John John E. Tropman. (2001). *Strategies of Community Intervention*. Illinois: P.E. Peacock.
6. Joel S.G.R Bhose. (2003). *NGO's and Rural Development Theory and Practice*. New Delhi: Concept.
7. Julie Fisher. (2003). *Non-Governments – NGO's and the Political Development of the Third World.* New

Delhi: Rawat

Co-Curricular Activities (Training of students by the teacher: Total 10 hours):

a) Mandatory:

1.FOR TEACHER: Training of students by teacher in the classroom for a total of not less than10 hours on various practical skills related to management of NGOs with the help of local experts. The teacher shall also train the students to identify the best practices to address the Challenges to management of NGOs. The teacher shall lead students to visit local NGOs to guide them to work with NGOs activists and experts.

2.FOR STUDENT: Students have to go to the field, observe activities related to management of NGOs. Observe their functioning and problems to gain experience, including suggestions for the improving the best practices of management of NGOs. These individual observations shall be written in the given format not exceeding 10 pages and submit to the teacher as Fieldwork/Project work Report.

3.Suggested Fieldwork/Project work Format: Title Page, Student Details, Acknowledgements, Index page, Objectives, Step-wise process, Findings, Conclusion and References.

b) Suggested Co-Curricular Activities

1) Invited Lectures
2) Hands on experience with the help of field experts.
3) Debates on interesting topics
4) Seminars, Group Discussions, Quiz, etc.
5) Assignments
6) Alumni Interactions
7) Periodical interactions of NGO activists.

AT THE END OF FIFTH SEMESTER
EXAMINATION (CBCS PATTERN)
PUBLIC ADMINISTRATION – 6(A) Course.
HUMAN RESOURCE AND LOGISTIC MANAGEMENT.
UG PROGRAMME (4 Years Honours).
(w.e.f. Admitted Batch 2020-2021)

Time: 3Hrs Max.Marks: 75

SECTION-A

(Answer any FIVE questions. Each answer carries 5 Marks)

ఏవైనా ఐదు ప్రశ్నలకు సమాధానాలివ్వండి
ఇవి ప్రశ్నకి ఐదు [illegible] 5×5=25 M.

1. Significance of Human Resource Management.
మానవ వనరుల నిర్వహణా ప్రాముఖ్యత.

2. Qualities of Human Resource Management
మానవ వనరుల నిర్వహణా యొక్క గుణాలు.

3. Human Resource planning?
మానవ వనరుల ప్రణాళిక.

4. Objectives of Human Resources planning?
మానవ వనరుల యొక్క ప్రణాళిక యొక్క లక్ష్యాలు.

5. Procurement of Material
వనరుల సేకరణ.

6. [illegible]

B.V.V.B.M.

6. Logistic Management System
వస్తు రవాణా నిర్వహణా వ్యవస్థ.

7. Financial Management
విత్త నిర్వహణ

8. Out Sourcing?
పొరుగు సేవలు

SECTION-B

Answer any FIVE Questions. Each Question carries 10 Marks.

ఏవైనా ఐదు ప్రశ్నలకు సమాధానాలివ్వాలి
ప్రతి ప్రశ్నకు 10 మార్కులు. 5X10=50M.

1. Explain the meaning, Nature and the scope of Human Resources Management

మానవ వనరుల నిర్వహణ అర్థమును, స్వభావమును మరియు పరిధిని వివరించుము?

(or)

Explain the objectives of Human Resource planning

మానవ వనరుల ప్రణాళిక యొక్క లక్ష్యాలు వివరించుము?

2 What are the factors affecting to Human Resource planning.

మానవ వనరుల ప్రణాళికను ప్రభావితంచేయు అంశాలు ఏవి?

(or)

Explain the Development Functions of Job Analysis.

ఉద్యోగ విశ్లేషణ విధులను వివరించుము?

3 Explain the about the Logistic Management system.

లాజిస్టిక్ నిర్వహణ వ్యవస్థ గురించి వివరించుము?

(or)

Explain the objectives and need of Logistic Management.

లాజిస్టిక్ నిర్వహణ యొక్క లక్ష్యాలు మరియు ఆవశ్యకతను వివరించుము?

D.V.V.S

4. Write the Emerging Trends of Logistic Management
వస్తు నిర్వహణలో ఉద్భవిస్తున్న పోకడలు/ ధోరణులు (వ్రాయుము)!

(or)

Discribe the Sources of Financial Management
విత్త నిర్వహణ మూలాధారాలను వివరించుము!

5. What are the challenges of Human Resource Management.
మానవ వనరుల నిర్వహణలో ఉన్న సవాళ్లు ఏమిటి?

(or)

Discuss the methods of Outsourcing
బాహ్య సేవల పద్ధతులు చర్చించుము!

1 [signature] 18/7/2022

2 B.V.V. Bala [signature]

3 [signature]

4 [signature] 18/7/2022.

At the end of Fifth Semester Examination

PUBLIC ADMINISTRATION Course - 7 (A)

LEADERSHIP STYLES AND CONFLICT MANAGEMENT

UG PROGRAMME (4 years Honours)

(w.e.f. Admitted Batch 2020 - 2021)

Time: 3 hrs Max. Marks: 75

SECTION - A

Answer any FIVE Questions Each answer Carries 5 Marks

ఏవైనా ఐదు ప్రశ్నలకు సమాధానములు.

ప్రతి ప్రశ్నకు ఐదు మార్కులు 5×5 = 25 M.

1. Leadership
   నాయకత్వము
2. Types of Leadership
   నాయకత్వపు రకాలు
3. Leadership style
   నాయకత్వ శైలి
4. Democratic style
   ప్రజాస్వామ్య శైలి
5. Conflicts Management
   సంఘర్షణ నిర్వహణ
6. Levels of Conflicts
   సంఘర్షణ స్థాయిలు.

B.V.V.Rao

P.T.O

7. Negotiations
చర్చలు

8. Strategies
వ్యూహాలు

SECTION-B

Answer any FIVE Questions. Each Question carries 10 Marks.

ఏవైనా ఐదు ప్రశ్నలకు సమాధానములివ్వండి ప్రతి ప్రశ్నకు 10 మార్కులు. 5×10=50 M.

1. What is the Meaning of Leadership and Explain its nature and scope.

నాయకత్వము అనగా ఏమి? మరియు దాని స్వభావము, పరిధిని వివరించుము?

(or)

Explain the Qualities and functions of Leadership

నాయకత్వ లక్షణాలు మరియు విధులు/పనులు వివరించుము?

2. Explain the Importance of Leadership.

నాయకత్వము అనగా ప్రాముఖ్యతను వివరించుము?

(or)

Explain the Democratic Leadership style

ప్రజాస్వామ్య నాయకత్వ శైలిని వివరించుము.

3 Explain the Levels of Conflicts.

సంఘర్షణా స్థాయిలను వివరించుము?

(or)

Explain the Forms of Negotiations

చర్చల అనగా రూపాలు వివరించుము?

B V V Rao

4 Explain the Nature and Causes of organizational Conflicts.

సంస్థాగత సంఘర్షణల యొక్క స్వభావము మరియు కారణాలు వివరించుము!

(or)

Explain the Techniques of Negotiations

చర్చల యొక్క పద్ధతులు వివరించుము!

5 Explain the Case study on Managing Conflict.

సంఘర్షణ నిర్వహణ పై కేస్ స్టడీ అధ్యయన/పరిశీలనను వివరించుము.

(or)

Explain the Act of Arbitration and Conciliation (Amendment) Act, 2015.

మధ్యవర్తిత్వము మరియు రాజీ చట్టము 2015, వివరించుము!

1 18/7/2022

2 B.V.V.Balakrishna

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4 18/7/22

PUBLIC ADMINISTRATION - Course 6(B)

BASIC RESEARCH WRITING SKILLS

UG PROGRAMME (4 years Honours).

(w.e.f. Admitted Batch 2020-2021)

Time: 3hrs Max. Marks: 75

SECTION - A

Answer any 5 Questions. Each answer carries 5 marks
5 ప్రశ్నలకు సమాధానాలు ఇవ్వాలి. ఒక్కో ప్రశ్నకు 5 మార్కులు 5x5=25M

1. Research
పరిశోధన

2. Scientific Method
శాస్త్రీయ పద్ధతి.

3. Report writing?
నివేదిక రాయడం / వ్రాయడం

4. Types of Report
నివేదిక రకాలు / వ్రాత రకాలు

5. Research planning?
పరిశోధన ప్రణాళిక

6. Research Report
పరిశోధన నివేదిక

7. Bibliography
గ్రంథ పట్టిక

8 Evaluation.
మూల్యాంకనము.

1

2 B V V Balaiah

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4 18/7/22

P.T.O

SECTION-B

Answer any FIVE Questions. Each Question carries 10 Marks.
ఏవైనా ఐదు ప్రశ్నలకు సమాధానములు వ్రాయుము
ప్రతి ప్రశ్నకు పది మార్కులు 5X10 = 50M.

1. Define Research and Explain the various Scientific methods of Research?
పరిశోధనను నిర్వచించండి, పరిశోధన యొక్క వివిధ శాస్త్రీయ పద్ధతులను వివరించండి?

(or)

1. Explain various types and methods of Research.
పరిశోధన యొక్క వివిధ రకములు మరియు పద్ధతులను వివరించండి?

2. Explain the Basic Concepts of writing Skills
రాయడం/రాత నైపుణ్యాల యొక్క ప్రాథమిక భావనలు వివరించండి?

(or)

2. Describe the types of Report
నివేదిక/రిపోర్ట్ యొక్క రకములను వివరించండి?

3. What are the Contents of Report
రిపోర్ట్/నివేదిక యొక్క భాగాలు ఏమిటి?

(or)

3. Explain the format of Research Report
పరిశోధన నివేదిక యొక్క రూపురేఖలు వివరించండి?

4. Explain the Principles of writing
రాయడం/రాత యొక్క మార్గదర్శకాలు వివరించండి?

B V V Bhanu

4. Write about the documentation of Bibliography.
(గ్రంథ పట్టిక యొక్క నిర్మాణము/ ప్రమాణము గురించి వ్రాయుము)

5. Describe the Evaluation Method.
మూల్యాంకన పద్ధతులను వ్రాయుము.

6. Explain the Evaluating the Research Report
పరిశోధన మూల్యాంకనమును వివరింపుము.

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1 [signature] 13/7/2022
2 B.V.V.B. [signature]
3 [signature]
4 [signature] 13/7/22

AT THE END OF FIFTH SEMESTER EXAMINATION

(CBCS PATTERN)

PUBLIC ADMINISTRATION.

COURSE-7(B) PERSONALITY DEVELOPMENT AND COMMUNICATION SKILLS.

(w.e.f. Admitted Batch 2020-2021).

Time: 3hrs SECTION-A Max.Marks: 75

Answer any FIVE questions. Each answer carries 5 marks

ఏవైనా ఐదు ప్రశ్నలకు సమాధానములు వ్రాయుము 5X5=25

1. Personality Development

వ్యక్తిత్వవికాసం (వ్యక్తిత్వ వికాసం) అభివృద్ధి

2. Attitude & Motivation

వైఖరి మరియు ప్రేరణ

3. Self-esteem

ఆత్మగౌరవము / స్వీయ గౌరవము.

4. Interpersonal relationship

వ్యక్తుల మధ్య సంబంధాలు.

5. Behaviour

ప్రవర్తన

6. Communication

సమాచారము / భావ వ్యక్తీకరణ

7. Culture

సంస్కృతి

8. Soft Skills

మృదువైన నైపుణ్యాలు.

B.V.V.R

SECTION B

Answer any FIVE Questions. Each Question carries TEN Marks.

ఏవైనా ఐదు ప్రశ్నలకు సమాధానము వ్రాయండి. ప్రతి ప్రశ్నకు పది మార్కులు.

5X10=50 M.

1. What is the concept of Personality and explain the Freudian theory of Personality Development.

వ్యక్తిత్వ భావన అంటే ఏమిటి? ఫ్రాయిడ్ వ్యక్తిత్వ భావన అభివృద్ధి సిద్ధాంతమును వివరించుము?

(or)

Write about the causes of failure

వైఫల్యము యొక్క కారణాలు గురించి వ్రాయుము?

2. Distinguish between positive and Negative Attitude

సానుకూల వైఖరికి, ప్రతికూల వైఖరికి, మధ్య వ్యత్యాసం చెప్పుము?

Explain the Importance of Self Motivation

స్వీయ ప్రేరణ ప్రాముఖ్యతను వివరించుము?

3 Explain the differences between the Positive and Negative Self-esteem

సానుకూల మరియు ప్రతికూల స్వీయగౌరవం మధ్య వ్యత్యాసం వివరించుము?

(or)

What are the Essentials of Good Communication

మంచి భావప్రసారానికి అవసరమైనవి ఏవి?

4 Explain the functions of Communication

భావ ప్రసార విధులను వివరించుము.

B.V.Rao

8M

9. Explain the need and functions of Business letters.
వ్యాపార లేఖలు యొక్క ప్రాముఖ్యత మరియు విధులు వివరించండి.

Distinguish between the written Communication and the oral Communication.
వ్రాతపూర్వక మరియు మౌఖిక సమాచారం యొక్క లక్షణాలు తెలపండి.

8M

10. What are the techniques of effective Speech సమర్థవంతమైన ప్రసంగం యొక్క అంశాలు వివరించండి!

1 18/7/2022
2 B.V.V.Balaji
3
4 18/7/2022

At the end of Fifth Semester Examination

PUBLIC ADMINISTRATION. (CBCS Pattern)

COURSE-6(C) SOCIAL AUDIT.

UG PROGRAMME (4 years Honours)

(w.e.f. Admitted Batch 2020-2021).

Time: 3hrs Max. Marks: 75

SECTION-A

Answer any FIVE questions. Each answer carries 5 Marks.

5×5=25M

1. Social Audit
2. Tools
3. Case studies
4. Report writing
5. Rural Development
6. Inequality

R.V.R.M

7. Vulnerability

దుర్బలత్వం

8. Field Visit

క్షేత్ర సందర్శన

SECTION – D

Answer any FIVE Questions. Each Question Carries TEN Marks.

ఏవైనా ఐదు ప్రశ్నలకు సమాధానము వ్రాయుము. 5×10=50M.

ప్రతి ప్రశ్నకు పది మార్కులు

1. Define Social Audit and Explain the objectives and Principles.

సోషల్ ఆడిట్ ను నిర్వచించి, సోషల్ ఆడిట్ యొక్క లక్ష్యాలు సూత్రాలు వివరింపుము!

Explain the Tools and Modes of Social Audit

సోషల్ ఆడిట్ యొక్క సాధనాలు మరియు పద్ధతులు వివరింపుము!

2. What are the Elements of Report Writing.

నివేదిక/రిపోర్ట్ (వ్రా)యుటలోని అంశములు ఏమిటి?

Write an essay on Rural Development Programmes.

గ్రామీణ అభివృద్ధి కార్యక్రమాల మీద ఒక వ్యాసం (వ్రాయుము)

3. What is a role of Right to Information Act in Social Audit.

సాంఘిక తనిఖీ లో సమాచార హక్కు చట్టం యొక్క పాత్ర ఏమిటి?

3. Explain the Advantages and disadvantages of Social Audit
సామాజిక తనిఖీ యొక్క ప్రయోజనాలు మరియు నష్టాలు వివరించండి?

8

4. Write an essay on Mahatma Gandhi National Rural Employment Guarantee Scheme.
మహాత్మాగాంధీ జాతీయ గ్రామీణ ఉపాధి హామీ పథకం పై వ్యాసం రాయండి.

8

3. Explain the Social Audit Rules - 2011.
సామాజిక తనిఖీ యొక్క నిబంధనలు - 2011 - వివరించండి?

5 Explain the trainings modules of Social Audit
సామాజిక తనిఖీ యొక్క శిక్షణా పద్ధతులు/అంశాలు వివరించండి?

8

2. Write an essay on Public Service delivery Act - 2010.
పబ్లిక్ సర్వీస్ డెలివరీ చట్టం -2010 పై వ్యాసం రాయండి.

1 18/7/2012

2 B.V.V Balaram

3

4 18/7/2012

At the end of Fifth Semester Examination.
(CBCS Pattern)
PUBLIC ADMINISTRATION.
Course: 7(C) Management of NGO's
UG Programme (4 years-Honours).
(w.e.f. Admitted Batch 2020-2021).

Time: 3 hours Max. Marks: 75

SECTION-A

Answer any FIVE questions. Each answer carries 5 marks
ఏవైనా ఐదు ప్రశ్నలకు సమాధానములు ఇవ్వండి ప్రతి ప్రశ్నకు ఐదు మార్కులు.
5X5=25 M

1. Define NGO
NGO - నిర్వచించండి.

2. Management
నిర్వహణ

3. Community Development
సమాజిక అభివృద్ధి / సమాజాభివృద్ధి

4. Societies
సంఘాలు

5. Human Resource
మానవ వనరులు

6. Methodology
పద్ధతి.

B.V.R.

7. Planning
ప్రణాళిక

8. Monitoring
పర్యవేక్షణ / పరికలన

SECTION - B

Answer any FIVE Questions. Each Question carries TEN Marks

ఏవైనా ఐదు ప్రశ్నలకు సమాధానాలు వ్రాయండి ప్రతి ప్రశ్నకు పది మార్కులు. 5X10=50M

1. Define Management and Explain the objectives & functions of Management

నిర్వహణను నిర్వచించండి. నిర్వహణ యొక్క లక్ష్యాలు, విధులు వివరించండి.

(or)

What is a role of NGO's in Community development.

సమాజిక/సామాజిక అభివృద్ధిలో NGO ల పాత్ర

2. Explain the statutory obligations of NGO's

NGO ల యొక్క చట్టబద్ధమైన బాధ్యతలు వివరించండి

(or)

Explain about the CSR (corporate Social Responsibility) Activities.

వివేక్/కార్పొరేట్ / కార్పొరేట్ సామాజిక బాధ్యత, కార్యకలాపాలు గురించి వివరించండి.

3. ~~Define~~ write an essay on FARA (Foreign Contribution and Regulation Act).

విదేశీ సహకారం మరియు నియంత్రణ చట్టం పై ఒక వ్యాసం వ్రాయండి.

(or)

BVVR

. Define Project Management and Explain its objectives and Principles.
(ప్రాజెక్ట్) నిర్వహణను నిర్వచించి, లక్ష్యాలు, సూత్రాలు వివరింపుము.
(వ్యవస్థ / సంస్థ)

4. Explain the Micro and Macro levels of Planning?
(ప్రణాళిక) యొక్క సూక్ష్మ మరియు స్థూల స్థాయిలు వివరింపుము!

. Explain a role of NGO's in Project Management.
(ప్రాజెక్ట్) / వ్యవస్థ / సంస్థ నిర్వహణలో NGO ల పాత్ర వివరింపుము

5 Explain how many types of Projects
(ప్రాజెక్ట్) ఎన్ని రకములు వివరింపుము?

. ~~Explain~~ Analysis - SWOC (strengths, Weaknesses, Opportunities, Challenges)
బలాలు, బలహీనతలు, ~~అవకాశాలు~~, సవాళ్లను విశ్లేషించుము!

1 [signature] 18/7/2022

2 B.V.V. Bala[signature]

3 [signature]

4 [signature] 18/7/2022

UG PROGRAM (4 Years Honors)

CBCS-2020-21

B.A
PUBLIC ADMINISTRATION

Syllabus and Model Question Papers

The aims and objectives of the B. A. General Public Administration are

- Provide students with learning experiences that develop broad knowledge and understanding of key concepts of Public Administration and equip them with advanced knowledge and understanding for analyzing and performing the tasks concerning Public Affairs and Public System;
- Nurture ability among students to apply the acquired knowledge and skills to find solutions to specific theoretical and applied problems in Public Administration settings;
- Develop abilities in students to come up with innovative prescriptions/solutions for the benefit of society by diligence, leadership, team work and lifelong learning;
- Provide students with skills that enable them to get employment in public, private and non-governmental sectors, pursue higher studies or research assignments.

Sem	Course no.	Course Name	Course type (T/L/P)	Hrs./Week (Arts :5)	Credits (Arts :4)	Max.Marks Cont/ Internal/Mid Assessment	Max. Marks Sem-end Exam
I	1	Introduction to Public Administration	T	5	4	25	75
II	2	Theories of Public Administration	T	5	4	25	75
III	3	Indian Administration	T	5	4	25	75
IV	4	Indian Administration-Emerging Issues	T	5	4	25	75
	5	E-Governance in India	T	5	4	25	75
V							

Note: *Course type code: T: Theory, L: Lab, P: Problemsolving

B.A	Semester: I	Credits: 4
Course: 1	INTRODUCTION TO PUBLIC ADMINISTRATION	Hrs/Wk: 5

Learning outcomes:

1. Awareness about the evolution and growth of the discipline of Public Administration.
2. Learning of basic principles and approaches of Public Administration.
3. Theoretical clarity of basic concepts and dynamics (both ecological and others) relating to Public organizations.

UNIT I :

Public Administration as a Discipline: Meaning, Nature, Scope, Dimensions and Significance of the discipline and its relations with Political Science, Management, Law and Economics. Public and Private Administration. Evolution of Public Administration, Minnowbrook Conferences (I, II & III)

UNIT II :

Growth and Trends in Public Administration: New Public Administration (NPA), New Public Management (NPM), Globalization and Public Administration, Paradigm Shift from Government to Governance.

UNIT III :

Organization and its Principles: Organization: Meaning, Basis and Forms of Organizations. Principles of Organization: Hierarchy, Unity of Command, Span of Control, Coordination, Authority and Responsibility, Supervision and Control, Centralization, Decentralization and Delegation.

UNIT IV :

Chief Executive: Chief Executive: Meaning, Types, Functions and Role; Line, Staff and Auxiliary Agencies.

UNIT-V

Administrative Behaviour: Decision Making, Communication, Leadership-Types and Functions.

RECOMMENDED READINGS:

1. Avasthi, A and Maheshwari, S R (2013) Public Administration. Lakshmi Narain Agarwal: Agra .
2. Basu, Rumki (2008) Public Administration: Concepts and Theories. Sterling Publishers: New Delhi
3. Bhagwan, Vishnoo; Bhushan, Vidhya and Mohla, Vandana (2010) Public Administration. S. Chand: Jalandhar
4. Bhambri, C. P. (2010) Public Administration Theory and Practice(21stEdition). Educational Publishers: Meerut
5. Bhattacharaya, Mohit (2008) New Horizons of Public Administration. Jawahar Publishers and Distributors: New Delhi
6. Bhattacharya, Mohit (2000) Public Administration. World Press: Calcutta
7. Henry, Nicholas(2013). Public Administration and Public Affairs (13thEdition). Taylor and Francis: New York
8. Denhardt, Janet V and Denhardt, Robert B (2015) The New Public Service: Serving, Not Steering (4th Edition). Routledge: New York

B.A	Semester: II	Credits: 4
Course: 2	THEORIES OF PUBLIC ADMINISTRATION	Hrs/Wk: 5

Learning outcomes

1. Understanding the theoretical background of public administration.
2. Theory is as important as practice
3. Understanding the contributions of different social science thinkers to the theory of public administration.
4. Learning public administration function in an environment.

UNIT I :

Classical Approaches: Classical Approaches- Henry Fayol, Luther Gullick and Lyndall Urwick Scientific Management Approach- F.W.Taylor.

UNIT II:

Bureaucratic Approach: Bureaucratic Approach – Max Weber and Karl Marx, Human Relations Approach: Elton Mayo.

UNIT III:

Behavioral Approach: Behavioural Approach – H. A Simon, Socio-Psychological Approach: Hierarchy of Needs: Abram Maslow. Theory X and Theory Y - Douglas Mc Gregor.

UNIT IV:

Ecological Approach: Comparative Public Administration, Ecological Approach – F.W. Riggs

UNIT V:

Systems Approach: Systems Approach, Development Administration.

RECOMMENDED READINGS:

1. Prabutva Palana Sastram:Bhavanalu, Siddantalu, Telugu Academy
2. D. Raveendra Prasad and Y. Partha sarathi (EDS) Public Administration concepts, theories and principles (English), Telugu Academy, Hyderabad (2011)
3. Avasthi, Amareswar and Maheswari, SriRam, Public Administration (30th) Edition, Lakshmi Narayana Agrawal, Agra. 2010.
4. RumkiBasu, Public Administration concepts and theories (5th revised) Publishers, New Delhi 2004.
5. Nicholas, Henry, Public Administration and public affairs (10th) Edition, PHI, New Delhi 2007.

B.A	Semester: III	Credits: 4
Course: 3	INDIAN ADMINISTRATION	Hrs/Wk: 5

Learning outcomes:

- Knowledge about the evolution and growth of Indian Administration
- Familiarity with the constitutional framework on which Indian Administration is based.
- Grasping the role of Union Executive **.**
- Understanding the in-built control mechanisms over constitutional bodies in particular and administration in general.
- Delineating the constitutional provisions and dynamics of union -state relationships.
- Awareness about the institutions and mechanism in force for citizen-state interface

UNIT I :

Evolution & Constitutional Framework: Evolution of Indian Administration during Ancient, Medieval and British period; Constitutional Framework of Indian Administration; and Salient Features of Indian Administration

UNIT II :

Union Government: President; Prime Minister & Council of Ministers; Vice-President:Central Secretariat.

UNIT III:

State Government: Governor, Chief Minister and Council of Ministers, State Secretariat.

UNIT IV:

Constitutional Institutions, Union State Relations & Control over Administration: Election Commission of India; Union Public Service Commission; Union State Relations (Legislative, Executive and Financial).

UNIT V :

Citizen and State Interface: Citizens' Grievances Redressal Institutions and Mechanisms; Institutional Mechanism for Prevention of Corruption: Central Vigilance Commission; Lok Pal and Lok Ayukta;

RECOMMENDED READINGS:

1. Arora, Ramesh K. and Goyal, Rajni (1997) Indian Public Administration: Institutions and Issues. New Age International Publishers: New Delhi
2. Avasthi, A and Avasthi, A P (2004) Indian Administration. Laksmi Narain Aggarwal: Agra
3. Balfour, Lady Betty (2015) Lord Lytton's Indian Administration 1876-1880 The Untold History. Gyan Books: New Delhi
4. Basu, D D (2013) Introduction to the Constitution of India (21st Edition). Lexus Nexus: New Delhi
5. Chakraborty, Bidyut (2016) Indian Administration. Sage: New Delhi
6. Fadia, B L and Fadia, Kuldeep (2017) Indian Administration, (New Edition). Sahitya Bhawan: Agra
7. Ghuman, B S; Monga, Anil and Johal, Ramanjit Kaur (Eds.) (2012) Corruption and Quality of Governance: Experiences of Select Commonwealth Countries. Aalekh Publishers: Jaipur
8. Kangle R P (1972) The Kautilya Arthshastra. Motilal Banarsidass: New Delhi
9. Kapur, Devesh; Mehta, Pratap Bhanu and Vaishnav, Milan (Eds.) (2017) Rethinking Public Institutions in India. Oxford University Press: New Delhi
10. Maheshwari, S R (2000) Indian Administration. Orient Longman: New Delhi
11. Palmer, N D (1961) Indian Political System. George Allen and Unwin: London
12. Sarkar, Jadunath Sir (1972) Mughal Administration. M.C. Sarkar: Calcutta
13. Sharma, Ashok (2016) Administrative Institutions in India. RBSA Publishers: Jaipur
14. Sharma, M (2007) Indian Administration. Anmol: New Delhi
15. Sharma, Prabhu Datta and Sharma, B M (2009) Indian Administration: Retrospect and Prospect. Rawat Publications: Jaipur
16. Singh, M and Singh, H (1989) Public Administration in India. Sterling Publishers: New Delhi.

B.A	Semester: IV	Credits: 4
Course: 4	INDIAN ADMINISTRATION – EMERGING ISSUES	Hrs/Wk: 5

Learning outcomes

1. Learning the influences of various emerging issues on Indian Administration
2. Understanding the issues confronted by Public Administration currently the means to address them.
3. Gaining knowledge of various Acts for weaker sections and utilizing them in day to life

UNIT I:

Citizen Grievances: Right to Information Act, (RTI), National and State Human Rights Commission.

UNIT II:

Welfare Programmes: Administration of welfare Programmes of Weaker Section, SCs, STs, BCs- Women and Minorities, SC and ST Atrocity Act.

UNIT III:

Emerging Issues: Mechanism for Disaster Management – Cyclones, Earth Quakes and Floods. Governance and E-Governance Applications in Indian Administration.

UNIT IV:

Public and Private Partnership: Public and Private Partnership and voluntary sector. Public Corporations, Independent Regulatory Commission.

UNIT V:

Local Self Administration: Rural and Urban Structure and functions – 73rd and 74th Constitutional Amendment Acts – Revitalizations of Local Institutions - Issues and Challenges.

RECOMMENDED READINGS:

1. Indian Government and Politics, Telugu Academy, Hyderabad, 2007.
2. Avasthi and Avasthi, Indian Administration, (6th edition), Lakshminaraya Agrawal, Agra, 2010-2011.
3. Disaster Management Act, 2005.
4. Siuli Sarkar, Public Administration in India, PHI, New Delhi, 2010.
5. Reports of the Administrative Reforms Commission.

B.A	Semester: IV	Credits: 4
Course: 5	E-GOVERNANCE IN INDIA	Hrs/Wk: 5

Learning outcomes:

1. Gaining theoretical understanding about the concept, theory and models of e-governance.
2. Learning practical application of e-governance in different walks of life.
3. Awareness of various e-governance initiatives undertaken to deliver Public services to the stakeholders.
4. Developing necessary skills to use and operate e-governance or digital service delivery

UNIT I:

Introduction to E- Governance and Digital Technology: E-Governance – Meaning, Scope and Importance. Digitial Technology and Services Delivery.

UNIT II:

E-Governance and theoretical aspects: E-Governance Thories, Public and Private Partnership, Information Technology Act, 2000.

UNIT III:

Organization of Government Information in various departments: Detailed study of information and Broadcasting Ministry of Government of India, E-Governance in Agricultural and Rural Development E-Governance in Urban Administration E-Governance in Social Welfare Department.

UNIT IV:

Application of E-Governance in several Department of Andhra Pradesh: Mee-Seva, CARD and E-Procurement, E-Governance in Higher Education. E-Governance in Health Administration.
E-Hearing.

UNIT V:

E-Governance – Security Issues: Accountabilty and Transparency. IT Security, Hacking, Cyber Crimes, E-Governance opportunities, Challenge and Barriers.

RECOMMENDED READINGS:

1. Bellamy, Christine and John, Taylor (1998) Governing in the Information Age. Open University Press: Buckingham
2. Bhatnagar, S C (2004) E-Government: From Vision to Implementation. Sage: New Delhi Bouwman, Harry; Hooff, Bart van den; Vingaert, Lidwien van de; and Dijk, Jan van (2005) Information and Communication Technology in Organizations: Adoption, Implementation, Uses and Effects, Sage Publications: New Delhi
3. Gosling, P. (1997) Government in the Digital Age. Government Information Quarterly, Vol. 18, No. ER2. Bowerdean: London
4. Heeks, Richard (2006) Implementing and Managing eGovernment: An International text. Sage: London
5. Jones, S. G. (Ed.)(1995) Cyber Society, Computer mediated communication and Community. Sage: Thousand Oaks CA
6. Kooiman, J. (Ed.) (1993) Modern Governance: New Government – Society Interactions. Sage: London
7. Layne, K. and Lee J. (2001) Developing Fully Functional e-Government: A Four Stage Model. Government Information Quarterly, 18(2001), pp. 122-36. Elsevier: Manchester UK
8. Marchionini, G. (1995) Information Seeking in Electronic Environments. The Press Syndicate of the University of Cambridge: New York .

ADIKAVI NANNAYA UNIVERSITY - RAJAMAHENDRAVARAM.
CBCS/PATTERN REVISED - 2020. (1)
B.A - PUBLIC ADMINISTRATION - SEM-I.
Course - 1 - INTRODUCTION TO PUBLIC ADMINISTRATION.
(w.e.f - 2021 AB)

Time: 3 Hrs Max. Marks: 75 Marks.

PART-A

Answer any FIVE (5) Questions. Each Question Carries 5 Marks.
ఏవైనా ఐదు (5) ప్రశ్నలకు సమాధానం వ్రాయవలెను? ఇవి ప్రశ్నకు 5 మార్కులు (5x5=25)

1. Discuss the relationship between politics and public Administration.
రాజకీయ శాస్త్రం మరియు ప్రజాపరిపాలనా శాస్త్రం మధ్యగల సంబంధం.
2. POSDCORB
వ్యాఖ్యానించండి.
3. Globalization
ప్రపంచీకరణ.
4. Unity of Command
ఆజ్ఞల ఏకత్వం
5. Span of Control
నియంత్రణా పరిధి
6. Coordination
సమన్వయం
7. Line and staff Agencies.
లైన్ మరియు స్టాఫ్ ఏజెన్సీస్
8. Communication
సమాచారవ్యవస్థ.

(2)

PART-B

Answers all Questions. Each question 10 Marks. (5x10=50M.)

9. (a) Define public Administration and describe its Scope?

(b) Explain the Origin growth and development of Public Administration?

10. (a) Write an essay on New Public Administration.

(b). Explain the Delegation of Authority. Discuss it functions.

11. (a) Write the methods of Supervision

(b) Write the merits & Demerits of Centralization & Decentralization

12. (a) Chief Executive - Role & functions.

(b). Kinds of Communication

13 (a). Write the features of (8) good qualities of Leadership.

(b) Explain the principles of decision - making by Herbert A. Simon.

ADIKAVI NANNAYA UNIVERSITY :: RAJAMAHENDRAVARAM.
CBCS/PATTERN · REVISED - 2020.
B.A. PUBLIC ADMINISTRATION. SEM-II
Course-2 - THEORIES OF PUBLIC ADMINISTRATION.
(w.e.f) - 2021 AB)

(3)

Time: 3 Hrs Maxi Marks: 75 Marks.

PART-A

Answer any 5 (FIVE) Questions. Each Question Carries 5 Marks.
ఏవైనా (5) ఐదు ప్రశ్నలకు సమాధానము వ్రాయుము. ఒక్క ప్రశ్నకు 5 మార్కులు
(5 x 5 = 25).

1. Classical Approach.
సాంప్రదాయము దృక్పథం

2. Luther Gullick.
లూథర్ గ్యులిక్

3. Bazar - Canteen model.
బజార్ - క్యాంటీన్ నమూనా

4. SALA MODEL - Administrative features.
సాలా నమూనా లక్షణాలు

5. Clects
క్లెక్ట్స్

6. Bureaucracy
బ్యూరోక్రసీ

7. F.W. Riggs
F.W. రిగ్స్

8. Inspiration.
ప్రేరణ

(2)

(4)

PART-B.

Answer all Questions. Each Question 10 Marks.
(5×10=50)

9. (a). Explain the classical Approaches of Luther Gullick & Urwick.
(OR)
(b) Scientific Management Approach of F.W. Taylor.

10. (a) Karl Marks views on Bureaucracy.
(OR)
(b) Explain the views of George Elton Mayo on Human Relations.

11 (a) Explain the Herbert Simon Behavioural Approach.
(OR)
(b). Critically examine Douglas Mc Gregor's the theory 'X' and the theory 'Y'.

12. (a). Write an essay on Ecological approach to public Administration.
(OR)
(b) What is "Sala model". Explain the Prismatic characteristics of the model?

13. (a) Examine the various theories of motivation and state the essence of Maslow's hierarchy of needs.
(OR)
(b) Explain the Weidner development Administration.

ADIKAVI NANNAYA UNIVERSITY-RAJAMAHENDRAVARAM.
CBCS/PATTERN REVISED-2020 (R)
B.A PUBLIC ADMINISTRATION - SEMESTER-III.
Course: 3-INDIAN ADMINISTRATION - (w.e.f) 2021 AB).
Time: 3Hrs Max.Marks: 75 Marks

PART-A

Answer any FIVE (5) Questions. Each question Carries 5 Marks
ఏవైనా ఐదు (5) ప్రశ్నలకు సమాధానం వ్రాయవలెను. ప్రతి ప్రశ్నకు 5 మార్కులు
5x5=25.

1. Central Secretariat
కేంద్ర సచివాలయము.
2. Vice president
ఉపరాష్ట్రపతి
3. Council of Ministers
మంత్రి, మండలి.
4. State Secretariat
రాష్ట్ర సచివాలయం
5. Administrative Relations
పరిపాలనా సంబంధాలు
6. Central vigilance Commission
కేంద్ర విజిలెన్స్ కమిషన్.
7. Financial Relations.
ఆర్థిక సంబంధాలు.
8. Lokpal & LokAyukta
లోక్‌పాల్ మరియు లోకాయుక్త.

(2)

PART-B

Answers all Questions. Each Question 10 Marks. (6)

అన్ని ప్రశ్నలకు సమాధానములు వ్రాయవలెను. ప్రతి ప్రశ్నకు 10 మార్కులు

5X10 = 50 M.

9. (a) Explain the features of British Administration in India.
భారత దేశంలో బ్రిటిష్ వారి పాలనా ముఖ్య లక్షణాలను వివరించండి?

(or)

(b) Salient features of Indian Administration.
భారత దేశ పాలనా ముఖ్య లక్షణాలు వివరించండి?

10. (a) What are the Powers & functions of Indian President?
భారత రాష్ట్రపతి అధికారాలు, విధులు తెలుపుము?

(or)

(b) Write an essay on Central Secretariate duties.
కేంద్ర సచివాలయం యొక్క విధులపై

11 (a) What are the powers & functions of Prime Ministers.
ప్రధానమంత్రి అధికారాలు విధులు వివరించుము.

(or)

(b) Powers & functions of Vice-President.
ఉపరాష్ట్రపతి అధికారాలు, విధులు.

12. (a) What are the powers and functions of Governor.
గవర్నర్ యొక్క అధికారాలు - విధులు.

(or)

(b) Powers and functions of Chief Ministers
ముఖ్యమంత్రి అధికారాలు - విధులు.

13. (a). Powers & functions of Election Commission
ఎన్నికల కమిషన్ యొక్క అధికార విధులు.

(or)

(b) What are the duties of Union public Service Commission.
యూనియన్ భారత సర్వీసుల యొక్క అధికారాలు - విధులు.

ADIKAVI NANNAYA UNIVERSITY - RAJAMAHENDRAVARAM.
CBCS/PATTERN REVISED - 2020. (7)
B.A - PUBLIC ADMINISTRATION - SEMESTER - IV (PA-4)
Course:-4-INDIAN ADMINISTRATION - EMERGING ISSUES
Time: 3Hrs. (w.e.f 2021-AB) Max. Marks: 75 Marks.
PART-A
Answers any FIVE (5) Questions. Each Question carries 5 Marks.
ఏవైనా (ఐదు) 5 ప్రశ్నలకు సమాధానాలు, ఒక్కో ప్రశ్నకు 5 మార్కులు

1. Right to Information Act 2005 5x5=25M.
సమాచార హక్కు చట్టం : 2005.

2. SC and ST Atrocity Act
SC మరియు ST - అకృత్యాల చట్టం.

3. Cyclones
తుఫానులు

4. E-Governance
ఎలక్ట్రానిక్ పాలన

5. Voluntary Sectors.
స్వచ్ఛంద సంస్థలు.

6. Rural Local Self Govt.
గ్రామీణ స్థానిక ప్రభుత్వాలు

7. Urban Local Govts.
పట్టణ స్థానిక ప్రభుత్వాలు

8. Local Institutions - Challenges.
స్థానిక సంస్థలు - సవాళ్ళు.

(2)

PART-B. (8)

Answer all Questions. Each Question 10 Marks
అన్ని ప్రశ్నలకు సమాధానములు. ప్రతి ప్రశ్నకు 10 మార్కులు 5x10=50M.

9. (a) What are the duties of National & State Human Rights Commission.
జాతీయ మరియు రాష్ట్ర మానవ హక్కుల కమీషన్ విధులు.

(OR).

(b). Welfare programmes of Weakex sections.
బలహీన వర్గాల కోసం ప్రభుత్వ చేపట్టే సంక్షేమ కార్యక్రమాలు.

10 (a) Welfare activities of Women and Minorities.
స్త్రీల మరియు అల్పసంఖ్యాక ప్రజల కోసం ప్రభుత్వం చేపట్టే సంక్షేమ కార్యక్రమాలు.

(OR)

(b). Natural Disasters.
ప్రకృతి వైపరీత్యాలు పై ఒక వ్యాసం (లేదా)

11. (a). E.- Governance - Role in Indian Administration.
ఎలక్ట్రానిక్ పాలన - పరిపాలనలో దాని పాత్ర ఆంశం.

(OR)

(b) Write an essay on public corporations.
ప్రజా సంస్థలు పై ఒక వ్యాసం.

12. (a). public and private partnership.
పాలనలో ప్రభుత్వ మరియు ప్రైవేట్ వ్యక్తుల భాగస్వామ్యం.

(OR)

(b). Importance of Voluntary Institutions.
సంక్షేమంలో సంస్థల ప్రాముఖ్యత.

13. (a) What are the factors in 73rd C.A.A
73వ రాజ్యాంగ సవరణ చట్టంలో ఉన్నాంశాలు.

(OR)

(b) What are the factors in 74th CAA.
74 వ రాజ్యాంగ సవరణ చట్టంలో ఉన్నాంశాలు.

ADIKAVI NANNAYA UNIVERSITY-RAJAMAHENDRAVARAM. (9)

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B.A PUBLIC ADMINISTRATION - SEMESTER-V. (PA-5).

Course: 5. e - GOVERNANCE IN INDIA (PA-5).

(w.e.f. 2021 AB)

Max. Marks: 75 Marks.

Time: 3 Hrs

PART-A

Answer any FIVE (5) Questions Each Question Carries 5 Marks.

ఏవైనా ఐదు (5) ప్రశ్నలకు సమాధానాలివ్వండి. ప్రతి ప్రశ్నకు 5 మార్కులు.

5×5=25.

1. Digital Technology
   డిజిటల్ టెక్నాలజీ (అంకాత్మక సాంకేతికత).
2. Information Technology Act 2000
   సమాచార సాంకేతిక చట్టం - 2000 (ఇన్ఫర్మేషన్ టెక్నాలజీ చట్టం 2000).
3. e-Governance in Higher Education - Merits
   ఉన్నత విద్యాసంస్థల్లో ఇ గవర్నెన్స్ - లాభాలు
4. E-Governance - in Health Administration
   ఇ - పాలన - హెల్త్ అడ్మినిస్ట్రేషన్ (ఆరోగ్య పరిపాలన)
5. e-Hearing
   ఇ - హియరింగ్
6. I T Security
   ఐ.టి. సెక్యూరిటీ
7. Hacking
   హ్యాకింగ్
8. Cyber Crimes
   సైబర్ నేరాలు.

(2)

PART-B

(10)

Answers all Questions. Each Question 10 Marks.
(అన్ని) ప్రశ్నలకు సమాధానం వ్రాయండి. ప్రతి ప్రశ్నకు 10 మార్కులు

5X10 = 50M

9.(a) Write the e-Governance - Meaning, Scope & Importance
ఇ-గవర్నెన్స్ అర్థం, పరిధి, ప్రాముఖ్యత వివరించండి.

(b). Write an essay on Public & private Partnership (OR)
ప్రభుత్వ, ప్రైవేట్ భాగస్వామ్యం పై వ్యాసం వ్రాయండి.

10 (a). Write a note on Information and Broadcasting.
సమాచారం మరియు ప్రసారాలపై ఒక చిన్న వ్యాసం వ్రాయండి.

(OR)

(b). Role of e-Governance in Agricultural Sector.
వ్యవసాయ రంగంలో ఇ-గవర్నెన్స్ పాత్ర.

11.(a) How to play a key role e-Governance in Urban Administration.
పట్టణ పరిపాలనలో ఇ-గవర్నెన్స్ ఎలాంటి కీలక పాత్ర పోషిస్తుంది.

(OR)

(b). e-Governance in Social welfare Department.
సాంఘిక సంక్షేమ శాఖలో ఇ-పాలన.

12. (a). Write a note on Mee-Seva centres.
Mee-Seva సెంటర్స్ పై ఒక చిన్న వ్యాసం వ్రాయండి.

(OR)

(b). Write an objectives and goals of CARD and e-procurement.
CARD యొక్క e-procurement లక్ష్యాలు & లక్ష్యాలు.
(కార్డ్) (సేకరణ)

13(a). e-Governance - Accountability and Transparency.
ఇ-గవర్నెన్స్ - జవాబుదారీతనం మరియు పారదర్శకత.

(OR)

(b) What are the opportunities, challenges and Barriers in e-Governance.
ఇ-పాలన లో అవకాశాలు - సవాళ్లు - అడ్డంకులు ఏమిటి వివరంగా చర్చించండి.

Skill Enhancement Courses(SECs) for Semester -V,

From2022-23(Syllabus-Curriculum)

Structureof SECsforSemester–V

(TochooseOnepair from theFivealternatepairs ofSECs)

Uni Code	Course Number 6&7	NameofCourse	Hours/ Week	Credits	Marks	
					IA–25 Fieldwork	Sem End
	6A	RuralEntrepreneurship	5	4	25	75
	7A	FarmerProducerOrganizations	5	4	25	75
OR						
	6B	Urban Entrepreneurship andMSMEs	5	4	25	75
	7B	RetailandDigitalMarketing	5	4	25	75
OR						
	6C	InsuranceServices	5	4	25	75
	7C	Bankingand FinancialServices	5	4	25	75
OR						
	6D	InferentialStatisticsandSoftwarePackages	5	4	25	75
	7D	ProjectDesigningandReport Writing	5	4	25	75

***Note**: FIRST and SECOND PHASES (2 spells) of APPRENTICESHIP between 1st and 2nd year and between 2nd and 3rd year (two summer vacations)

***Note**: THIRD PHASE of APPRENTICESHIP Entire 6th Semester

Note1: *For Semester–V, for the domain subject, Economics, any one of the four pairs of SECs shall be chosenas courses 6 and 7, i.e., 6A & 7A or 6B & 7B or 6C & 7C or 6D & 7D. The pair shall not be broken (ABCDallotmentisrandom, notonany priority basis).*

Note-2: *One of the main objectives of Skill Enhancement Courses (SEC) is to inculcate skills related to thedomain subject among students. The syllabus of SEC will be partially skill oriented. Hence, teachers shall alsoimpartpracticaltraining to studentson theskillsembeddedinsyllabusciting related realfield situations*

B.A	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course:6A	Rural Entrepreneurship	Hrs/Wk:5

LearningOutcomes:

Studentsatthesuccessfulcompletion ofthe courseshall beable to:

1. Explainthebasictheoriesandessentialsofentrepreneurship;
2. Identifyandanalyzetheentrepreneurshipopportunitiesavailableinlocalruralarea;
3. Applythetheoriesofentrepreneurshiptotheconditionsoflocalruralareaandformulateappropriate business ideas;
4. Demonstratepracticalskillsthatwillenablethem tostartruralentrepreneurship.

Syllabus:(Hours:Teaching:60,Training:10,Others IncludingUnitTests:05)

Unit-1:Entrepreneurship:ConceptandTheories

Concept and Importance of Entrepreneurship - Theories of Entrepreneurship: Innovations, X-Efficiency,RiskBearing-QualitiesandFunctionsofanEntrepreneur–WomenEntrepreneurship–Ecopreneurship.

Unit-2:RuralEntrepreneurship,BusinessPlanningand Agribusiness

RuralEntrepreneurialEcosystem–Factors,ProblemsandChallengesofRuralEntrepreneurships - Process of Identification of new Entrepreneurship Opportunities in RuralAreas - Formulation of Business Planning for Rural Entrepreneurship - Agribusiness andValueAddition: Procuring, Processing, Storing, and Marketing.

Unit-3:NewRuralEntrepreneurshipOpportunities

New Entrepreneurship Opportunities in Farm sector: Organic Farm Products, Nutri-Cereals,Horticultural Products, Forest Produce, Medicinal Plant Products - New EntrepreneurshipOpportunitiesinRuralNon-farmsector:Poultry,Aquaculture,Sericulture,Honeybee,MushroomsCultivation,Handicrafts.

Unit-4: FinancingandMarketingforRuralEntrepreneurship

Financing the Rural Entrepreneurship: Procedures to obtainformalloans from banksandotherinstitutions-PreparationofDetailedProjectReportforLoan-NewavenuesofFinance: Crowd Funding and Venture Capital - Marketing of Rural Products: Market Survey,Demand Forecasting, Marketing Strategies, Branding, Planning and Promotion, Digital andSocialMedia Marketing.

Unit-5:Institutional SupportandCaseStudiesof RuralEntrepreneurship

Institutional Support for Rural Entrepreneurship- Special Role of NABARD in promotingand supporting the Rural Entrepreneurship - Government Schemes for promotion of RuralEntrepreneurship– Rules and Procedures to start a Rural Entrepreneurship Firm – DiscussionoftwodifferenttypesofCaseStudiesrelatedto RuralEntrepreneurshipwith

localrelevance.

References:

1. Gordona, E and N. Natarajan: ***Entrepreneurship Development***, Himalaya PublishingHousePvtLtd, Mumbai,2017.
2. Sudhir Sharma, Singh Balraj, SinghalSandeep, ***Entrepreneurship Development***,WisdomPublications,Delhi, 2005.
3. Drucker, P., ***Innovation and Entrepreneurship: Practice and Principles***, Harper &Row,NewYork, 1985; revised edn.,Butterworth-Heinemann,Oxford, 1999.
4. NationalCouncilofRuralInstitute(NCRI):CurriculumforRuralEntrepreneurship,2019.http://www.mgncre.org/pdf/Rural%20Entrepreneurship%20Material.pdf
5. NITI Aayog: ***Report of Expert Committee on Innovation and Entrepreneurship***,New Delhi, 2015.https://niti.gov.in/writereaddata/files/new_initiatives/report-of-the-expert-committee.pdf
6. VardhamanMahavir Open Unversity, ***Entrepreneurship Development & Small ScaleBusiness,*** Kota.http://assets.vmou.ac.in/BBA12.pdf
7. MANAGE:***Agri-BusinessandEntrepreneurshipDevelopment***,CourseMaterialAEM-202,2013.https://www.manage.gov.in/pgdaem/studymaterial/aem202.pdf
8. NABARD:***ModelBankableFarmingonHi-TechAgriculture,GreenFarming***,2015.https://www.nabard.org/demo/auth/writereaddata/ModelBankProject/1612162301Precision_farming_for_vegetable_cultivation_in_Kerala_(E).pdf
9. JohanneHanko:***A Handbook for Training of Disabled on Rural EnterpriseDevelopment***, Food and Agricultural Organisation (FAO), 2003.http://www.fao.org/3/ad453e/ad453e.pdf
10. IGNOU: ***Marketing for Managers***, New Delhi.http://egyankosh.ac.in/handle/123456789/4271
11. www.nirdpr.org
12. https://www.nabard.org/
13. http://sfacindia.com/
14. OtherRelevantweb resourcessuggestedbytheteacher and collegelibrarian

Co-CurricularActivities:

a) **Mandatory**(*Training ofstudentsin therelatedskillsby theteacherforatotal 10Hours)*
1) **For Teacher**: Training of students by teacher in the classroom and in the field for a totalof not less than10 hours on skills and hands on experience like identification businessproduct, making business plan, preparing DPR for loan, application for bank loan, doingmarketing survey, marketing a product etc pertaining to any type of rural entrepreneurship oflocal relevance and make a field visit to any one such unit. The expertise of practicing ruralentrepreneurs can beutilized forthis purposes.

2) **ForStudent:**Studentsshallvisitandunderstandthefunctioningofruralentrepreneurshipof their interest in the local area. They shall write their individual observations in the

givenformat,notexceeding10pages, andsubmittotheteacher,asFieldwork/Projectwork Report

3) **SuggestedFieldwork/ProjectworkFormat(***Reportshallnotexceed10pages*):
Title Page, Student Details, Acknowledgments, Index page, Objectives, Step-wise process,Findings,Conclusion& References.
4) Max MarksforFieldwork/Projectwork Report:05
5) UnitTests/InternalExaminations.

b) SuggestedCo-CurricularActivities

1. Invited Lectures with academic experts, practicing entrepreneurs, concernedgovernmentofficials
2. Hands on experiencebyfield experts.
3. Assignments
4. Debatesonrelatedtopics
5. Seminars,Groupdiscussions, Quiz,etc.

Note: For the latest topics which have no formal material available, the teacher is expected toprepareown materialbyusingmultiple latest sourcesand practical knowledge.

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B.A	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course:7A	FarmerProducerOrganizations(FPOs)	Hrs/Wk:5

LearningOutcomes:

Studentsatthesuccessfulcompletion ofthe courseshallbeable to:

1. Explaintheconceptand organizationof FPOanditseconomicactivities.
2. IdentifyandanalysetheopportunitiesrelatedtoFPOinlocalruralarea.
3. ApplytheconceptstotheidentifiedFPOrelatedopportunitiesavailableinthelocalarea and formulatebusinessideas.
4. DemonstratepracticalskillsthatwillenablethemtostartaFPOorearnwageemploymentin it

Syllabus:(Hours:Teaching:60, Training:10,Others IncludingUnitTests:05)

Unit1:ConceptofFPOandImportance

Concept and importance of FPO – Types of FPOs - Organizational structure and Functions ofFPO-EcosystemrequiredforFPO-RoleofFPOsinpresentIndianAgriculturalDevelopment– Factors,Problemsand Challengesof FPOsinIndia.

Unit2:EstablishingFPOandCollaborations

Situation Analysis and Mobilizing Farmer Producers for FPO - Rules and Regulation relatedto FPOs - Proceduresto start FPO–Infrastructure requiredfor FPO- Collaboration withOtherOrganizations–TrainingandCapacityBuildingtoPersonsinFPO– ManagingFinancialAccountsofFPO.

Unit3:EconomicActivitiesandBusinessPlanningofFPO

Economic Activities undertaken by FPO: Input Purchase, Custom Hiring Machines - OutputBusiness:Procuring,Processing,Storage,Logistics,Marketing,Exporting etc.- ProductIdentification and Value Chain Analysis for FPO - Business Planning for FPO - ViableBusinessModels ofFPO: Multi-product and ValueAdded.

Unit4:FinancingandMarketingofFPO

Financial Planning in FPO - Mobilization of Capital from Members, Promoters, Banks andother Funding Agencies-Marketing of FPO Products: Market Survey, Demand Forecasting,MarketingStrategies,Branding,PlanningandPromotion,DigitalandSocialMediaMa rketing.

Unit5:InstitutionalSupport andCaseStudiesof FPOs

InstitutionalSupportandResourceSupportingAgenciesforFPOs-SpecialRolesofNABARD and SFAC – Government Schemes for promotion of FPOs - Discussion of twoimportant Case Studies related to FPOs with different product or process types of localrelevance.

References:

1. NABARD: ***Farmer Producer Organizations***,

FAQs.Mumbai,2015.https://www.nabard.org/demo/auth/writereaddata/File/FARMER%20PRODUCER%20ORGANISATIONS.pdf
2. NABARD: ***Farmer Producer Organizations: Status, Issues and Suggested PolicyReforms,***Mumbai, 2019-20.https://www.nabard.org/auth/writereaddata/CareerNotices/2708183505Paper%20on%20FPOs%20-%20Status%20&%20%20Issues.pdf
3. NABARD:***FPOe-LearningModule***.https://www.nabard.org/FPO/story_html5.html
4. SFAC:***FormationandPromotionof10,000FarmerProducerOrganisations:Operational Guidelines***,New Delhi, 2020.http://sfacindia.com/UploadFile/Statistics/Formation%20&%20Promotion%20of%2010,000%20FPOs%20Scheme%20Operational%20Guidelines%20in%20English.pdf
5. FAO:***CourseonAgribusinessManagementforProducers'Associations***,2009.http://www.fao.org/3/i0499e/i0499e00.htm
6. RichaGovil, Annapurna Neti and Madhushree R. Rao: ***Farmer ProducerOrganizations: Past, Present and Future***, AzimPremji University, Bengaluru, 2020 .http://publications.azimpremjifoundation.org/2268/
7. IGNOU: ***Marketing for Managers***, New Delhi.http://egyankosh.ac.in/handle/123456789/4271
8. https://www.nabard.org/
9. http://sfacindia.com/FPOS.aspx
10. OtherRelevantweb resourcessuggestedbytheteacher and collegelibrarian

Co-CurricularActivities:

a) **Mandatory**(*Trainingofstudents inthe related skillsbytheteacher foratotal 10Hours)*

1) **ForTeacher**:Training ofstudentsbyteacherintheclassroomandinthefieldforatotalof not less than10 hours on skills and hands on experience like preparing business model,value chain analysis of any product, application for the support of NABARD, SFAC and anysimilarsupportingorganization,financialplanning, capacitybuildingformstaffand members etc. pertaining to FPO of local relevance and make a field visit to any one such unit. TheexpertiseofpracticingFPO personscan beutilized forthispurposes.

2) **For Student:** Students shall visit and understand the functioning of FPO in their localarea. They shall write their individual observations in the given format, not exceeding 10pages,and submit totheteacher, asFieldwork/Project work Report

3) **SuggestedFieldwork/ProjectworkFormat(***Reportshallnotexceed10pages*):
Title Page, Student Details, Acknowledgments, Index page, Objectives, Step-wise process,Findings,Conclusion& References.

4) Max MarksforFieldwork/Projectwork Report:05

5)UnitTests/InternalExaminations.

b) SuggestedCo-CurricularActivities

1. Invited Lectures with academic experts, practicing FPO persons, concernedgovernmentofficials
2. Hands on experiencebyfield experts.
3. Assignments
4. Debatesonrelatedtopics
5. Seminars,Groupdiscussions, Quiz,etc.

Note: For the latest topics which have no formal material available, the teacher is expected toprepareown material byusingmultiple latest sources andpractical knowledge.

B.A	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course:6B	UrbanEntrepreneurship andMSMEs	Hrs/Wk:5

LearningOutcomes:

Studentsatthesuccessfulcompletion ofthe courseshallbeableto:

1.Explainthebasictheoriesandessentialsofentrepreneurship Identifyandanalyzetheentrepreneurshipopportunitiesavailableinlocalurbanarea.
2. Applythetheoriesofentrepreneurshiptotheconditionsoflocalurbanarea andformulateappropriate business ideas.

3. Demonstratepracticalskillsthatwillenablethemtostarturbanentrepreneurship

Syllabus:(Hours:Teaching:60,Training:10,Others IncludingUnitTests:05)

Unit1:Entrepreneurship:ConceptandTheories

Concept and Importance of Entrepreneurship - Theories of Entrepreneurship: Innovations, X-Efficiency,RiskBearing-QualitiesandFunctionsofanEntrepreneur–WomenEntrepreneurship-Ecopreneurship.

Unit2:UrbanEntrepreneurshipandBusinessPlanning

UrbanEntrepreneurialEcosystem–Factors,ProblemsandChallengesofUrbanEntrepreneurships - Process of Identification of new Entrepreneurship Opportunities in UrbanAreas-Formulation ofBusiness PlanningforUrban Entrepreneurship.

Unit3:MSMEsandNew UrbanEntrepreneurshipOpportunities

Features of Micro SmallMedium Enterprises (MSMEs)– Cluster Development ApproachandLeveraging Technology for MSMEs– Problems and Challenges of MSMEs-NewEntrepreneurialOpportunitiesinUrbanArea:FoodandBeverages,Sanitary andHealthProducts, Solid Waste and Scrap Disposal, Tourism and Hospitality Services, ConsultancyServicesand Event Management,Logisticservices.

Unit4:FinancingandMarketingofUrbanEntrepreneurship

Financing the Urban Entrepreneurship and MSMEs: Procedures to obtain formal loans fromBanks and other Institutions, Preparing Detailed Project Report for Loan - New avenues ofFinance: Crowd Funding and Venture Capital –Marketing of Urban Entrepreneurship andMSMEs products:Market Survey, DemandForecasting, Marketing Strategies,Branding,Planning and Promotion, Digital and Social Media Marketing – Public Procurement Policy topurchaseMSME Products.

Unit5:InstitutionalSupportandCaseStudiesof UrbanEntrepreneurship

Institutional support for Urban Entrepreneurship and MSMEs - Government Schemes forpromotion of Urban Entrepreneurship and MSMEs: Startup, Standup, PMKVY, PLI etc. – Rules and Procedures to start a Urban Entrepreneurship Firm and MSME –Discussion of twodifferenttypesofCaseStudiesrelatedtoUrbanEntrepreneurship withlocalrelevance.

References:

1. Gordona, E and N. Natarajan: ***Entrepreneurship Development***, HimalayaPublishingHousePvtLtd, Mumbai, 2017.
2. Sharma Sudhir, Singh Balraj, SinghalSandeep, ***Entrepreneurship Development***,WisdomPublications, Delhi, 2005.
3. Drucker, P., ***Innovation and Entrepreneurship: Practice and Principles***, Harper&Row,NewYork,1985;revised edn,Butterworth-Heinemann,Oxford,1999.
4. NITI Aayog: ***Report of Expert Committee on Innovation and Entrepreneurship***,New Delhi, 2015.https://niti.gov.in/writereaddata/files/new_initiatives/report-of-the-expert-committee.pdf
5. VardhamanMahavir Open University, ***Entrepreneurship Development & SmallScaleBusiness***, Kota.http://assets.vmou.ac.in/BBA12.pdf
6. Reserve Bank of India: ***Report of Expert Committee on Marginal, Small,Medium Enterprises***, Mumbai,2019.https://www.rbi.org.in/Scripts/PublicationReportDetails.aspx?UrlPage=&ID =924
7. IGNOU: Marketing for Managers, New Delhi.http://egyankosh.ac.in/handle/123456789/4271
8. https://nimsme.org
9. OtherRelevantweb resourcessuggestedbytheteacher and collegelibrarian

Co-CurricularActivities:

a) **Mandatory**(*Trainingofstudentsintherelated skillsbytheteacher foratotal 10Hours)*

1) **For Teacher**: Training of students by teacher in the classroom and in the field for a totalof not less than10 hours on skills and hands on experience like identification businessproduct,makingbusiness plan,preparingDPR forloan,application forbankloan, marketing survey,marketingaproduct etcpertainingto anytypeof urbanentrepreneurshipoflocalrelevance and make a field visit to any one such unit. The expertise of practicing ruralentrepreneurs can beutilized forthis purposes.

2) **For Student:** Students shall visit and understand the functioning of urban entrepreneurshipof their interest in the local area. They shall write their individual observations in the givenformat,notexceeding10 pages, andsubmittotheteacher,asFieldwork/Projectwork Report

3) **SuggestedFieldwork/ProjectworkFormat(***Reportshallnotexceed10pages*): Title Page, Student Details, Acknowledgments, Index page, Objectives, Step-wise process,Findings,Conclusion& References.

4) Max MarksforFieldwork/Projectwork Report:05

5) UnitTests/InternalExaminations.

b) SuggestedCo-CurricularActivities

1. Invited Lectures with academic experts, practicing entrepreneurs, concernedgovernmentofficials
2. Hands on experiencebyfield experts.

3. Assignments
4. Debatesonrelatedtopics
5. Seminars,Groupdiscussions, Quiz,etc.

Note: For the latest topics which have no formal material available, the teacher is expected toprepareown material byusingmultiple latest sources andpractical knowledge.

B.A	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course:7B	Retail and Digital Marketing	Hrs/Wk:5

LearningOutcomes:

Studentsatthesuccessfulcompletion ofthe courseshall beable to:

1. Explaintheconceptsand principlesabouttheretailanddigitalmarketing;
2. Identifyandanalysetheopportunitiesrelatedtoretailanddigitalmarketingavailableintheloc al area;
3. Applytheconcepttoformulatethenewstrategiesrelatedtoretailanddigitalmarketing;
4. Demonstratethepracticalskillsrequiredtogetemploymentinretailanddigitalmarketingort o start owndigital marketing.

Syllabus:(Hours:Teaching:60,Training:10,Others IncludingUnitTests:05)

Unit1:ConceptofMarketing

ConceptofMarketing-TypeofMarkets–MarketingMix–MarketingStrategies–Marketing Segmentation – Marketing Organization - Marketing Research - Pricing PoliciesandPractices-MajorPlayers in Retailand Digital Market inIndia.

Unit2:UnderstandingProductandConsumer

Marketing Product Types – Product Decision and Strategies - Product Life Cycle - ConsumerBehaviorModel–FactorsofConsumerBehavior-UnderstandingIndianConsumer-Strategies of persuading the Consumer – Sale Promotion:Advertisement, Branding andPackaging.

Unit3:RetailMarketing

Concept of Retail Marketing – Types of Retailing – Big and Small Retail Markets - RetailMarketing Mix – Essentials of Successful Retail Marketing - Retail Marketing Strategies –MultichannelRetailing– StoreManagement – ShoppingMarket Dynamics.

Unit4:DigitalMarketing

Digital Marketing: Concept and Types – Telemarketing –Online or e-tailing– Essentials ofDigitalMarketing–DifferencebetweenPhysicalRetailandDigitalMarketing–DigitalMarketing Channels - Customer Behavior in Digital Marketing – Major players in DigitalMarketingand theirMarketingStrategies-Toolsand Apps ofDigital Marketing.

Unit5:Marketing Models andCaseStudies

Marketing ModelsofRetailandDigitalMarketCompanies/Shops:Global,NationalandLocal levels- Discussion of two different types of Case Studies related to Retail and DigitalMarketing.

References:

1. VenkateshGanapathy: ***Modern Day Retail Marketing Management***, BookboonCompany, 2017.https://mmimert.edu.in/images/books/modern-day-retail-marketing-management.pdf
2. PrashantChaudary:***RetailMarketingintheModernAge***,SagePublication,2019
3. JermyKagan and SiddarthShekar Singh: ***Digital Marketing & Tactics***, WielyPublishers,2020.
4. Philip Kotler:***Marketing Management***, 11thEdition, Prentice-Hall of India Pvt.Ltd.,New Delhi. , 2002
5. S.Neelamegham:***Marketing in India***, 3rdedition, Vikas Publications, New Delhi,2000.
6. IGNOU: ***Marketing for Managers***, New Delhi.http://egyankosh.ac.in/handle/123456789/4271
7. Digitalmarketer: The Ultimate Guide to Digital Marketing.https://www.digitalmarketer.com/digital-marketing/assets/pdf/ultimate-guide-to-digital-marketing.pdf
8. NITI Aayog: ***Connected Commerce: Creating a Roadmap for Digitally InclusiveBharat, 2021***.https://niti.gov.in/writereaddata/files/Connected-Commerce-Full-Report.pdf
9. IASRI Course in ***Agribusiness Management and Trade Concepts inMarketing***http://ecoursesonline.iasri.res.in/mod/page/view.php?id=710
10. World Bank: ***Digital Economy in South East Asia: Strengthening theFoundations for Future Growth,*** 2019.https://documents1.worldbank.org/curated/en/328941558708267736/pdf/The-Digital-Economy-in-Southeast-Asia-Strengthening-the-Foundations-for-Future-Growth.pdf
11. Relevantwebresourcessuggested bytheteacher andcollegelibrarian

Co-CurricularActivities:

a) **Mandatory**(*Trainingofstudentsin therelatedskillsby theteacherforatotal 10Hours)*

1) **For Teacher**: Training of students by teacher in the classroom and in the field for a totalofnotlessthan10 hourson skills andhandson experiencelikemarkingresearch,productlife cycleanalysis,preparingmarketingmodel,behaviorwithcustomer,storemanagement,useofimportantdigitalmarketing websitesandappsetc.pertaining toretailanddigitalmarketing organization and make a field visit to any one such unit in local area. The expertiseofpracticingmarketingpersons can beutilized forthis purposes.

2) **For Student:** Students shall visit and understand the functioning of retail and digitalmarketing organization in their local area. They shall write their individual observations inthe given format, not exceeding 10 pages, and submit to the teacher, as Fieldwork/ProjectworkReport

3) **SuggestedFieldwork/ProjectworkFormat(***Reportshallnotexceed10pages*):
Title Page, Student Details, Acknowledgments, Index page, Objectives, Step-wise process,Findings,Conclusion& References.

4) Max MarksforFieldwork/Projectwork Report:05

5) UnitTests/InternalExaminations.

b) SuggestedCo-CurricularActivities

1. Invited Lectures withacademicexpertsand practicingmarketingpersons
2. Hands on experiencebyfield experts.
3. Assignments
4. Debatesonrelatedtopics
5. Seminars,Groupdiscussions, Quiz,etc.

Note: For the latest topics which have no formal material available, the teacher is expected toprepareown material byusingmultiple latest sources andpractical knowledge.

B.A	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course:6C	Insurance Services	Hrs/Wk:5

LearningOutcomes:

Studentsatthesuccessful completionofthe courseshallbe ableto

1. Explaintheconceptandprinciplesofinsuranceserviceandfunctioningofinsuranceservice agencies;
2. Identifyandanalysethe opportunitiesrelatedinsuranceservicesinlocalruralarea;
3. Applythe conceptsandprinciples of insurancetobuild acareerin Insuranceservices;
4. Demonstratepracticalskillstoenablethemtostartinsuranceserviceagencyorearnwageemp loyment in it.

Syllabus:(Hours:Teaching:60,Training:10,Others IncludingUnitTests:05)

Unit1:InsuranceConceptandPrinciples

Risk Management: Risk and Uncertainty, Risk Classification – Concept, Importance andTypes of Insurance– Principles of Insurance – Insurance Regulations in India - Role of IRDAandInsuranceOmbudsman–ScopeforInsurance Business inIndia.

Unit2:LifeInsuranceandProducts

Life Insurance: Nature and Features - Major Life Insurance Companies in India - ImportantLife Insurance Products/policies and their Features: Conventional, Unit Linked, Annuities,GroupPolicies – Medical Examiner.

Unit3:GeneralandHealthInsurancesandProducts

GeneralInsurance: Nature, Features and Types- Major GeneralInsurance Companies inIndia - Important General Insurance Products/Policies and their Features - Surveyor – HealthInsurance: Nature and Features -Health Insurance Companies in India -Major HealthInsuranceProducts/policiesandtheirFeatures:Individual, Family,Group.

Unit4:PracticingasanInsurantAgent

Insurance Contract and Terms of Insurance Policy - Registration of Insurance Agency withthe Company — Procedure to issue a Policy: Application and Acceptance – Policy Lapse andRevival – Premium Payment, Assignment, Nomination and Surrender of Policy – PolicyClaim-Important Websites andApps ofInsuranceinIndia.

Unit5:Understanding theCustomerandCase Studies

InsuranceCustomerandCategories–UnderstandingCustomerMindsetandSatisfaction-AddressingtheGrievancesoftheCustomer–EthicalBehaviorinInsurance–MoralHazard –DiscussionoftwodifferentCaseStudiesrelatedtoLifeorGeneralorHealthInsuranceServices.

References:

1. InsuranceInstituteof India:***PrinciplesofInsurance(IC-01***),Mumbai,2011.
2. Insurance Instituteof India:***PracticeofLifeInsurance(IC-02),***Mumbai,2011.
3. InsuranceInstituteof India: ***PracticeofGeneralInsurance(IC-11),***Mumbai,2011
4. IGNOU:***LifeInsurance***
https://egyankosh.ac.in/bitstream/123456789/6472/1/Unit-20.pdf
5. IGNOU:***Non-LifeInsurance***
https://egyankosh.ac.in/bitstream/123456789/6470/1/Unit-21.pdf
6. P.Periyaswamy:***PrinciplesandPracticeofInsurance,***HimalayaPublishers,NewDelhi(2nd Edition), 2019.
7. G.DionneandS.E.Harrington(Eds.):***FoundationsofInsuranceEconomics***,KluwerAcademicPublishers, Boston, 1997.
8. K.Jr.Black,andH.D.SkipperJr.:***LifeandHealthInsurance,***PrenticeHall,UpperSaddleRiver, New Jersey,2000.
9. https://www.irdai.gov.in
10. https://www.insuranceinstituteofindia.com
11. https://licindia.in/
12. OtherRelevantweb resourcessuggestedbytheteacher and collegelibrarian

Co-CurricularActivities:

a) **Mandatory**(*Trainingofstudents inthe related skillsbytheteacher foratotal 10Hours)*

1) **For Teacher**: Training of students by teacher in the classroom and in the field for a totalof not less than10 hours on skills and hands on experience like explaining the details of aninsurance policy to a customer – life, health and general policy, filling up application for apolicy, calculation of premium and claim, make use of important websites and apps etc.pertaining to insurance and make a field visit to any insurance organization in local area. Theexpertiseofpracticinginsurance agent or trainercanbeutilized forthispurposes.

2) **For Student:** Students shall visit and understand the functioning of insurance agency oftheir interest in the local area. They shall write their individual observations in the givenformat,notexceeding10pages, andsubmittotheteacher,asFieldwork/Projectwork Report

3) **SuggestedFieldwork/ProjectworkFormat(***Reportshallnotexceed10pages*):
Title Page, Student Details, Acknowledgments, Index page, Objectives, Step-wise process,Findings,Conclusion& References.
4) Max MarksforFieldwork/Projectwork Report:05
5) UnitTests/InternalExaminations.

b) SuggestedCo-CurricularActivities

1. Invited Lectures with academic experts, practicing insurance agents. Trainers,concernedofficials.
2. Hands on experiencebyfield experts.
3. Assignments
4. Debatesonrelatedtopics
5. Seminars,Groupdiscussions, Quiz,etc.

Note: For the latest topics which have no formal material available, the teacher is expected toprepareown material byusingmultiple latest sources andpractical knowledge.

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B.A	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course:7C	Banking and Financial Services	Hrs/Wk:5

LearningOutcomes:

Studentsatthesuccessfulcompletion ofthe courseshallbeableto:

1. Explaintheconceptand essentialsbankingandfinancialservices.
2. Identifyandanalysetheemploymentopportunitiesrelatedtobanksandotherfinancialinstitutions.
3. Apply the concepts to banking and financial opportunities and formulate ideas relatedto them.
4. Demonstrate practical skills to enable them to get employment in Banks and otherfinancialinstitutionsasbusinesscorrespondentsorCommonServiceCentersormarketingagents.

Syllabus:(Hours:Teaching:60,Training:10,Others IncludingUnitTests:05)

Unit1:PrinciplesofBankingandIndianBankingSystem

Meaning of Banking – Principles of Banking – Functions of Banking – Structure of IndianBanking System – Regulations of Banking in India – Role of RBI in Banking – Anti-moneyLaundering-Basicsof Financial literacy-Problemsand Challenges ofBankinginIndia.

Unit2:Deposits,LoansandDigitalBanking

Bank Deposit Account Types – Account Opening and Closing – Banking Customer types – KYCNorms–NegotiableInstruments:Cheque,BillofExchange,PromissoryNote,Endorsement - Principles of Lending – Different categories of Loans – Mortgaging -PrioritySectorLending– E-Bankingfacilities:DebitCard,CreditCard,NetBanking,MobileBanking,Tele-banking,MicroATMs, DigitalCurrency– Core BankingSolutions.

Unit3:BankingCorrespondentsandCommon ServiceCenters

Banking Correspondent Model - Activities of Banking Correspondent: Deposit Mobilization.IdentificationofBorrowers,CollectionandRecoveryLoan,OtherBankingServices– CommonServicesCentre(CSC)-ProvisionofServicesbyCSC–RequirementforRegistering CSC and Telecentre - Case Study of Banking Correspondents with any BankorCSCin Local Area.

Unit4:FinancialServicesof NBFIs

Non-Banking Financial Institutions (NBFIs): Types and Major Players of NBFIs in India – Important Financial Services offered by NBFIs and their Features – Concept of EMI - MicroFinance: Concept and Operation - Chit Funds: Concept and Operations– Payment Banks -Regulationsof NBFIs inIndia– Problemsand Challengesof NBFIsinIndia.

Unit5:WorkwithFinanceServiceCompany(FSC)

Types of loans by Finance Service Company (FSC) – Customer of FSC: Types and Needs - MarketingofFSC'sLoans–ProceduresandRequirementsinFSC'sLoanSanction-CollectionandRecoveryofFSCLoans-CaseStudyof aFSC'sservices inLocalArea.

References:

1. Indian Institute of Banking and Finance: ***Principles and Practices of Banking,*** MacmillanIndiaLimited, 2021.https://drive.google.com/file/d/1VU7aN4s5ikPQl7nX6mTBW-sVLQCNhfvK/view
2. IndianInstituteofBankingandFinance:***RetailBaking,***MacmillanIndiaLimited,2015.
3. D.R.PatadeBabasahebSangaleandT.N.Salve:***BankingandFinance:****FundamentalofBanking*, Success Publications,Pune, January*2013*.https://app1.unipune.ac.in/external/course-material/Fundamental-of-Banking-English.pdf
4. N.MukundSharma: ***BankingandFinancialServices***,HimalayaPublishers,2015.
5. AkhanAliJafor:***Non-BankingFinancialCompaniesinIndia:FunctioningandPractice,***New CenturyPublications, New Delhi,2010.
6. RBI:"Non-BankingFinancialInstitutions"in***ReportonTrendandProgressofBankingin India 2019-20.***
7. RBI: Discussion Paper on ***Engaging Business Correspondents***.https://www.rbi.org.in/scripts/bs_viewcontent.aspx?Id=2234
8. Govt. of India: Ministry of Electronic and Information Technology: ***Digital Seva-Operational Manual for Common Service Centre***s.https://csc.gov.in/assets/cscmanual/digitalsevaoperationalmanual.pdf
9. http://www.cscentrepreneur.in/forTelecentreEntrepreneurshipCourse
10. https://www.rbi.org.in/
11. http://www.iibf.org.in/
12. OtherRelevantweb resourcessuggestedbytheteacher and collegelibrarian

Co-CurricularActivities:

a) **Mandatory**(*Trainingofstudentsin therelatedskillsby theteacherforatotal 10Hours)*

1) **For Teacher**: Training of students by teacher in the classroom and in the field for a totalof not less than10 hours on skills and hands on experience like opening and closing bankaccount, explaining negotiable instruments, loan application process at banks, operation ofdigital banking, operating common service center, loan application and sanction in FSC,make use of important websites and apps etc. pertaining to banks and FSCs and make a fieldvisit to any bank and FSC in local area. The expertise of practicing insurance agent or trainercanbeutilized forthis purposes.

2) **For Student:** Students shall visit and understand the functioning of bank and FSC of theirinterest in the local area. They shall write their individual observations in the given format,notexceeding10pages,andsubmit to theteacher, as Fieldwork/Project work Report

3) **SuggestedFieldwork/ProjectworkFormat(***Reportshallnotexceed10pages*):
Title Page, Student Details, Acknowledgments, Index page, Objectives, Step-wise process,Findings,Conclusion&References.
4) Max MarksforFieldwork/Projectwork Report:05
5) UnitTests/InternalExaminations.

b) SuggestedCo-CurricularActivities

1. Invited Lectures with academic experts, practicing bankers, trainers and concernedofficials.
2. Hands on experience byfield experts.
3. Assignments
4. Debatesonrelatedtopics
5. Seminars,Groupdiscussions, Quiz,etc.

Note: For the latest topics which have no formal material available, the teacher is expected toprepareown material byusingmultiple latest sources andpractical knowledge.

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B.A	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course:6D	Inferential Statistics and Software Packages	Hrs/Wk:5

LearningOutcomes:

Studentsatthesuccessful completionofthe courseshallbe ableto:

1. Demonstrate the knowledge related to the important concepts and techniques ofinferentialstatistics
2. Calculatecorrelation,regressioncoefficientsandinterprettheresults.
3. UseExcelsheets andSPSS packageto analysethedataand derivetheresults.

Syllabus:(Hours:Teaching:60,Training:10,Others IncludingUnitTests:05)

Unit1:ConceptandTheoriesof Probability

Concept of Probability - Definitions of Probability: Classical or Mathematical and Empiricalor Statistical – Axiomatic Approach to Probability – Theorems of Probability: Addition andMultiplication(without proofs).

Unit2:Theoretical ProbabilityDistributions

BinomialDistribution:Constants(withoutproof)andProperties–PoisonDistribution:Constants (without proof) and Properties – Normal Distribution: Constants (without proof)and Properties – Standard Normal Distribution and Standard Normal Curve – Economic andPracticalApplications ofBinomial,Poisonand Normal Distributions.

Unit3:TestofSignificance -LargeandSmallSampleTests

Steps involved in Testing of Hypotheses – Large Sample or Z-Test – Testing the differencebetween Means and Proportions – Small Sample Tests – Difference between Large and SmallSample Tests – Applications of Student's t-test, χ^2 test, F-test – One way and Two wayANOVA.

Unit4:LinearandNon-linearMultipleRegression Models

Four Variable Linear Multiple Regression Model – Notation – Assumptions – Estimation ofPartialRegressionCoefficients–InterpretationofRegressioncoefficients-Testingthecoefficients: t-test, p- value– Coefficient of Determination: R^2 and adjusted R^2 – Estimationof Non-linear Multiple Regression: Cobb-Douglas Production Function and Interpretation ofElasticityCoefficients.

Unit5:ExcelandSoftware PackagesforDataAnalysis

Worksheet – Entering data in Worksheets – Creating Graphs and Charts - Mathematical andStatisticalFunctions-DataAnalysisPackinExcel-DescriptiveStatistics,TestingofHypotheses,ANOVA,CorrelationandRegression,RandomNumberGeneration-DataHandlingUsingSPSS-OpeningExcelfilesinSPSS-AnalysisTools-DescriptiveStatistics

-SelectionofVariablesinMultipleLinearRegression–EstimationofRegressionCoefficientsusingSPSS and theirinterpretation.

References:

1. S.C.Gupta:**FundamentalsofStatistics,**HimalayaPublishingHouse,Bombay,1982.
2. S.P.Gupta: ***StatisticalMethods,*** S.Chand &Company,New Delhi,2000.
3. K.V.S. Sharma:***Statistics MadeSimple:DoityourselfonPC,(Second edn.)*** PrenticeHallofIndia,NewDelhi,2010.
4. తెలుగుఅకాడమీప్రచురణ "రరిమాణాత్మకరద్తులు"
5. B.N.Gupta:***StatisticsTheoryandPractice,***SahityaBhavan,Agra,1992.
6. Goon A.M., M. K. Gupta and B. Dasgupta: ***Fundamentals of Statistics,*** Vol.1, TheWorldPress,Ltd, Calcutta, 1975.
7. Nagar, A.L. and R. K. Das: ***Basic Statistics,*** Oxford University Press, New Delhi,1996.
8. ***D N Elhance,*** VeenaElhance& B M Aggarwal***Foundation of Statistics,*** KitabMahal,NewDelhi, 2018.
9. Relevantwebresourcessuggested bytheteacher andcollegelibrarian

Co-CurricularActivities:

a) **Mandatory**(*Trainingofstudentsintherelated skillsbytheteacherfora total10Hours)*

1) **For Teacher**: Training of students by teacher in the classroom and in the field for a totalof not less than10 hours on skills and hands on experience like calculation and interpretationnormal curve, Z-values, t-test, χ^2 test, F-test, ANOVA, regression results, t, p and R^2valuesusing Excel and/or SPSS. The expertise of practicing persons can be utilized for thispurposes.

2) **For Student:** Students shall take up a real time data of any economic organisation or firmandcalculate theimportant statistical testsforthe dataand writetheresultswith interpretationsin the given format, not exceeding 10 pages, and submit to the teacher, asFieldwork/ProjectworkReport

3) **SuggestedFieldwork/ProjectworkFormat(***Reportshallnotexceed10pages*): Title Page, Student Details, Acknowledgments, Index page, Objectives, Step-wise process,Findings,Conclusion& References.

4) Max MarksforFieldwork/Projectwork Report:05

5) UnitTests/InternalExaminations.

b) SuggestedCo-CurricularActivities

1. Invited Lectureswithacademicexperts,practicingpersons.
2. Hands on experiencebyfield experts.
3. Assignments
4. Debatesonrelatedtopics
5. Seminars,Groupdiscussions, Quiz,etc.

B.A	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course:7D	Project Designing and Report Writing	Hrs/Wk:5

LearningOutcomes:

TheStudentat thesuccessfulcompletion of the courseshallbeableto:

1. Demonstrate the knowledge relating to research, its role in enhancement ofknowledgeinsocial sciencesin generalandeconomicsinparticular;
2. Formulate a good research design to undertake mini research projects with a view tostudyingthe socio-economicproblems of thesociety;
3. Undertake a field survey by himself/herself to collect relevant data and informationrelatingto his/herprojectwork;
4. Develop capacity to write a simple project report with all relevant components on theresearchproject undertaken byhim/her.

I. Syllabus:(Hours:Teaching:60,Training:10,Others IncludingUnitTests:05)

Unit1:FoundationsofResearch

Meaning and Importance of Research - Scientific Research – Social Science Research – Methods of ensuring Objectivity in Social Science Research – Limitations of Research inSocialScience– Ethics in Research.

Unit2:Classification ofResearch

Pure and Applied Research – Exploratory and Descriptive Research – Diagnostic Research – Action Research– Analytical Research – Evaluation Research – Experimental ResearchDesign– ConceptsofIndependentandDependentVariables– CaseStudymethod.

Unit3:Planningof ResearchProject

Selection of a Research Problem – Criteria for Selecting a Research Problem **–** Review ofTheoretical and Related Research Studies - Choice of Secondary and Primary Data for theStudy-ChoiceofCensusandSampleData–PreparationofaResearchProposal–Componentsof agoodResearch Proposal.

Unit4:Implementationof aProjectDesign

Fieldwork/Project work and Collection of Data – Choice of Schedules and Questionnaire – Pilot Study – Role of Observation and Participation – Documentary Evidences - ProjectiveTechniques: Functions and Types - Editing Data – Graphical and Statistical Analysis of DatausingAppropriate Statistical Techniques.

Unit5:ReportWriting

Types of Research Report – Target Audience – Nature of Language to be used in ResearchReport - Outlines of a good Research Report – Prefatory Items – Body of the Report –Terminal Items: Differences between References and Bibliography – Appendices - EthicalvaluesinResearch Report-PlagiarismTest -Componentsof a goodResearch Paper.

References:

1. C.T.Kurien:***AGuidetoResearchinEconomics,***SangamPublishersforMadrasInstituteof DevelopmentStudies, Chennai, 1973.
2. O.R.KrishnaswamiandM.Ranganatham:***MethodologyofResearchinSocialSciences,***H imalayaPublishingHouse, Mumbai, 2018.
3. C.R.Kothari:***ResearchMethodology:MethodsandTechniques,***NewAgeInternational(Pvt.)Ltd.Publishers, NewDelhi, 2004.
4. K. V. S. Sharma :***Statistics Made Simple: Do it yourself on PC,*** (Second edn.)PrenticeHall ofIndia, New Delhi, 2010.
5. John W. Creswell and J. David Creswell :***Research Design: Qualitative,Quantitative,andMixedMethodsApproaches,***SagePublications,NewDelh i,2018.
6. Shanti Bhushan Mishra and ShashiAlok,***Handbook of Research Methodology***,Educreation,Bilaspur,2017.
7. Wayne C. Booth, Gregory G. Colomb, and Joseph M. Williams: ***The Craft ofResearch***,UniversityofChicago Press, Chicago,2016.
8. Dr. Ranjit Kumar: ***Research Methodology: A Step-by-Step Guide forBeginners***,SagePublications, New Delhi,2014.
9. Geoffrey Marczyk, David DeMatteo, and David Festinger: ***Essentials ofResearchDesignand Methodology***,JohnWileyand Sons,NewJersey, 2005.
10. Sharan B. Merriam: ***Qualitative Research: A Guide to Design andImplementation***JosseyBoss, San Francisco,2009.
11. Mark Balnaves& Peter Caputi: ***Introduction to Quantitative ResearchMethods:AnInvestigativeApproach***,SagePublications,NewDelhi, 2001.
12. Relevantwebresourcessuggested bytheteacher andcollegelibrarian.

Co-CurricularActivities:

a) **Mandatory**(*Trainingofstudentsintherelated skillsbytheteacherfora total10Hours)*

1) **For Teacher**: Training of students by teacher in the classroom and in the field for a totalof not less than10 hours on skills and hands on experience like evaluation of program,selection of research problem, doing literature survey, preparation of research proposal, dataediting, graphs and statistics, writing research report and paper etc. and make field visit tostudy a simple research issue. The expertise of practicing researcher can be utilized for thispurposes.

2) **For Student:** Students shall take up small research issue of their interest and visit a fieldarea related to that problem. They shall write their individual observations in the givenformat,notexceeding10pages, andsubmittotheteacher,asFieldwork/Projectwork Report

3) **SuggestedFieldwork/ProjectworkFormat(***Reportshallnotexceed10pages*):
Title Page, Student Details, Acknowledgments, Index page, Objectives, Step-wise process,Findings,Conclusion& References.
4) Max MarksforFieldwork/Projectwork Report:05
5) UnitTests/InternalExaminations.

b) SuggestedCo-CurricularActivities

1. Invited Lectureswithacademicexpertsandresearchers.
2. Hands on experiencebyfield experts.
3. Assignments.

4. Debateson relatedtopics.
5. Seminars,Groupdiscussions, Quiz,etc.

ADIKAVI NANNAYA UNIVERSITY: RAJAMAHENDRAVARAM

REVISED UG SYLLABUS UNDER CBCS DURING 2020-2021

Domain Subject :BA/B,SC ECONOMICS, SECs for Semester V

Model Question Paper (6A) : RURAL ENTREPRENEURSHIP

Time: 3 Hrs Max. Marks : 75

SECTION – A

Note :Answer any FIVE of the following 5x5= 25

1. Women Entrepreneurship – Eco preneurship
2. Factors of Entrepreneurship.
   మహిళా ఉద్యమిత్వం – వ్యవస్థాపకత.
3. Opportunities of new entrepreneurships in rural areas.
   గ్రామీణ ప్రాంతాలలో కొత్త ఉద్యమిత్వ అవకాశాలు
4. Aquaculture
   జల/మత్స్య వ్యవసాయం.
5. Demand Forecasting of rural product marketing.
   గ్రామీణ ఉత్పత్తుల మార్కెటింగ్ కు గల డిమాండ్ అంచనాలు.
6. Digital and Social media marketing in rural areas.
   గ్రామీణ ప్రాంతాలలో డిజిటల్ మరియు సోషల్ మీడియా
7. Preparation of detailed project repot for loan
   ఋణాలకై సమగ్ర ప్రాజెక్టు నివేదిక
8. Rules and Procedures to start a Rural Entrepreneurship.
   గ్రామీణ ఉద్యమిత్వం కు గల నియమాలు, నిబంధనలు

SECTION – B

Note : Write Answers for the following FIVE questions 5x10= 50

9. A) Explain the concept, scope and importance of Entrepreneurship ?
   ఉద్యమిత్వ భావన, పరిధి మరియు ప్రాముఖ్యతను వివరించండి?

   (OR)

   B) Explain the qualities and functions of best Enterepreneur?
   మంచి ఉద్యమిత్వం కు ఉండే లక్షణాలు మరియు విధులు వివరించండి?

10. A) Explain the problems and challenges of rural Entrepreneureships?
    గ్రామీణ ఉద్యమిత్వం ఎదుర్కొనే సమస్యలు, సవాళ్లను తెల్పండి?

(OR)

   B) Explain the merits and demerits in rural agribusiness ?
   గ్రామీణ వ్యవసాయ వ్యాపారం యొక్క లాభాలు, నష్టాలు వివరించండి.

11. A) What are organic farm products? Explain about forest and medicinal products ?
    సేంద్రియ వ్యవసాయ ఉత్పత్తులు అంటే ఏమిటి? అటవీ మరియు ఔషధ ఉత్పత్తులను వివరించండి

    (OR)

    B) What is rural non-farm sector? Explain about Sericulture and Mushrooms cultivation?
    గ్రామీణేతర వ్యవసాయేతర రంగం అంటే ఏమిటి? పట్టు పరిశ్రమ మరియు పుట్టగొడుగుల పెంపకం గూర్చి వివరించండి?

12. A) What is meant by rural credit, and explain new avenues of rural credit.
గ్రామీణ పరపతి అంటే ఏమిటి? గ్రామీణ పరపతి నూతన మార్గాలను వివరించండి?

(OR)

B) Explain the stages of rural marketing for farm products ?
వ్యవసాయ ఉత్పత్తుల గ్రామీణ మార్కెటింగ్ దశలను వివరించుము

13. A) Explain the role of NABARD in promoting rural entrepreneurship ?
గ్రామీణ ఉద్యమకారుల ప్రోత్సహించడం లో నబార్డ్ పాత్రను వివరించండి?

(OR)

B) Explain various Government Schemes in promoting rural Entrepreneurship ?
గ్రామీణ ఉద్యమకారులకు సంబంధించి వివిధ ప్రభుత్వ పథకాలను వివరించండి?

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ADIKAVI NANNAYA UNIVERSITY: RAJAMAHENDRAVARAM

REVISED UG SYLLABUS UNDER CBCS DURING 2020-2021

Domain Subject :BA/B.SC ECONOMICS, SECs for Semester V

Model Question Paper (7A) : FARMER PRODUCER ORGANIZATIONS

Time: 3 Hrs Max. Marks : 75

SECTION – A

Note : Answer any FIVE of the following 5x5= 25

1. Concept of FPO.
2. Functions of FPOs
   వ్యవసాయ ఉత్పత్తిదారుల సంస్థ భావన
3. Types of FPOs
   ఎఫ్.పి.ఓ ల రకాలు.
4. Role of Farmer Producer for FPO
   FPO ల వ్యవసాయ ఉత్పత్తిదారుని పాత్ర
5. Multi product and Value Added system.
   బహుళ ఉత్పత్తులు మరియు విలువ ఆధారిత పద్ధతి
6. Marketing Survey of FPOs
   FPO ల మార్కెటింగ్ సర్వే
7. Marketing Strategies of FPOs.
   FPO's మార్కెటింగ్ వ్యూహాలు.
8. Analyze the important case study related to FPO.
   FPO లకు సంబంధిత ముఖ్యమైన వ్యష్టి అధ్యయనం విశ్లేషించండి

SECTION – B

Note : Write Answers for the following FIVE questions 5x10= 50

9. A) Explain the role of FPOs in present Indian agricultural scenario ?
   భారత వ్యవసాయ రంగంలో FPO ల పాత్రను వివరించుము

   (OR)

   B) Explain the problems and challenges of FPOs in India ?
   భారత దేశ వ్యవసాయ ఉత్పత్తిదారుల సంస్థలు ఎదుర్కొనే సమస్యలు, సవాళ్ళను వివరించండి

10. A) Explain rules, regulations and procedures to start the FPOs in India?
   భారత దేశంలో FPO లు ప్రారంభించడానికి గల నియమాలు, నిబంధనలను వివరించు

   (OR)

   B) Explain the management of financial accounts of FPOs ?
   FPO లకు సంబంధించిన ఆర్థిక గణన మరియు నిర్వహణ గురించి వివరించుము

11. A) Explain about Economic Activities undertaken by FPOs.
   FPO లు చేపట్టిన ఆర్థిక కార్యకలాపాలను వివరించుము.

   (OR)

   B) Explain the stages in Output Business of FPOs ?
   FPO ల వ్యాపార ఉత్పత్తుల దశలను వివరించండి.

12. A) Explain how to mobilize the capital resources in promoting of FPOs ?

FPO's ను ప్రోత్సహించడంలో మూలధన వనరుల సమీకరణ గురించి వివరించుము.

(OR)

B) Explain the stages of marketing of FPO products ?

FPO మార్కెటింగ్ ఉత్పత్తుల యొక్క దశలను వివరించుము.)

13 A) Explain the special roles of NABARD and SFAC in promoting of FPOs ?

FPO's ను ప్రోత్సహించడంలో నాబార్డ్ మరియు SFAC ల పాత్రను వివరించుము.

(OR)

B)Explain the various Government Schemes for promotion of FPOs in India ?

భారత దేశంలో FPOs ప్రోత్సహించడంలో ప్రభుత్వ వివిధ పథకాల గురించి వివరించుము.

ADIKAVI NANNAYA UNIVERSITY: RAJAMAHENDRAVARAM

REVISED UG SYLLABUS UNDER CBCS DURING 2020-2021

Domain Subject :BA/B.SC ECONOMICS, SECs for Semester V

Model Question Paper (6B) :URBEN ENTREPRENEURSHIP AND MSMEs

Time: 3 Hrs Max. Marks : 75

SECTION – A

Note : Answer any FIVE of the following 5x5= 25

1. Women Entrepreneurship – Eco preneurship.
2. Urban Entrepreneurial Ecosystem.
3. Sanitary and Health products of urban Entrepreneurship.
4. Urban Logistic Services.
5. Digital and Social Media Marketing.
6. Concept of MSMEs.
7. Concept of Detailed Project Report (DPR).
8. Concepts of Startup and Standup.

SECTION – B

Note : Write Answers for the following FIVE questions 5x10= 50

9. A) Explain the concept, scope and importance of Entrepreneurship ?

(OR)

B) Explain the qualities and functions of best Enterepreneur?

10. A) Explain the problems and challenges of Urban Entrepreneurship ?

(OR)

B) Explain the formulation of Business Planning for Urban Entrepreneurship

11. A) Explain the features of Micro Small Medium Enterprises (MSMEs) ?

(OR)

B) Explain the problems and remedial measures ofMSMEs in Urban Areas ?

12. A) Explain the main Credit facilities for Urban and MSMEs ?

(OR)

B) Explain the stages of rural marketing for farm products ?

13A) Explain various Government policiesin promotion of Urben Entrepreneurship and MSMEs ?

(OR)

B) Explain the rules and regulations start urban Entrepreneurship Firm and MSMEs ?

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Adi Kavi Nannayya University, Rajamahendravaram

IV Year B A (HONS)- Semester V -ECONOMICS

Course 7B: Retail and Digital Marketing

(Skill Enhancement Course (Elective)

Max Marks: 75 Time: 3hrs

Section A

Write short answers for any five of the following questions. Each answer carries 5 marks.

(5 x 5 = 25 marks)

1. Marketing Segmentation

మార్కెటింగ్ విభజన

2. Marketing Organisation

మార్కెటింగ్ వ్యవస్థ

3. Advertisement

ప్రకటన

4. Store Management

దుకాణ నిర్వహణ

5. Essentials of a Successful Retail Marketing

~~విజయవంతమైన రిటైల్ మార్కెటింగ్~~ విజయవంతమైన రిటైల్ మార్కెటింగ్ యొక్క ఆవశ్యకతలు.

6. Essentials of Digital Marketing

డిజిటల్ మార్కెటింగ్ యొక్క ఆవశ్యకతలు.

7. Tele Marketing

టెలి మార్కెటింగ్

8. Digital Market Companies

డిజిటల్ మార్కెట్ కంపెనీలు

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Section B

Write answers for the following five questions. Each answer carries 10 marks.(5 x 10 = 50 marks)

9. (A) Explain the concept of marketing, explain the types and importance of marketing

మార్కెటింగ్ భావనను వివరించి, మార్కెటింగ్ యొక్క రకాలు మరియు ప్రాముఖ్యతను వివరింపుము.

(OR)

(B). What are the various marketing strategies

వివిధ మార్కెటింగ్ వ్యూహాలను తెలుపుము.

10. (A).What is the importance of understanding the consumer product relationship

వినియోగదారుడు - ఉత్పత్తి సంబంధాల అవగాహన యొక్క ప్రాముఖ్యతను తెలుపుము

(OR)

(B).What are the factors of a consumer behaviour?

వినియోగదారుని స్వభావము యొక్క కారకాలను తెలుపుము.

11.(A).Explain the concept of retail marketing and the types of retail marketing.

రిటైల్ మార్కెటింగ్ భావనను వివరించి, రిటైల్ మార్కెటింగ్ రకాలను వివరింపుము

(OR)

(B).Give an account on the strategies of retail marketing.

రిటైల్ మార్కెటింగ్ వ్యూహాలను గురించి వివృత్తి చేయుము.

12.(A).What is digital marketing. Explain the concept and types of digital marketing.

డిజిటల్ మార్కెటింగ్ అనగానేమి. డిజిటల్ మార్కెటింగ్ భావన మరియు దాని రకాలను వివరింపుము.

(OR)

(B).Explain the difference between physical retail and digital marketing.

భౌతిక రిటైల్ మార్కెటింగ్ మరియు డిజిటల్ మార్కెటింగ్ మధ్య తేడా.

13.(A).What are the marketing models of retail and digital marketing companies.

రిటైల్ మార్కెటింగ్ కంపెనీలు మరియు డిజిటల్ మార్కెటింగ్ కంపెనీల మార్కెటింగ్ నమూనాలను తెలుపుము.

(OR)

(B).Discuss two different types of case studies related to retail marketing and digital marketing.

రిటైల్ మార్కెటింగ్ మరియు డిజిటల్ మార్కెటింగ్ కు సంబంధించి రెండు రకాల పరిశీలనలను చర్చింపుము.

Adi Kavi Nannayya University, Rajamahendravaram

IV Year B A (HONS)- Semester V -ECONOMICS

Course 6C: Insurance Services

(Skill Enhancement Course(Elective)

Max Marks: 75 Time :3hrs

Section A

Write short answers for any five of the following questions. Each answer carries 5 marks.

(5x5=25marks)

1.Types of Insurance

2. IRDA

3. Major Life Insurance Companies In India

4. Annuities

5. Major General Insurance Companies In India

6. Policy Claim

7. Premium Payment

8. Moral Hazard

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Section B

Write answers for the following five questions. Each answer carries 10 marks. (5 x 10 = 50 marks)

9.(A).what is Risk Management. Explain the concept of risk in risk management.

(వివరించే) ప్రమాద నిర్వహణ అనగానేమి. ప్రమాదం(నష్ట) నిర్వహణాంశాలతో నష్ట భావనను వివరించుము

(OR)

(B).Define Insurance and explain the importance and principles of insurance.

భీమాను నిర్వచించి. భీమా యొక్క ప్రాముఖ్యతకు x సూత్రాలను వివరించుము

10.(A).What is life Insurance .describe the nature and features of life insurance

జీవిత భీమా అనగానేమి. జీవిత భీమా యొక్క స్వభావమును x లక్షణాలను వర్ణించండి.

(OR)

(B).Describe the importance of life insurance policy and bring out their features.

జీవిత భీమా విధానం యొక్క ప్రాముఖ్యతను వర్ణించి దాని లక్షణాలను తెలుపుము.

11.(A).Explain the nature ,features and types of general insurance.

సాధారణ భీమా స్వభావము, లక్షణాలు మరియు రకాలను వివరించుము.

(OR)

(B).Explain the features of major health insurances in India.

భారతదేశంలోని ప్రముఖ ఆరోగ్య భీమాల లక్షణాలను వివరించుము.

12.(A).What is an insurance contract. What are the terms of insurance policy.

భీమా ఒప్పందమనగానేమి. భీమా విధానంలోని నియమాలను తెలుపుము.

(OR)

(B).Explain the procedure to issue a policy.

భీమా విధానాన్ని అందించే ప్రక్రియను వివరించుము.

13.(A).How do you address the grievances of the customer.

వినియోగదారుని సమస్యలను విధంగా నివృత్తి

(OR)

(B).Discuss two case studies related to life or general or health insurance services.

జీవిత, సాధారణ మరియు ఆరోగ్య భీమా సేవలకు సంబంధించి 2 పరిశీలనలను చర్చించుము.

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Adi kavi nannayya university, rajamahendravaram

IV Year B A (HONS)- Semester V -ECONOMICS

Course 7C: Banking and financial services

(Skill Enhancement Course(Elective)

Max Marks: 75 Time :3hrs

Section A

Write short answers for any five of the following questions. Each answer carries 5 marks. (5x5=25marks)

1.Basics Of Financial Literacy
విత్త అక్షరాస్యత యొక్క ప్రాథమిక అంశాలు.

2.Bill Of Exchange
వినిమయపు బిల్లు

3.Digital Currency
డిజిటల్ కరెన్సీ

4.KYC Norms
KYC నియమాలు

5.Common Service Centre
సంయుక్త సేవా కేంద్రం.

6.Concept Of EMI
సమానంగా పరిగణించు నెలసరి వాయిదా (EMI) భావన.

7.Micro Finance
సూక్ష్మ విత్తము

8. Marketing of FSC Loan
విత్త సేవా కేంద్ర ఋణాల మార్కెటింగ్

Section B

Write answers for the following five questions. Each answer carries 10 marks. (5 x 10 == 50 marks)

9.(A).Define Banking and explain the functions of Banking.
బ్యాంకింగ్‌ను నిర్వచించి, బ్యాంకింగ్ విధులను వివరింపుము.

(OR)

(B).Explain the role of RBI in Indian Banking System.
భారతీయ బ్యాంకింగ్ వ్యవస్థలో భారత రిజర్వు బ్యాంక్ పాత్రను వివరింపుము.

10.(A).What are the types of bank deposit account.
బ్యాంక్ డిపాజిట్ ఖాతా రకాలను తెలుపుము.

(OR)

(B).Give an account on the E-Banking facilities.
E-బ్యాంకింగ్ సౌకర్యాలను వివృత్తి చేయుము.

11.(A).Explain the activities of a banking correspondent.
బ్యాంకింగ్ కరస్పాండెంట్ కార్యకలాపాలను వివరింపుము.

(OR)

(B).What are the requirements for registering CSC & Tele centre.
సంయుక్త సేవా కేంద్రం మరియు టెలి కేంద్రం నమోదుకు కావలసిన అవసరాలను, తెలుపుము.

12.(A).What are Non Banking Financial Institutions (NBFIs).Explain the types & major players of NBFIs in India.
బ్యాంకేతర పరపతి సంస్థలను గురించి తెలిపి, భారతదేశంలో బ్యాంకేతర పరపతి సంస్థల రకాలు మరియు ప్రముఖ పాత్రలను వివరింపుము.

(OR)

(B).Discuss the problems and challenges of NBFIs in India.
భారతదేశంలోని బ్యాంకేతర సంస్థల సమస్యలు మరియు సవాళ్లను చర్చింపుము.

13.(A).Describe the types of loans by Financial Service Companies.
విత్త సేవా కంపెనీలు అందించే వివిధ రకాల ఋణాలను వివరింపుము.

(OR)

(B).Explain the procedure and requirements in FSC's loan sanction.
విత్త సేవా కంపెనీల ఋణాలను మంజూరు చేయుటలోని అవసరాలు మరియు ప్రక్రియను వివరింపుము.

Model Question Paper

6D:Inferential Statistics and Software Packages

Max Marks:75 **Time: 3 Hours**

Section A (Total 5 X 5 Marks= 25 Marks)

Write short answers for any ***Five*** of the following. Each answer carries ***5 marks***

1. Classical Definition of Probability
2. Properties of Binomial distribution
3. Properties of Poison distribution
4. Procedure of testing of hypothesis
5. Difference between small and large sample tests
6. Coefficient of Determination
7. Assumptions of Linear regression Model
8. Analysis of Variance (ANOVA)

Section B (Total 5 X 10 Marks= 50 Marks)

9 a) Addition theorem of Probability

Or

b) Multiplication theorem of Probability

10 a) Constants and Properties of Normal Distribution

Or

b) Standard Normal distribution and Standard Normal Curve

11 a) Z test – Testing the difference between Means (Problem to be given to solve)

Or

b) t test - Test difference of two means (Problem to be given to solve)

12 a) Cobb-Douglas Production function and interpretation of elasticity of Coefficients

Or

b) Steps involved in creation of graphs and charts

13 a) Steps involved in random numbers generation

Or

b) Estimation of regression coefficients using SPSS and their interpretation

18/7/22

18/7/22

18/7/22

P.L.N

Model Question Paper
7D:Project Designing and Report Writing

Max Marks:75 **Time: 3 Hours**

Section A (Total 5 X 5 Marks= 25 Marks)

Write short answers for any ***Five*** of the following. Each answer carries ***5 marks***

1. Meaning and Importance of Research
2. Limitations of Research in Social Sciences
3. Descriptive Research
4. Analytical research
5. Secondary and Primary Data
6. Schedule and Questionnaire
7. Types of research report
8. Outlines of a good research report

Section B (Total 5 X 10 Marks= 50 Marks)

9 a) Methods of ensuring objectivity in social science research

Or

b) Ethics in research

10 a) Experimental research design

Or

b) Pure and applied research

11 a) Criteria for selecting a research problem

Or

b) Components of good research proposal

12 a) Importance of Pilot Study

Or

b) Statistical techniques for graphical and statistical analysis

13 a) Difference between references and bibliography

Or

b) Components of a good research report

18/7/22

18/7/22

18/7/22

P.C.

Skill Enhancement Courses(SECs) for Semester -V

From2022-23(Syllabus-Curriculum)
Structure of SECs for Semester–V

(To choose One pair from the Four alternate pairs of SECs)

Uni code	Course No 6 &7	Name of Course	Hours/ Week	Credits	Marks	
					Internal Assmt:20 Fieldwork/Project work:5	Sem End
	6A	Archival Sources and Techniques	**5**	**4**	**25**	**75**
	7A	Techniques of History Writing	**5**	**4**	**25**	**75**
OR						
	6B	Tourism and Hospitality Services	**5**	**4**	**25**	**75**
	7B	Tourism Guidance and Operating Skills	**5**	**4**	**25**	**75**
OR						
	6C	Journalistic Reporting and Editing Techniques	**5**	**4**	**25**	**75**
	7C	Evolution of Telugu Cinema and Script Writing	**5**	**4**	**25**	**75**
OR						
	6D	Modern Principles and Techniques of Archaeology	**5**	**4**	**25**	**75**
	7D	Museum Management	**5**	**4**	**25**	**75**

***Note**: FIRST and SECOND PHASES (2 spells) of APPRENTICESHIP between 1st and 2nd year and between 2nd and 3rd year (two summer vacations)

***Note**: THIRD PHASE of APPRENTICESHIP Entire 6th Semester

Note-1: For Semester–V, for the Domain Subject History, any one of the Four Pairs of SECs shallbe chosen as Courses 6 and 7, i.e., 6A & 7A or 6B & 7B or 6C & 7C or 6D & 7D. The Pair shallnot be broken (ABCD allotment is random, not on anyprioritybasis).

Note-2*: One of the main objectives of Skill Enhancement Courses (SEC) is to inculcate skillsrelated to the domain subject in students. The syllabus of SEC will be partially skill oriented.Hence, teachers shall also impart practical training to students on the skills embedded in syllabuscitingrelated real field situations.*

B.A	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course:6A	ArchivalSourcesandTechniques	Hrs/Wk:5

LearningOutcomes:

Studentsaftersuccessfulcompletion of the coursewill be able to:

1. Understandthe archivalsourcesandtechniquesasprofessionaltools.
2. Identifytheintellectualandphysicalcontentinhistoricalsitesandrecords.
3. Developtheabilitytopreserveandcreate access forahistoricrecord.
4. Recognizethe importanceof archives in historywriting.
5. Manage,budgetandimplementprojects.

Syllabus: (Hours: Teaching: 60, Skills Training:10, others including unit tests: 05.Total: 75)

Unit:1

Definition of Archives - History of Archives - Types of Archives: College Archives - UniversityArchives - Regional Archives - Corporate Archives –A. P. State Archives and Regional Centers -NationalArchives.

Unit:2

Archival Sources: Public Records, Oriental Records, Manuscripts, Private Papers, News Papersetc. - Identifying Historical Records from fiction – Differentiating Primary and SecondarySources.

Unit:3

Physical forms of Archival Materials: Clay tablets, Stone inscription, Metal Plates, Palm leavesand Paper records, Photographs, Cartographic Records, Film, Video tapes and other ElectronicRecords.

Unit:4

Archival Administration: Authenticity of Documents, Preserving Historical Documents – OfficeOrganizationand RecordManagement.

Unit:5

Archival Ethics: National Security, Privacy, Intellectual Property Rights -Information TechnologyandComputerApplication in Archives.

References:

1. Annstoler, Along the Archival Grain: Epistemic Anxieties and Colonial Common Sense,2009
2. BernandCohn,AnAnthropologistamong HistoriansandotherEssays, OxfordPress,2010
3. SaloniMathur: India by Design: Colonial History and Cultural Display, University ofCalifornia,2007
4. Sengupta, S.: Experiencing History Through Archives, Delhi: MunshiramManoharlal,2004
5. Guha, Thakurta, Tapati : Monuments, Objects, Histories : Institution of Art in ColonialIndia, NewYork, 2004
6. Kathpalia,Y.P.:ConservationandRestorationofArchiveMaterials,UNESCO,1973
7. Basu, Purnendu; Records and Archives, What are they, National Archieve of India, 1960,VolII, No. 29
8. TheIndianArchives,Journal
9. Websourcessuggested bytheteacher concernedandcollegelibrarianincludingforreadingmaterial.

Co-CurricularActivities:

a) **Mandatory:**(*Trainingofstudentsinthe relatedskillsbytheLecturer, Total10Hours)*

1) **For Teacher**: Training of students by the teacher in the classroom or in the field for a total ofnot less than10 hours on identifying, extracting, classifying and preserving archival sources anddocumentationtechniques.Thetrainingmaypertaintothe historicalrecordsof alocal educationalinstitution, organization, age-old institution, business establishment, government institution,hospital,historical society,monument or a culturalevent.

2) **For Student**: Students shall visit a college library, local library, an organization's office,archival cell or museum and observe the collection, preservation and cataloguing techniques.They shall write their individual observations in the given format, not exceeding 10 pages, andsubmitto theteacher, as the Fieldwork/Project work Report.

3) **SuggestedFieldwork/ProjectworkFormat(***Reportshallnotexceed10pages*):
Title Page, Student Details, Acknowledgments, Index page, Objectives, Step-wise process,Findings,Conclusion& References.

4) Max MarksforFieldwork/Projectwork Report:05

5) UnitTests/InternalExaminations.

b) SuggestedCo-CurricularActivities

1) InvitedLectures
2) Handson experiencebyfield experts.
3) Debateson interestingtopics
4) Seminars,Groupdiscussions, Quiz,etc.
5) Assignments

B.A	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course:7A	Techniquesof HistoryWriting	Hrs/Wk:5

LearningOutcomes:

Studentsaftersuccessfulcompletion of the coursewill be able to:

1. Understandthemeaningofhistory,scopeandvariousconceptsinhistoricalwritings
2. Identify various historical sources for writing history of a person / event /place/organization/monument/ etc.
3. Understandthedifferentwaystoorganizesourcesandinterpretation
4. Summarizethechangingideasandapproaches toa particulartopicofhistory
5. Learnskills related tochoosingand writingof acomprehensive historyof asmall unit

Syllabus: (Hours: Teaching: 60, Skills Training: 10, others including unit tests: 05.Total:75)

Unit:1

What is History-Meanings and Scope of History – Generalizations in History – Judgement inHistory– Hypothesis?

Unit:2

Understanding Sourcesof History -Survey ofSources: ArcheologicalandLiterary Sources-Foreign Travelers Accounts- Oral History- Sources of Contemporary History-Data mining frominformationScience(Internet/Web Sources)

Unit:3

HistoryWriting.ImportanceandTypesofHistoryWriting:ResearchPapers/Essays/GeneralHistory/Book Reviews/Biographies/Reports/ Analysis oforiginal works etc.

Unit:4

Writing Biographical History. individual, family, organization history - (Ex: Makers of ModernIndia/ Freedom Fighters /Politicians/Sports Personalities/ Industrialists/Business Personalities, areputedfamilyand notedbusiness firm)

Unit:5

GeneralandLocalHistoryWriting:Street/Village/Urban/Institute/Incident/Place/MonumentHistoryetc.-StructureofaHistoryDocument-Bibliography

References:

1. E.H.Carr,WhatisHistory,PenguinClassic,Reprintin2018.
2. E.H.Carr,WhatisHistory(T.M), Hyderabad Book Trust,2016.
3. E.Sreedharan, A Text Book of Historiography, Orient Longman, First Published in 2000,Reprint in2006.
4. SumitSarkar,WritingSocialHistory,OxfordUniversityPress,1998.
5. B.SheikhAli,History-ItsTheoryandMethod,Laxmi Publications,2019
6. StevenRogerFischer,Historyof Writing,Reaktion Books,2021.
7. AmarthyaSen,ArgumentativeIndian,Writings onIndianHistory,Cultureandidentity,Penguin,2006.
8. R.G.CollingWood,The IdeaofHistory, OxfordUniversityPress, 1994.
9. K. Rajayyan, HistoryinTheoryand Method: A Studyin Historiography,Raj Publishers,1982.
10. G. P Singh, Ancient Indian Historiography Sources and Interpretations, D.K.Print World Ltd,2003.
11. N.R.Ray,Sourcesforthe Historyof India, NewDelhi,1978.
12. R.C.Majumdar, HistoriographyinModernIndia:18thand 19thCenturies,Asia PublishingHouse,1970.
13. RamasundariMantena, The Origins of Modern Historiography in India: Antiquarianism andPhilology,1780-1880, Palgraveand Macmillan, 2012.

14. Websources suggested byteacher/librarian

Co-CurricularActivities:

a) **Mandatory:**(*Trainingofstudentsinthe relatedskillsbytheLecturer, Total10Hours)*

1) For Teacher: Training of students by the teacher in the classroom or in the field for a total ofnot less than10 hours on techniques of writing history. The teacher shall train the students toidentifythe sources,authenticate, compile,arrangeand judgeina proper order.

2) For Student: Students shall individually visit a place like a Street/Village/Cultural Centre /Religious place / Monument/Organization/Institution or a Historical place andstudy its historyand make observations. **(or)** Study the Biography/achievements of an Inspiring Personality andmakeobservations.

These individualobservationsshallbe writtennotexceeding 10pagesandsubmittedto theteacherasFieldwork/Project workReport inthegiven format.

3) SuggestedFieldwork/ProjectworkFormat:

Title Page, Student Details, Acknowledgments, Index page, Objectives, Step-wise process,Findings&References.

4) Max MarksforFieldwork/Projectwork Report:05

5) UnitTests/InternalExaminations

b) SuggestedCo-CurricularActivities

1. Trainingof Students on WritingHistory
2. Assignments
3. Invited LecturesPresentationsonRelatedTopicsbyFieldExperts.
4. Debateson InterestingTopics
5. Seminars,GroupDiscussions,Quiz, etc.
6. Preparationof Videos onHistoricalSites.
7. CollectionofMaterial/Figures/Photos/BooksrelatedtoHistoryof aPlace andHistorywritingandorganizingthem inaSystematicwayin a file.
8. VisitstoHistoricalSites,Museums,Monumentsetc

B.A	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course:6B	Tourism and Hospitality Services	Hrs/Wk:5

LearningOutcomes:

Studentsaftersuccessfulcompletion of the coursewill be able to:

1. Understandhospitalityasacareer
2. Inculcateinterpersonalskills
3. Developtheabilityformultitaskingand crisis management
4. Understandsthespiritof teamwork
5. Acknowledgetheimportanceofguestserviceand satisfaction

Syllabus:(Hours:Teaching: 60,Skills Training:10, othersincludingunittests: 05.Total: 75)

Unit:1

Tourism–Definition–NatureandScope–HistoryofTourism–TypesofTourism–DomesticandInternationalTourism– Causes of rapidgrowth of tourism– NationalInstitute of Tourismand HospitalityManagement

Unit:2

Relationshipbetweenhistoryandtourism-MajortouristspotsinAP–Gandikota,Nagarjunakonda,Salihundam, Konaseema

Unit:3

CharacteristicsofHospitalityIndustry-Inflexibility,Intangibility,Perishability-TypesofHospitality jobs – Hotel Manager, Hotel Receptionist, Restaurant Manager, Catering Assistant,ExecutiveChef etc -Conceptsof AtithiDevoBhavah-Types ofhotels inIndia

Unit:4

Duties,responsibilities&skillsoffrontofficestaff–duties,responsibilitiesandskillsofhousekeepingstaff- guest stayprocessin ahotel-majorprocessesand stages associated with it

Unit:5

DifferenttypesofservicesofferedinselectedHotels/Motels/Restaurants-RoomService,CateringServices-Differenttypesof managerial issues -Serviceetiquettes

References:

6. MarketingforTourismandHospitality,PhilipKotler,BowensandJamesMakens,Pearsonpub, New Delhi, 2010
7. SoftSillsforHospitality,AmitabhDevendra,OxfordHigherEdn,2015
8. The Indian Hospitality Industry: Dynamics and Future Trends, Ed: SandeepMunjal,SudhanshuBhushan, CRC Press, 2017
9. HotelFrontOffice:OperationandManagement,JatashankarTewari,OxfordHigherEdn,2016
10. www.ilo.org
11. https://riginstitute.com
12. nitahm.ac.in
13. websourcesassuggested byteacher/librarian

Co-CurricularActivities:

a) Mandatory:(Trainingof studentin skillsbyTeacher:Total 10 Hours)

1) For Teacher: Training of students by the teacher in the classroom and in the field for a total ofnot less than10 hours on various practical aspects related to tourism and hospitality industry. Theteacher shall also train students with the help of experts in skills such as flower arrangements,cooking and cateringsupervision, speakingto guests etc. related to hospitalityservices.

2) For Student: Students shall visit any one of the local tourism offices, tourism sites, hotels,restaurants, catering offices to make personal observations and to gain hands-on experience.These individual observations shall be written as a Fieldwork/Project work Report not exceeding10pages and submitto teacher in thegiven format.

3) SuggestedFieldwork/ProjectworkFormat:

Title Page, Student Details, Acknowledgments, Index of Contents: *Objectives, Step-wise process,Findings&References*

4) Max MarksforFieldwork/Projectwork Report:05

5) UnitTests/InternalExaminations

b) SuggestedCo-CurricularActivities

1) InvitedLectures
2) Handson Experiencewith thehelpof Field Experts.
3) Debateson InterestingTopics
4) Seminars,GroupDiscussions, Quiz,etc.
5) Assignments
6) AlumniInteractions
7) Periodical InteractionswithHRManagers

- - - -

B.A	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course:7B	Tourism Guidance and Operating Skills	Hrs/Wk:5

LearningOutcomes:

Studentsafter successfulcompletion of the coursewill be able to:

1. Acquiretour guiding,operatingandsoftskills
2. Understanddifferent situationsunderwhich onehas to work
3. Cultivateculturalawareness andflexibility
4. Understand andapplyteam spirit
5. Planand organizetouroperations efficiently

Syllabus: (Hours: Teaching: 60, Skills Training: 10, others including unit tests: 05 Total:75)

Unit:1

Meaning of tourguide - types of tour guide: heritageguide, natureguide, adventureguide,business guide, special interest guide etc – duties and responsibilities of guides -various roles oftourguide.

Unit:2

Guiding techniques: leadership skills, social skills, presentation skills, communication skills - Guide'spersonality skills:passion,empathy,enthusiasm,punctuality,humouretc-Personalhygieneandgrooming–codeof conduct.

Unit:3

Guest Relationship Management- Handling emergency situations- Medical, Personal, Official,VISA/Passport,Death,HandlingGuestwithspecialneeds/DifferentAbilities/Differentagegroups.

Unit:4

Conducting Tours: Pre-Tour Planning, Route Chart, Modes of Transportation, Security Measures,andChecklistetc.-Conducting varioustypesof tours- RelationshipwithFellow Guides-Coordinationwithhospitalityinstitutions.

Unit:5

Travel Agency and Tour operations – Difference between Travel Agent and Tour operator – Functions of Tour Operator – Types of Tour Operations and of Tour Operators - A brief study oftouroperatingagencies likeAPTDC, Southern Travelsetc.

References:

1. JagmohanNegi,TravelAgencyandTourOperations,KanishkaPublishers, NewDelhi,2006
2. Mohinder Chand, Travel Agency and Tour Operations: An Introductory Text,AnmolPublications Pvt. Limited, NewDelhi, 2009
3. Dennis LFoster–IntroductiontoTravelAgencyManagement
4. Pat Yale (1995); Business of Tour Operations, Longman Scientific & Technical, NewDelhi
5. PondK L,TheProfessionalGuide:Dynamicsof TourGuiding,1993
6. www.tourism.gov.in
7. www.qtic.com
9. www.cedeop.europe
10. websourcesassuggested byteacher/librarian

Co-CurricularActivities:

a) **Mandatory:**(*Trainingofstudents intherelatedskills bytheLecturer,Total 10Hours)*

1) **For Teacher:** Training of students by the teacher in the classroom and in the field for atotal of not less than10 hours on various practical skills related to guidance and operating tours intourism sector, with the help of local experts. The teacher shall lead students to local tourist sitesandguidethem to workwithlocal tourist guidesor localtourist operators.

2) **For Student**: Students shall individually choose and visit a local tourist place/monumentsuch as a historical site, temple etc., and talk to local guides personally. Observe their functioningtogainexperience,includingsuggestionsfortheimprovingtheguidance.Theseindividualobservations shall be written in the given format not exceeding 10 pages and submit to the teacherasFieldwork/Project work Report.

3) SuggestedFieldwork/ProjectworkFormat:

Title Page, Student Details, Acknowledgments, Index page, Objectives, Step-wise process,Findings&References

4) Max MarksforFieldwork/Projectwork Report:05

5) UnitTests/InternalExaminations

a) **SuggestedCo-CurricularActivities**

1) InvitedLectures
2) Handsonexperiencewiththehelp of fieldexperts.
3) Debateson interestingtopics
4) Seminars,GroupDiscussions,Quiz, etc.
5) Assignments
6) AlumniInteractions
7) PeriodicalinteractionswithTourManagers

B.A	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course:6C	Journalistic Reporting and Editing Techniques	Hrs/Wk:5

LearningOutcomes:

Studentsat thesuccessfulcompletion of the coursewill beable to:

1. GaugethesignificanceofReportWriting
2. UnderstandtheprinciplesandtechniquesofReporting
3. Knowthetypesofnewssources andqualitiesofa Reporter
4. Identitytherole of SubEditorandEditor
5. Criticallyanalyzethe challengesin reportingandeditingtechniques

Syllabus: (Hours: Teaching: 60, Skills Training: 10, others including unit tests: 05.Total:75)

Unit-I

DefinitionsofJournalism,ReportingandEditing-HistoryofIndianPressandNewsPapers-PrintingRevolution-Importanceof print and electronicmedia

Unit-2

SourcesofNews-TypesofNewsandNewsWriting-PrinciplesofReporting-ReportingTechniques-Problems in Reporting-Qualities of Reporter

Unit-3

TypesofReporting-ImportanceofLanguage-InternationalandIndianNewsAgencies-ImportanceofPhotography

Unit-4

PrinciplesofEditing-RoleofSubEditorsandChiefEditors-TechniquesofEditorialPage-HeadlineTechniques-Tips forCaptions

Unit-5

Characteristics of effective report - Report writing for all media: Radio, Television, News Paper,Magazine and Web- Writing of model reports of different types like politics, crime, entertainment,pressconference, placesofimportanceetc.-Career opportunities inJournalism

References:

1. J.Natarajan,HistoryofIndianJournalism,MinistryofInformationand Broadcasting,2010.
2. G.N.S.Raghavan,PressinIndia:NewHistory,GyanPublishingHouse,1995.
3. K.M.Shrivastava,NewsReportingandEditing,SterlingPublishersPvt.Ltd,2003.
4. S.Kundra,ReportingMethods,AnmolPublicationsPvt.Ltd,2005.
5. M.K.Joseph,OutlineofReporting, AnmolPublications,2007.
6. J.R.Hakemulder,NewsReportingandEditing, AnmolPublications,2002.
7. Franklin,KeyConcepts inJournalismStudies,Vistaar Publications,2003.
8. M.V.Kamath,ProfessionalJournalism,VikasPublishingHouse,1980.
9. Bruce D.Itule and Douglas A.Anderson, News Writing and Reporting for Today's Media,McGraw Hill, 2003.
10. Websources assuggested byteacher/librarian

Co-CurricularActivities:

a) **Mandatory:**(*Trainingofstudentsinthe relatedskillsbytheLecturer, Total10Hours)*

1. For Teacher: Training of students by the teacher in classroom and field on Techniques ofReport Writing and Editing. The teacher shall train the students to identify sources,compilation,of information/News, conduction of mock interviews, investigations, judging the authenticity,Reporting and other related activities. Teacher shall train students in recording videos on differentnewsitems.

2. For Student: Students shall go to the field for collection of news from sources. They shalldescribe in detail how the sources were identified, challenges faced while collecting news, placingthe news in order, preparing and editing the report. They may interact with the local workingjournalists and editors and observe their methods.These individual observations shall be writtenin the given format not exceeding 10 pages and submit to the teacher as Fieldwork/Project workReport.

3. SuggestedFieldwork/ProjectworkFormat:

Title Page, Student Details, Acknowledgments, Index, Objectives, Step-wise process, Findings &References.

4. Max MarksforFieldwork/ProjectworkReport:05

5. UnitTests/InternalExaminations

b) SuggestedCo-CurricularActivities

1. PrepareaFrontPageofaNewspaperwithNewsandPhotographs.
2. Trainingof Studentson Reportingand EditingTechniques.
3. AssignmentsonCurrentand TrendingNews
4. Invited LecturesPresentationsonReportwritingandEditingTechniquesbyLocalReportersand Editors
5. DebatesSeminars, GroupDiscussions,Quiz,etc.
6. PreparationofVideos onNewsItems
7. CollectionofNews andorganizingthem ina systematicwayin a file.
8. VisitstoLocalNewsPaperoffices/Press/Press Conferencesetc.
9. Interactionwith Local NewsReportersandEditors

B.A	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course:7C	Evolution of Telugu Cinema and Script Writing	Hrs/Wk:5

LearningOutcomes:

Studentsat thesuccessfulcompletion ofthecoursewill beableto:

1. Understandthe evolutionofTelugucinema andmajorchangesfrompasttopresent
2. AssesstheroleofTelugucinemamakers andtheircontribution
3. Identifyvariouscinemastudios andfilminstitutions
4. Learnskillsandtechniquesofcinemascriptwriting

Syllabus:(Hours:Teaching:60,SkillsTraining:10,othersinclunittests:05.Total:75)

Unit:I

What is Cinema- Origin - Definitions-Scope of Cinema- History of Indian cinema- Cinema and itsimportance–SomeprominentIndian filmmakersinotherlanguages:Satyajit Ray,SantaRam, K.Subramanyam,B.R.Pantulu andAdoorGopalakrishnan.

Unit:2

Evolution of Telugu cinema: Cinema under British rule- Mookie to Talkie Films-Classical Age-Black and White to Colour Films - Pioneers of Telugu cinema: RaghupatiVenkaiah, B. N. Reddy,GudavalliRamabrahmam,L. V. Prasad and K.V.Reddy

Unit:3

Major Developments inTeluguFilmIndustry in the first50years(1912 to1962)- CinemaStudios and Film Institutes (Chennai-Hyderabad) - Film Censorship - National & State Awards-FilmFestivals-Telugu Cinemaat World Market- Cinemaand itsImpact onSociety

Unit:4

EvolutionofTelugufilmstory/scriptsandthemesinthefirst50years(1912to1962):mythological, historical, folk, social reform and freedom movement, family, hero-cult.Rural andurbanbackground

Unit:5

Adaptation of historical events for historical films: Comparative study original (reorded) historyandthe film'sstory –study of one of the following filmsMahamantriTimmarasu,BobbiliYuddham,AlluriSitaramaraju;ProminentTelugufilmscriptwriters:PingaliNagendraRao,Chakrapani,ModukuriJhonson,D.V.Narasaraju.

References:

1. RenuSaran.,Historyof IndianCinema,DiamondPocketBooksPvtLtd,2012.
2. AshishRajadhyaksha,IndianCinema:AVeryShortintroduction,2016.
3. Dr.D.L.NarasimhaRao,EvolutionofTelugu Films:AHistoricalProspective,ResearchIndiaPress, 2013.
4. K.DharmaRao,ABook on86YearsofTeluguCinema(Telugu).
5. TelakaPalli Ravi, ManaCinemalu: AnubavaluCharitra- Parinamam (Telugu), PrajaSakthiBook House, 2019.
6. SatyajithRay,CinimaluManavi-Vallavi(Telugu),AnvikshikiBooks,2011.
7. VenkatSidda Reddy, Cinema-Cinema-Cinema: Sameekshalu, Vyasalu, Parichayalu,AnvikshikiPublishers, 2021.
8. S.TheodoreBaskaran, History through the Lens: Prospective on the South Indian Cinema,2009.
9. S.V.Srinivas,PoliticsasPerformance:ASocialHistoryofTeluguCinema,OrientBlack swan,2018.
10. K.P.AshokKumar,AnaganagaOkaCinema(Telugu)
11. https://www.youtube.com/c/PARUCHURIGOPALAKRISHNAOFFL
12. https://youtu.be/u5lE_zCV72c
13. https://youtube.com/kiranprabhatalkshows
14. Websources assuggested byteacher/librarian

Co-CurricularActivities:

a) **Mandatory:**(*Trainingofstudents intherelatedskills bytheLecturer,Total 10Hours)*

1) **For Teacher:** Training of students by the teacher in the classroom and in the field for not lessthan 10 hours on identification of various historical stages of evolution of Telugu film industry intermsofthemes,backgrounds,attire,languageetc.andtheirsignificance.Recognizingthecontribution of various film personalities. Identification of differences between historical facts andstoryof thefilm.

2) **For Student**: The student shall individually choose a category of films (ex. Mythological orfolk or historical or social) and observe the evolution of such films over a period of 10 years **(or)**compare films of different themes over a period of five years, identify differences among variousthemes **(or**) compare films which won National awards **(or)** choose a film famous personality (ex.DadasahebFlakeAwardee)andmakeobservationsonhis/herfilms.Theseindividualobservations shall be written in the given format not exceeding 10 pages and submit to the teacherasFieldwork/Project workReport.

3. SuggestedFieldwork/ProjectworkFormat:

Title Page, Student Details, Acknowledgments, Index page: *Objectives, Step-wise process,Findings&References*

4. Max MarksforFieldwork/ProjectworkReport:05

5. UnitTests/InternalExaminations

b) SuggestedCo-CurricularActivities

1. Trainingof Students onScript Writing
2. InterviewwithCinemaMakers
3. AssignmentsonCollectionofoldHistoricalfilms,Short Storiesetc.
4. InvitedLecturesonCinemaArtists/ScriptWriters
5. DebatesonHistoryof TeluguCinema
6. Seminars,Groupdiscussions, Quiz etc.
7. Preparationof DifferentScripts.
8. CollectionofCinemaold Scripts
9. VisitstonearbyFilmInstitutions/Studios
10. InteractionwithArtistsonCinemaFiled.

B.A	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course:6D	Modern Principles and Techniques of Archaeology	Hrs/Wk:5

LearningOutcomes:

Studentsaftersuccessfulcompletion of the coursewill be able to:

1. Identifytherelationship betweenarchaeologyandotherdisciplines
2. Understandthedataretrievaltechniquesin Archaeology
3. Demonstratepostexcavationanalysis,recordingand interpretationofdata
4. Differentiatethedating methodsinArchaeology
5. Analyzethe conservationand preservation methodsinArchaeology

Syllabus: (Hours: Teaching: 60, Skills Training: 10, others including unit tests: 05.Total:75)

Unit:1

Definition, Nature and Scope of Archaeology - Relationship of Archaeology with Social andNatural Sciences - Application of Digital Technology in Archaeology: GIS and Satellite Imagery -Computersand theInternet.

Unit:2

Retrieval of Archaeological Data: Techniques of Exploration, Excavation, - Study of Maps-AerialSurvey-Photography-WaterExploration – Tools of Archaeology

Unit:3

Chronology-Relative Chronology-- Radio Carbon Dating - Principles of Conservation,PreservationandDocumentation of Archaeological Antiquities

Unit:4

Nature and Scope of Epigraphy- Decipherment and Dating -Origin of writing in India - HistoricalImportanceof theInscriptions-Paleographic Formula

Unit:5

Numismatics as Source Material for the Reconstruction of History - Origin of Coinage in IndiaApplicationofNumismatics and Numismatic Datato Archaeology

References:

1. Agrawal, D. P. and M. D. Yadava, Dating the Human Past. Pune: Indian Society forPrehistoricand QuaternaryStudies, 1995
2. Agrawal, O. P., Preservation of Art Objects and Library Materials, New Delhi, NationalBookTrustIndia, 1993
3. Balme, Jane and Alistair Paterson, Archaeology in Practice (A Student Guide toArchaeologicalAnalyses).West Sussex:John Wileyand SonsInc, 2014
4. Grant, Jim, Sam Gorin and Neil Fleming, The Archaeology Course book: An IntroductiontoStudy,Skills, Topicsand Methods,LondonandNewYork,Routledge, 2002
5. Walker,Mike.QuaternaryDatingMethods, WestSussex:JohnWileyandSonsLimited,2005
6. Gupta,P L, ed.,NumismaticsandArchaeology.Nasik:IndianInstituteofResearchinNumismaticStudies, 1986
7. Sharer, R and W. Ashmore, Archaeology: Discovering our Past. McGraw-Hill: NewYork,2002.
8. Websourcesassuggestedbyteacher/librarian

Co-CurricularActivities:

a) **Mandatory:**(*Trainingofstudents intherelatedskills bytheLecturer,Total 10Hours)*

1) For Teacher: Training of students by the teacher in classroom and field for a total of notless than10 hours on various practical skills and techniques of archaeological practices like thefollowing; Identifying and collecting some common archaeological tools like shovels, trowels,spades, brushes, buckets etc., and how they are specifically used finding the historical dates usingvarious simple methods. Collecting and organizing coin/stamp exhibitions and in deriving historyfromtheir chronologyand evolution. Teachermaytakelocalexperts'helpwherever needed.

2) For Student: Students shall visit museums/monuments/ancient temples/excavation sites etcto personally make observations (if possible, students can work at excavation sites or in museums)during off-hours to gain hands-on experience). **(or)** Students shall collect/identify artifacts likestone tools, pottery vessels, metal objects such as weapons and items of personal adornment suchasbuttons,jewellry,clothing etc.andobservetheir appearance,useandtime period.Theseindividual observations shall be written in the given format not exceeding 10 pages and submit totheteacherasFieldwork/Project workReport.

3) SuggestedFieldwork/ProjectworkFormat:
Title Page, Student Details, Acknowledgments, Index page, Objectives, Step-wise process,Findings&References.

4) Max MarksforFieldwork/Projectwork Report:05

5) UnitTests/InternalExaminations

b) SuggestedCo-CurricularActivities

1) InvitedLectures
2) Handson Experiencewith thehelp of Field Experts.
3) Debates,Seminars, GroupDiscussions,Quiz,etc.
4) Periodical InteractionswithMuseum/ ArchaeologyTechnicalExperts

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B.A	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course:7D	Museum Management	Hrs/Wk:5

LearningOutcomes:

Studentsaftersuccessfulcompletionofthecoursewillbeableto:

1. GainAwarenessabouttheHistory,ContextandConceptsofMuseums
2. UnderstandCuratorialResponsibilitiesandEthicsofCollection
3. Document and Classify Museum Objects and Acquire Skills to Manage and Demonstratethem inMuseum
4. Evaluatethe IntricaciesofExhibitionDesignandDevelopSkillsrelatedto variousaspectsof Museum Exhibitions
5. Analyze the Changing Dynamics between Museums and Culture and Job opportunities inthisField

Syllabus:*(Hours:Teaching:60, SkillsTraining:10,othersincl unittests: 05.Total:75)*

Unit:1

Origin,Meaning,DefinitionandPurposesofMuseums– ChangingRoleandSocialRelevanceofMuseums– HistoryandDevelopment of Museums inIndia.

Unit:2

TypesofMuseums–ClassificationoftheMuseum- OpenAirMuseums,InclusiveMuseums,CommunityCentre,Galleries and Virtual Museums.

Unit:3

TechniquesofCollection,Conservation,PreservationofMuseumObjects– EthicalProcedure.Collectionand preservation ofold documents andbooks.

Unit:4

Items exhibited in general - Purpose of Exhibition - Types of Exhibitions – Museum ExhibitionSkills–ExhibitionPlanning-ConceptDevelopment,ExhibitionBrief,ExhibitionDesign– Evaluation of Exhibition.

Unit:5

Museum Management as a Profession – Planning and Organization of Museum – Functions ofMuseum –Administration – Staff of the Museum and their Duties – Study of selected professionalMuseums– Regional, National– State/ASIandInternationalMuseums.

References:

1. NigamM.L., FundamentalsofMuseology. NavahindPrakashan,1966
2. Timothy, Ambrose and Paine, Museum Basics, ICOM,Routledge,NewYork, 1993
3. KeyConceptsofMuseology,ICOMPublication(online).
4. Seth, Manvi, Communication and Education in Indian Museums,AgamKala Prakashan, New Delhi, 2012
5. Elizabeth Bogle, Museum Exhibition Planning and Design, AltimiraPress,2013
6. GraceMorely:MuseumToday,Universityof Baroda,1981
7. Sivaramamurti,C,DirectoryofMuseuminIndia
8. Parker,A.C., A Manualfor HistoryMuseum
9. UNESCO,Organisation ofMuseum
10. Websourcesassuggestedbyteacher/librarian

Co-CurricularActivities:

a) **Mandatory:**(*Trainingofstudents intherelatedskills bytheLecturer,Total 10Hours)*

1) **ForTeacher**:Trainingofstudentsbytheteacherintheclassroomorinthefieldforatotal of not less than10 hours on various practical aspects of related to museum management.Teacher should get into contact with nearby museums or archival cells and conduct a visit and askstudents to evaluate the collection of items, preservation, display set-up, and functioning of theorganization on any given parameters. The teacher shall also train students on how to set a smallmuseumin the collegewith locallyavailablematerials.

2) **For Student**: Students shall visit Museums or Archival Cell personally observe and ifpossible, works (in museums if permitted) during off-hours to gain hands-on experience. Studentsshould write a report on the curatorial practices or collection policies of any one of the museumsthey visit. These individual observations shall be written in the given format not exceeding 10pagesand submit to theteacherasFieldwork/Project workReport.

3) SuggestedFieldwork/ProjectworkFormat:

Title Page, Student Details, Acknowledgments, Index page, Objectives, Step-wise process,Findings&References.

4) Max MarksforFieldwork/Projectwork Report:05

5) UnitTests/InternalExaminations

b) SuggestedCo-CurricularActivities

1) InvitedLectures
2) Handson Experiencewith thehelp of Field Experts.
3) Debates,Seminars, GroupDiscussions,Quiz,etc.
4) Periodical InteractionswithMuseumTechnicalExperts

HISTORY: IV Year B. A: Hons. Semester-V

course-64: Archival Sources and Techniques.

Time: 3 hrs Marks-75

Section-A

I Answer any FIVE of the following questions 5×5=25

1. Write about the Definitions of Archives.
2. Write a note on Fiction
3. Explain the Corporate Archives
4. Write about Cartographic Records.
5. What was the role of office Organisation in Archival administration.
6. Write a note on Manuscripts.
7. Write about Privacy in Archival ethics.
8. Write about Computer Application in Archives.

Section-B

II Write All the questions. (5×10: 50)

1, (a) Write about various types of Archives. (Or)

b, Differenciate A.P State Archives and Regional Archives centres.

2, Identify the Archival Sources and Write (a) about various Archival Sources.

(Or)

b, Differenciate Primary and Secondary Archival Sources..

(Sd/ Illegible)
(Sd/ Invitee)

3, a, What are the physical forms of Archival materials and write about them.

(or)

b, Explain photographs, Film and Video tapes in Archival Materials.

4, (a) What are the Documents and Write about Authenticity of Documents in Archival administration.

(or)

b, Write about office Organisation and Record Management in Archival administration.

5, (a) Write various kinds of Archival ethics.

(or)

b, Write a note on Computer Application in Archives.

[signature]

(Spl Invitee)

course 7A. History - Semester - V.

Techniques and History Writing

Time : 3 hrs Maximum : 75

I Section - A

Answer ~~All~~ Any five of the following questions 5×5 = 25

1, Write about the Scope of History.
2, Write about Literary Sources of History.
3, What is Hypothesis.
4, Write about Research papers in History writing.
5, Write about Biographical history of any politician.
6, Write about a noted business firm.
7, Write about local history of your village.
8, What is Bibliography.

Section - B. 5×10 = 50

II Answer All questions.

(1) (a). Write about the Generalizations in History
(Or)
b Write a note on Judgement in History.

(2) (a) What are various Sources of History? and Write them about them.
(Or)
b, Write about Data mining from information Science. (Internet / Web Sources)

Manager
(Epl Trustees)

3(a). What are the different types of History writing and its importance.

(Or)

b, Write a note on Book Reviews and Research papers in History Writing.

4(a) Write a note on Freedom fighters and Politicians. (Or)

b, Write a note on Industrialists and Business personalities.

5(a) Write about the local history of a village and ~~urban you known to you~~ urban that you know.

(Or)

b Write a note on any history of any place and incident that you know.

—o—

[signature]

(Spl Invitee)

Course – 6B History – Semester – V:

Tourism Guidance and

Tourism And Hospitality Services – 6B

Time: 3 hrs Marks – 75

Section – A.

I Answer any FIVE of the following questions 5×5=25

6 ಯಾವುದಾದರೂ 5 ಪ್ರಶ್ನೆಗಳಿಗೆ ಸುಮಾರು 250 ಪದಗಳಲ್ಲಿ ಉತ್ತರಿಸಿ

1. Write about the Definitions of Tourism
2. Write about the Hospitality Management
3. Write a note on Nagarjuna Konda
4. Concepts of 'Atithi Devo Bhavah.
5. Write a note on Hotel Manager
6. Guest stay Process in a Hotel
7. Room Services in a hotel
8. Catering Services in a hotel

SECTION – B

II Answer All questions (5×10 = 50)

5 ಪ್ರಶ್ನೆಗಳಿಗೆ ಸುಮಾರು ಪದಗಳಲ್ಲಿ ಉತ್ತರಿಸಿ.

(1) a, Write about Various types of Tourism.

(Or)

b, What are the causes for Rapid growth of Tourism

(2) a, What are the relationship between history and Tourism.

(Or)

Dasegar
(Gst Lecturer)

b, Write about the Major tourist Spots in A.P

3. a, What are the characteristics of Hospitality Industry

(or)

b, Write about the Various types of Hospitality Jobs.

4. a, Write about the duties, and Responsibilities and Skills of front office Staff.

(or)

b, what are the duties, Responsibilities and Skills of House Keeping Staff.

5. a, What are the types of Services offered by the Hotels.

(OR)

b, what are the types of Managerial Service etiquettes.

—o—

[signature]

(Spl Invitee)

etiquette - [illegible]

History, Semester – V (4)

Course Code: 7B. "Tourism Guidance and Operating Skills."

Time: 3 hours. Marks: 75

Section – A

1. Answer any FIVE of the following questions 5×5 = 25
ఏవైనా 5 ప్రశ్నలకు సమాధానములు వ్రాయండి

1. Write a note on Role of Tourism guide.
2. Code of conduct in tourism guidance
3. Write about Guest Relationship Management.
4. Write about VISA
5. What are Security Measures in conducting tours
6. Write a note on Relationship with fellow guides.
7. What are the functions of tour operator.
8. Write a note on APTDC.

Section – B

II Answer All the questions 5×10 = 50
అన్ని ప్రశ్నలకు సమాధానములు వ్రాయండి

1 a, Write about various types of tour guides
(Or)
b, What are the duties and responsibilities of Tour guides.

2 a, Write about Guiding techniques and its various skills.
(Or)
b, Write about personal hygiene and grooming.

[signature]
(Spl Invitee)

3 a) Write a note on Handling emergency Situations.

(Or)

b) Write a note on Handling guest with Special needs.

4 a) Write what are the measures for conducting tours.

(Or)

b) Write about the conducting of various types of tours

5. a) what are the difference between Travel agent and tour operator.

(Or)

b) Write about various tours operating agencies.

—x—

(Cpl Invitee)

History - Semester-V, IV year BA. (5)

Course 6C, Journalistic Reportings Editing Techniques.

Time: 3 hrs. Max Marks: 75

Section-A

I Answer any FIVE of the following questions 5×5 = 25

(1) Write about the definitions of Journalism.
(2) Role of Electronic media in Journalism
(3) Write a note on Types of News.
(4) What are the qualities of Reporter.
(5) Write about the importance of Photography.
(6) What are the Principles of Editing.
(7) Write a Report on Press Conference.
(8) Write a note on Career opportunities in Journalism.

Section-B.

II ~~Write~~ ~~Answer~~ 5×10 = 50

II Write All the Questions.

1(a) Write an Essay on Reporting and Editing in Journalism (or)

(b) Write about the history of Indian Press and news papers.

2(a) What are the various types of News and News writing. (or)

b. What are the various Problems in Reporting news.

3(a) Write an essay on Importance of language in ~~Journalism~~ reporting.

(or)

b. Write about the various Indian News Agencies.

(GP Invitee)

4 (a) Write about the Role of Sub Editors and chief editors in editing system.

(or)

b) What are the Techniques of Editorial page.

5 (a). Write a note on Reporting Writing for Television and News Paper.

(or)

b) Write an essay on Writing Reports on crime and entertainment.

—x—

(Spl Invitee)

History - Semester-V, IV Year B.A. (6)

Course T.C. Evolution of Telugu Cinema and Script Writing.

Time: 3 hrs Max Marks: 75

Section-A

I Write any FIVE of the following questions 5×5=25

(1) Write about origin and definitions of cinema.
(2) Write about Satyajit Ray as Indian film maker.
(3) Write about Mookie film.
(4) Write the services of B.N. Reddy to the Telugu cinema.
(5) Write on Film censorship.
(6) Write about Folk.
(7) Write on the film Mahamantri Timmarasu
(8) Write about Pingali Nagendra Rao as Telugu Script writer.

Section-B

II Answer All the questions. 5×10 : 50

(1) a. Write an essay on cinema and its importance. (Or)

b. Write about the prominent Indian film makers like Santa Ram and K. Subhash -manyam.

(2) a. Write an essay on Evolution of Black and white to colour films. (Or)

b. Write about the Pioneers of Telugu cinema like L.V. Prasad and K.V. Reddy.

Honorary
(Sd Invitee)

(3) a) Write a note on Cinema Studios and Film Institutes. (or)

b) What is cinema and its impact on Society.

(4) a) Write about the evolution of Telugu film story and themes from 1912 to 1962. (or)

b) Write a note on the theme of Freedom movement in the Telugu film.

(5) a) Write a comparision on original history and the film's story in the historical films. (or)

b) Write about the Prominent Telugu Script Writers like Sri Chakrapani and Sri D.V. Narasa Raju.

—o—

(Gpl. Devitas)

Course 6D : History - IV year (Hons) Semester - V

Modern Principles and Techniques of Archaeology

Time : 3 hrs Max Marks : 75 (7)

Section - A

I Answer any FIVE of the following questions 5×5 = 25

1. Write about the definitions of Archaeology.
2. Write about the computer Application in Archaeology.
3. Study of Maps.
4. Water Exploration
5. Write a note on Chronology
6. Write a note on Antiquities
7. Write about the Paleographic formula.
8. Write about Numismatics data.

Section - B.

II Answer All questions 5×10 = 50.

1(a) Write about the Definitions, Nature and Scope of ~~Archaeology~~ Archaeology.

(Or)

b) Write about the Relationship of Archaeology with Social and Natural Sciences.

2(a) Write about the Techniques of Exploration and Excavation.

(Or)

b) Write about the Study of Maps and Aerial Surveys.

Hareesa

(Spl Invitee)

3(a) Write about the Radio carbon Dating.

(Or)

b, Write the Principles of conservation of antiquities.

(4)(a) Write about the Nature and Scope of Epigraphy. (Or)

b, Explain the Historical importance of the Inscriptions.

5 a, Define the Numismatics as source of material for the Reconstruction of History.

(Or)

b, Explain the Origin of Coinage in India and its importance.

—o—

[signature]

(Spl Invitee)

Course-7D - History - IV years (Hons) Semester - IV

Museum Management

(8)

Time: 2 hrs Max marks - 75

I Answer any FIVE of the following questions 5×5=25

(1) Define the various definitions of the Museum.

(2) Role of Museums

(3) Open Air Museums

(4) Write about Galleries.

(5) Write any three of the techniques of collections of Books.

6. Write any two types of Exhibitions.

7. Define the Exhibition design.

8. Write about the Regional Museums.

Section - B.

II Answer all the questions 5×10=50

1 a, Write about the Meaning, Definition and purpose of Museums

(Or)

b Define the History and Development of Museums in India.

2 a, What is Museum and define its classifications (Or)

b, Write about the various types of Museums.

(Special Invitee)

3. a) Write various Steps of Conservation of Museum objects.

(or)

b) Explain the various Techniques of collection and Preservation of old documents and books.

4. a) Write down which items are generally displayed in the Museum.

(or)

b) What are the various types of Exhibitions and define its activities.

5. a) Define the Museum management as a Profession.

or

b) Write the various functions of Museum and define its functions.

(Spl Invitee)

UG PROGRAM (4 Years Honors)

CBCS-2020-21

B.Sc/B.A
ECONOMICS

Syllabus and Model Question Papers

DETAILS OF COURSE TITLES & CREDITS

Sem	Course no.	Course Name	Course type **(T/L/P)**	Hrs/Week **(Arts:5)**	Credits **(Arts:4)**	Max. Marks **Cont/ Internal /Mid -Assessment**	Max. Marks **Sem- end Exam**
I	1	Microeconomic Analysis	T	5	4	25	75
II	2	Macroeconomic Analysis	T	5	4	25	75
III	3	Development Economics	T	5	4	25	75
IV	4	Economic Development in India and Andhra Pradesh	T	5	4	25	75
	5	Statistical Methods for Economics	T	5	4	25	75

Note: *Course type code: T: Theory, L: Lab, P: Problemsolving

B.Sc/B.A.	Semester – I	Credits: 4
Course:1	Microeconomic Analysis	Hrs/Wk: 5

Learning Outcomes For The Course

At the end of the course, the student is expected to demonstrate the following cognitive abilities and psychomotor skills.

1. Remembers and states in a systematic way(Knowledge)
   a) the differences between microeconomic analysis and macro economic analysis
   b) various laws and principles of microeconomic theory under consumption,
2. Explains(understanding)
   a) Various terms and concepts relating to microeconomic analysis with the help of examples of real life.

a. Consumer's equilibrium and consumer's surplus using indifference curve analysis.

b. various laws and principles of consumption, production, and income distribution

c. determination of price and output discriminating different market conditions in short term and long term.

3. Critically examines using data and figures (analysis and evaluation)

a. various laws and principles of microeconomic analysis and market conditions

b. Application of the concept of demand elasticity and its relation with Average and Marginal Revenue.

c. the relationship between average and marginal cost/revenue both in long term and

4. Draws critical diagrams and graphs to explain and examine the application of various laws and principles of micro economic analysis.

UNIT I:

Economic Analysis and Methodology: Meaning and Definitions of Economics- Scarcity and Choice as fundamental problems of economics - Scope and Importance of Micro economic analysis - Micro and Macro economic Analysis –Inductive and Deductive methods – partial and general equilibrium - Principlesof Micro economics.

UNIT II:

Theory of Consumption: Concept of Demand -Factors determining demand - Law of Demand - reasons and exceptions - Elasticity of Demand –Cardinal utility; Diminishing Marginal Utility and Equi Marginal Utility - Ordinal utility: Indifference Curve analysis: Properties of Indifference curves, Indifference Curve Map -Marginal Rate of Substitution - Budget Line - Changes -Consumer Equilibrium under Indifference Curve Analysis – Consumers' Surplus.

UNIT III:

Theory of Production: Concept and Objectives of Firm - Production Function: Cobb- Douglas Production Function-Law of Variable Proportions -Laws of Returns to Scale - Economies of large scale - Concepts of Cost - Total, Average and Marginal Costs - Law of Supply - Concept of Revenue : Total, Average and Marginal Revenues - Relation between Average and Marginal Revenues and elasticity of Supply.

UNIT IV:

Theory of Exchange: Concepts of Market: Criteria for Classification of Markets - Perfect Competition– Conditions, Price and Output determinations; Monopoly : Conditions, Price and Output Determination - Price Discrimination; Monopolistic Competition - Assumptions - Price and output determination - Selling Costs ; Oligopoly -Types- Kinky demand curve and Price rigidity

UNIT V:

Theory of Distribution: The concepts of Functional and Personal Distribution of Income - Marginal Productivity Theory of Distribution - Modern Theory of Distribution -Concept of Rent - Ricordian Theory of Rent – Marshall's concepts of Economic Rent and Quasi Rent; Theories of Wage Determination: Subsistence Theory and Standard of Living Theory - Modern Theory of Wages; Classical Theory of Interest -Liquidity Preference Theory of Interest; Theories of Profit: Risk and Uncertainty, Dynamic and Innovations Theories.

REFERENCE BOOKS:

1. A. Koutsoyiannis, ***Modern Microeconomics*** – Macmillan,London.
2. A. W. Stonierand D.C. Hague, ***A Text book of Economic Theory*** - ELBS & Long man Group, London.
3. H. L. Ahuja, ***Advanced Economic Theory***, S. Chand,2004.
4. P. N. Chopra, ***Principles of Economics***, Kalyani Publishers, Ludhiana,2018.
5. H.S. Agarwal: ***Principles ofpEconomics***.
6. P.A Samuelson & W.D. Nordhaus - ***Macroeconomics***, Tata McGraw Hill, 18/e,2005
7. M. L. Seth, ***Microeconomics,*** Lakshmi Narayan Agarwal,2006.
8. D.M. Mithani&G.K. Murthy, ***Fundamentals of Business Economics***, Himalaya Publishing, 2007.
9. ***Telugu Academi Publications onMicroeconomics.***
10. ***Microeconomics***, Spectrum Publishing House, Hyderabad,2017.

Recommended Co-curricular Activities:

1. Assignments and Student Seminars on themes of critical appreciation of microeconomic theory and relevant issues of current importance in Indian and AP economies
2. Quiz testing the understanding and application of various microeconomic concepts and theories
3. Group Study projects on the trends in the demand, supply and prices of goods and services in the local markets
4. Survey and analysis of data published in the Economic Survey of GOI and the Socio-economic survey of the State Government relevant to microeconomic aspects. (Assignments preferably for all students in each semester. In respect of others, as far as possible, all students shall participate in each of the co-curricular activity by the end of fourth semester, @ roughly a fourth of total students in each semester)

B.Sc/B.A.	Semester – II	Credits: 4
Course:2	Macro Economic Analysis	Hrs/Wk: 5

Learning Outcomes For The Course

At the end of the course, the student is expected to demonstrate the following cognitive abilities and psychomotor skills.

1. Remembers and states in a systematic way(knowledge):
   Various concepts, definitions, laws and principles of macroeconomic theory with reference to income, employment, money, banking and finance
2. Explains(understanding):
   a) The difference between various concepts and components of national income with illustrations and methods of measuring national income
   b) various terms, concepts, laws and principles, theories relating to income, employment, consumption, investment, money, price-level and phases of trade cycles
   c) functions of commercial banks and central bank, creation and control of credit
3. Critically examines using data and figures (analysis and evaluation)
   a) in order to understand the interrelationship between various components of national income.
   b) the theories of macroeconomics with reference to their assumptions ,implications and applicability.
   c) Empirical evidences of Consumption and Investment Functions and factors influencing them
4. Draws critical formulae, diagrams and graphs.
   a. consumption and investment functions; concepts of multiplier and accelerator
   b. price indices, inflation and trade cycles

UNIT I:

National Income: Macroeconomics - Definition, Scope and Importance - Difference between Micro economic and Macro economic Analyses – Circular Flow of Income -National Income: Definitions, Concepts, Measurement of National Income - Difficulties - Importance - Concept of Green Accounting

UNIT II:

Theory of Employment: Classical Theory of Employment - Say's Law of Markets - Criticism - Keynesian Theory of Employment - Consumption Function - Keynes' Psychological Law of Consumption - Average and Marginal Propensity to Consume - Factors determining Consumption Function- Investment Function: Marginal Efficiency of Capital -Multiplier and Accelerator - Keynesian Theory of Employment.

UNIT III:

Money and Banking: Definitions of Money - Concepts of Money, Liquidity and Finance - Gresham's Law - RBI classification of Money - Theories of Money: Fisher and Cambridge (Marshall, Pigou, Robertson and Keynes equations) - Banking - Definition and types of Banking - Commercial Banks - Functions -Recent Trends in Banking - Mergers and Acquisitions - Central Bank - Functions - Control of Credit by Central Bank - NBFCs- Factors contributing to their Growth and their Role.

UNIT IV:

Inflation and Trade Cycles: Inflation: Concepts of Inflation, deflation and stagflation - Phillip's Curve - Measurement of Inflation - CPI and WPI -Types of Inflation - Causes and Consequences of Inflation -Measures to Control Inflation. Trade Cycles: Phases of Trade Cycle -Causes and Measures to control Trade Cycles.

UNIT V:

Finance and Insurance: Financial Assets and Financial Instruments - Financial Markets - Functions of Money Market - Functions of Capital Market - Stock Market - Exchanges – Index : Sensex and Nifty – Concept of Insurance -Types and Importance of Insurance.

REFERENCE BOOKS:

1. Dillard. D., ***The Economics of John Maynard Keynes***, Cross by Lockwood and sons,London
2. M. C. Vaish - ***Macroeconomic Theory,*** Vikas Publishing House, NewDelhi.
3. S. B Guptha - ***Monetary Economics,*** S. Chand & Co,Delhi
4. P. N. Chopra, ***Macroeconomics***, Kalyani Publishers, Ludhiana,2014
5. D. M. Mithani, ***Macro Economic Analysis and Policy***, Oxford and IBH, NewDelhi
6. M N Mishra & S B Mishra, ***Insurance Principles &Practice,*** SChand.
7. Lewis, M.K and P.DMizan - ***Monetary Economics***, Oxford University Press, NewDelhi
8. Central Statistical Organization, ***National AccountsStatistics***.
9. M.L.Seth, Macroeconomics, Lakshmi Narayan Agarwal,2006.
10. K. P. M. Sundaram, ***Money, Banking & International Trade***, Sultan Chand, 2006.
11. R. R. Paul, Monetary Economics, Kalyani Publishers, Ludhiana,2018
12. ***Macroeconomics***, Spectrum Publishing House, Hyderabad,2016

Recommended Co-curricular Activities:

1. Assignments on trends in national income, money supply and inflation
2. Student Seminars/webinars on macroeconomic themes of contemporary importance for Indian economy (Eg., Covid-19 impact on aggregate demand, supply chain disruption, policy response etc.,)
3. Quiz to test critical understanding of the concepts and theories of macroeconomics and their application in practice
4. Group discussions on monetary policy and its effectiveness with reference to recent developments.
5. Group project work to study the trends in national income, inflation, money supply etc.,
6. Chart/poster presentation on National Income Trends, inflation, aggregate demand etc.,
7. Web-based assignment on Banking/money

B.Sc/B.A.	Semester – III	Credits: 4
Course:3	Development Economics	Hrs/Wk: 5

Learning Outcomes For The Course

At the end of the course, the student is expected to demonstrate the following cognitive abilities and psychomotor skills.

1. Remembers and states in a systematic way(Knowledge):
   Various concepts and definitions and indicators relating to economic growth and Development including recent developments
2. Explains(understanding):
   a) Distinction between growth and development with examples
   b) Characteristics of developing and developing economies and distinction between the two
   c) factors contributing to development, Choice of Techniques and a few important models and strategies of growth
3. Critically examines using data and figures (analysis and evaluation)
   a. the theoretical aspects of a few models and strategies of economic growth
   b. role and importance of various financial and other institutions in the context of India's economic development
4. Draws critical diagrams and graphs.
   a. to explain the models and strategies
   b. to highlight empirical evidences to support the strategies

UNIT I:

Economic Growth and Development: Economic Development as a Branch of Study of Economics – Scope and Importance - Distinction between Economic Growth and Economic Development -Measures of Economic Development and their limitations - Relevance of Herd (Group) Immunity in the context of COVID 19 - three core values of economic development : Sustainability, Self-esteem and Freedom – Economy and Environmen : Concepts of sustainable development and inclusive growth**.**

UNIT II:

Modern Economic Growth: Characteristics of Underdeveloped Countries - World Bank and IMF Classification of countries - Modern economic growth – Kuznets' Six Characteristics - Obstacles to economic development - Vicious Circle of Poverty and cumulative causation - Factors of economic growth: Economic and Non-economic - Capital Formation – Foreign and Domestic capital, Debt and Disinvestment.

UNIT III:

Theories of Development and Underdevelopment: Classical Theory: Adam Smith, Ricardo and Malthus -Marxian Theory - Schumpeter Theory -Rostow's Stages of Economic Growth - Harrod- Domar two sector model -Solow's Model and Robinson's Golden Age.

UNIT IV:

Strategies of Economic Development: Strategies of Economic Development – Big Push - Balanced Growth -Unbalanced Growth - Mahalanobis Model - Agriculture vs Industry -Capital Intensive Technology vs Labour Intensive Technology -Role of Infrastructure in Economic Development.

UNIT V:

Institutions and Economic Development: Role of State in Economic Development -Role of Markets - Market Failure and Regulation by State -Public sector vs Private sector -Economic Planning – concept, objectives and types -NITI Ayog - Economic Federalism -Financial Institutions and Economic Development -Role of International Institutions-IDBI, ADB, IMF - Foreign Trade - FIIs and FDIs.

REFERENCE BOOKS:

1. Dhingra, I.C., ***Indian Economy***, Sultan Chand, New Delhi, 2014.
2. Gaurav Datt and Ashwani Mahajan, ***Datt and Sundharam's Indian Economy***, S.Chand& Co.,2016.
3. G. M. Meier, ***Leading Issues in Economic Development***, Oxford University Press, New York,3/e.
4. M. P. Todaro and Stephen C. Smith, ***Economic Development***, 10/e, Indian Edition Published by Dorling Kindersley India Pvt. Ltd.2012.
5. M. L. Koncham, Economic development and planning, Himalayapublications
6. S.K.Misra&V,K,Puri, ***Indian Economy***, Himalaya Publishing House,2015.
7. R.S.Rao, V.Hanumantha Rao &N.Venu Gopal (Ed.), ***Fifty Years of Andhra Pradesh (1956-2006),*** Centre for Documentation, Research and Communications, Hyderabad, 2007.
8. G. Omkarnath, ***Economics - A Primer for India*** - Orient Blackswan,2012.
9. Economic development and growth, Spectrum Publishing House, Hyderabad,2016

Recommended Co-curricular Activities:

1. Assignments on the models and the strategies of economic development adopted in Indian economy
2. Student Seminar on development oriented themes relating to Indian economy
3. Quiz to test critical understanding of the fundamental concepts pf growth and development and the growth models and strategies
4. Group discussion on the effectiveness of the roles played by various institutions in India's economic development
5. Group project work to examine specific aspects of growth like poverty, unemployment, human development, gender development as Indian experience in the context of economic development preferably at the state and local level
6. Poster presentation

B.Sc/B.A.	Semester – IV	Credits: 4
Course:4	Economic Development- India And Andhra Pradesh	Hrs/Wk: 5

Learning Outcomes For The Course

At the end of the course, the student is expected to demonstrate the following cognitive abilities and psychomotor skills.

1. Remembers and states in a systematic way(Knowledge)
   a. leading issues of Indian economic development with reference to potential for growth, obstacles and policy responses
   b. Objectives, outlays and achievements of economic plans and growth strategies
2. Explains(understanding)
   a. Available Resources, demographic issues, general problems of poverty and unemployment and relevant policies
   b.Sector specific problems, remedial policies and their effectiveness relating to Agriculture and Industrial Sectors of Indian and AP economy and infrastructure issues of AP economy
   c. Indian Tax system, recent changes, issues of public expenditure and public debt, recent finance commissions and devolution of funds
   d. Major issues of economic development of Andhra Pradesh after bifurcation and Central assistance
3. Critically examines using data and figures (analysis and evaluation)
   a. Leading issues of current importance relating to India and AP economy, major policies and programmes
   b. Covid– 19 and its impact on Indian economy
4. Uses official statistical data and reports including tables and graphs
   a. To explain the achievements of Indian economy with reference to the objectives of planning and policy and make critical evaluation.

UNIT I:

Basic Features: Basic characteristics of Indian Economy as a developing economy – Economic development since independence - Objectives and achievements of planning – Planning Commission/NITI Ayog and their approaches to economic development - India's Rank in Global Human Development Index .

UNIT II:

National Income and Demography: Trends in National income - Demographic trends - Poverty and Inequalities – Occupational Structure and Unemployment - Various Schemes of employment generation and eradication of poverty – Issues in Rural Development and Urban Development –Intra-state and Inter-state Labour Migration and unorganized sector Problems of Migrant Labour

UNIT III:

Agricultural and Industrial Developments: Indian Agriculture – Agricultural Strategy and Agricultural Policy – Agrarian Crisis and land reforms – Agricultural credit – Minimum Support Prices -Malnutrition and Food Security - Indian Industry - Recent Industrial Policy – Make-in India – Start-up and Stand-up programmes – SEZs and Industrial Corridors - Economic Reforms and their impact - Economic initiatives by government of India during COVID - Atmanirbhar Bharat package.

UNIT IV:

Indian Public Finance: Fiscal policy- Indian Tax System and Recent changes – GST and its impact on Commerce and Industry – Centre, States financial relations- Recommendations of Recent Finance Commission – Public Expenditure and Public Debt –Concepts of Budget.

UNIT V:

Andhra Pradesh Economy: The basic characteristics of Andhra Pradesh economy after bifurcation in 2014 – Impact of bifurcation on the endowment of natural resources and state revenue – new challenges to industry and commerce - the new initiatives to develop infrastructure – Power and Transport –Health and Education- Information Technology and e-governance – Urbanization and smart cities – Skill development and employment –Recent Social welfare programmes.

REFERENCE BOOKS:

1. Dhingra, I.C., ***Indian Economy***, Sultan Chand, New Delhi, 2014.
2. Gaurav Datt and Ashwani Mahajan, ***Datt and Sundharam's Indian Economy***, S.Chand& Co.,2016.
3. G. M. Meier, ***Leading Issues in Economic Development***, Oxford University Press, New York,3/e.
4. M. P. Todaro and Stephen C. Smith, ***Economic Development***, 10/e, Indian Edition Published by Dorling Kindersley India Pvt. Ltd.2012.
5. P. K. Dhar, ***Indian Economy: Its Growing Dimensions, Kalyani Publishers, Ludhiana, 2018.***
6. Reserve Bank of India, ***Handbook of Statistics on Indian Economy***(Latest).
7. S.K.Misra&V,K,Puri, ***Indian Economy***, Himalaya Publishing House,2015.
8. R.S.Rao, V.Hanumantha Rao &N.Venu Gopal (Ed.), ***Fifty Years of Andhra Pradesh (1956-2006),*** Centre for Documentation, Research and Communications, Hyderabad, 2007.
9. G. Omkarnath, ***Economics - A Primer for India*** - Orient Blackswan,2012.
10. A.P Economy- Telugu Academy, 2018

Recommended Co-curricular Activities:

1. Assignments on specific issues of contemporary importance with reference to problems and remedial policies
2. Student Seminars on leading economic challenges, the effectiveness of relevant policies and programmes
3. Quiz to examine the knowledge and critical understanding of major policies, programmes achievements, failures relating to all sectors
4. Group discussions to promote critical understanding and evaluation capabilities of the students on major areas of Indian and AP economy
5. Group project work to study the implementation and effectiveness of major government schemes of development, poverty eradication and employment promotion etc.,
6. PPT presentation and participation in webinars to help the students acquire and adopt ITC skills in the process of learning
7. Field Visits to Agricultural farm/market/SSIs to understand the ground realities of economic situation of the country and the state.

B.Sc/B.A.	Semester – IV	Credits: 4
Course:5	**Statistical Methods for Economics**	Hrs/Wk: 5

Learning Outcomes For The Course

At the end of the course, the student is expected to demonstrate the following cognitive abilities and psychomotor skills.

1. Remembers and states in a systematic way(Knowledge)
   a. the definitions, terms and their meaning relating to statistical methods
   b. various formulae used to measure central tendency, correlation regression and Indices
2. Explains(understanding)
   a. Importance of statistics and its applications
   b. The method of classification of primary data
   c. Uses of Correlation and Regression analysis, time series and index numbers in economic analysis
3. Analyses and solves using given data and information (analysis and evaluation)
   a. different kinds of statistical problems using various principles and formulae relating to central tendency, correlation, regression, time series and indices
   b. to interpret data and suggest solutions to economic problems
4. Draws critical diagrams and graphs.
   a. Histogram, Frequency Polygon and Frequency Curve

b. More than cumulative and less than cumulative frequency curves (Ogive)

   c. Different types of Bar diagrams
   d. Pie Diagram and its uses in economic analysis

UNIT I:

Nature and Definition of Statistics: Introduction to Statistics – Definition, scope, importance and limitations of Statistics – Primary and Secondary data- Census and Sampling techniques and their merits and demerits.

UNIT III:

Diagrammatic Analysis: Collection of data - Schedule and questionnaire – Frequency distribution – Tabulation – diagram and graphic presentation of data – Histogram, Frequency Polygon, Cumulative Frequency Curves - Bar Diagrams and Pie Diagram.

UNIT IV:

Measures of Central Tendency and Dispersion: Measures of Central Tendency and Dispersion - Types of averages- Arithmetic Mean, Geometric Mean, Harmonic Mean – Median – Mode – Dispersion - Range, Quartile Deviation, Mean Deviation, Standard Deviation- Coefficient of Variation. **Correlation and Regression:** Correlation and Regression - Meaning, Definition and uses of Correlation- Types of Correlation- Karl Pearson's Correlation coefficient - Spearman's Rank Correlation- Regression Equations - utility of regression analysis – Demand forecasting.

UNIT V:

Time Series and Index Numbers: Time Series and Index Numbers: Definition and components of Time Series – Measurement of Time Series – Moving Average and the Least Squares Method – Index Numbers - Concepts of Price and Quantity Relatives – Laspeyer's, Paasche's and Fisher's Ideal Index Numbers – Uses and Limitations of IndexNumbers.

REFERENCE BOOKS:

1. B. R. Bhat, T. Srivenkataramana and K.S. MadhavaRao (1996): ***Statistics: A Beginner's Text***, Vol. I, New Age International (P)Ltd.
2. Goon A.M, Gupta M.K., Das Gupta B. (1991), ***Fundamentals of Statistics,*** Vol. I, World Press,Calcutta.
3. M. R. Spiegel (1989): ***Schaum's Outline of Theory and Problems in Statistics,***Schaum's OutlineSeries.
4. F.E.Croxton,D.J.CowdenandS.KelinS(1973),***AppliedGeneralStatistics,*** Prentice Hall of India. 2.
5. S.P. Gupta, ***Statistical Methods*** , S. Chand & Co,1985
6. S. C. Guptha, ***Fundamentals of Statistics***, Himalaya Publishing House,Hyderabad.
7. Digambar Patri and D. N. Patri, ***Statistical Methods for Economics,*** Kalyani Publishers, Ludhiana, 2017.
8. Telugu Akademy Book, ParimanathmakaPaddathulu (ForB.A.).

Recommended Co-curricular Activities:

1. Assignments of the application of various statisticalmethods
2. Student Seminar on themes requiring usage of tables, diagrams, statistical analysis andinterpretation
3. `Group project work for collection of data on locally relevant economicproblems
4. Market survey on demand, supply, sales, prices of different kinds of projects like food items, FMCG, other consumable durables etc., etc., and Statistical Analysis- Mini Project and also income elasticity of demand for suchproducts

MODEL QUESTION COURSE FORMATE

SECTION - A

Write Short Answer for any FIVE of the following

Each question carries 5 marks (5 x 5 = 25 Marks)

1	
2	
3	
4	
5	
6	
7	
8	

(Total 8 Questions in Section A)

SECTION – B

Answer the following questions

Each question carries 10 marks (5 x 10 = 50 Marks)

9	(a) Or (b)
10	(a) Or (b)
11	(a) Or (b)
12	(a) Or (b)
13	(a) Or (b)

(Total 10 Questions in Section–B. Internal choice for all questions from 9 to 13

(Two questions given under choice shall be from the same unit)

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At the End of Fifth Semester Degree Examinations
(with effect from 2020-2021)
Economics - I. Micro Economic Analysis:
Adi Kavi Nannayya University, RJY.

Time: 3hrs. Max. Marks: 75 M

Section A:

Write Short Answers for any 5 of the following:- (5×5=25 marks)
Each question carries 5 marks

(1) Distinction between Micro Economics & Macro Economics
సూక్ష్మ అర్థశాస్త్రం & స్థూల అర్థశాస్త్రం మధ్య తేడా.

(2) Demand Function — డిమాండ్ ఫలనం.

(3) Properties of Indifference Curves — ఉదాసీనత వక్రరేఖ లక్షణాలు.

(4) Cobb-Douglas Production Function — కాబ్ డగ్లస్ ఉత్పత్తి ఫలం.

(5) Classification of Markets on the Basis of Competition.
పోటీ ఆధారంగా మార్కెట్ల వర్గీకరణ.

(6) Price Discrimination under Monopoly.
వివక్షాపూరిత ధర విధానం గుత్తాధిపత్యంలో.

(7) Quasi Rent — కృత్రిమ ఖాతా.

(8) Schumpeter's Innovation Theory of Profits.
ఆవిష్కరణ సిద్ధాంతం లాభాల సిద్ధాంతం.

— x —

Section B.

Answer the following questions.

Each question carries 10 marks (5 × 10 = 50 marks).

(9) (A) Explain the Nature & Scope of Micro Economics. Bring out its importance.

సూక్ష్మ ఆర్థికశాస్త్ర స్వభావము & పరిధిని వివరించి దాని ప్రాముఖ్యతను తెలుపుము.

(లేక)

(B.) Explain the various methods in Economics.

ఆర్థికశాస్త్రంలో వివిధ సిద్ధాంతాలను వివరింపుము.

(10) (A.) What is Elasticity of Demand. Explain the various types of Elasticity of Demand.

డిమాండ్ స్థితిస్థాపకత అనగానేమి. డిమాండ్ స్థితిస్థాపకత రకాలను వివరింపుము.

(లేక)

(B.) Explain the law of Diminishing Marginal Utility with the help of table & figure.

క్షీణోపాంత ప్రయోజన సూత్రమును పట్టిక & పటాల సహాయముతో వివరింపుము.

(11) (A) Explain the Law of Variable Proportions diagramatically.

చరానుపాత సూత్రమును పట్టిక సహాయముతో వివరింపుము.

(లేక)

(B.) What are Economies of Large Scale Production.

పెద్ద తరహా ఉత్పత్తుల వల్ల వచ్చే లాభాలను తెలుపుము.

(12) (A) Bring out the Classification of markets on the basis of area, time & Competition.

ప్రాంతము, కాలము & పోటీని బట్టి మార్కెట్ వర్గీకరణను తెలుపుము

(లేక).

(B.) What is Perfect Competition. Explain the price determination and output determination under Perfecte Competition.

పరిపూర్ణ పోటీ అనగానేమి. పరిపూర్ణ పోటీలో ధర మరియు ఉత్పత్తి నిర్ణయమును వివరింపుము.

(13) (A.) Explain Critically the Ricardian Theory of Rent & bring out its critici-

రికార్డో భాటక సిద్ధాంతమును వివరించి, దాని విమర్శలను తెలుపుము.

(or)

(B.) Explain Keynes Liquidity Preference theory of Interest.

కీన్సు ద్రవ్యత్వాభిరుచి వడ్డీ సిద్ధాంతమును వివరింపుము.

x ——— x.

P.L.Nu...

M. Swarnalata

Economics II Macro Economic Analysis.
Adi Kavi Nannaya University with effect from 2020-2021
(National Income, Employment and Money.)
Section A 5 x 5 25 marks.

Answer any five questions of the following

1. Difference between Micro Economics and Macro Economics.
2. National Income Difficulties.
3. Consumption function
4. Gresham's law.
5. Definitions of money.
6. Phillips Curve.
7. Types of Inflation.
8. Importance of Insurance.

Section B 5 x 10 = 50 marks.

Answer the following Questions

9. (a) Explain the Nature and Scope of Macro Economics (లేదా)

(b) Methods of measuring national Income.

10. (a) What is meant by Macro Economic paradoxes? analysis. (లేదా)

(b) Explain the Theory of ~~Empto~~ Keynesian theory of Employment.

11. (a) Explain the functions of commercial Banks
వాణిజ్య బ్యాంకుల విధులను వివరించుము

(b) Central Bank credit control
కేంద్ర బ్యాంకు పరపతి నియంత్రణ పద్ధతులు.

12. (a) Critically Examine the J.B. Say's Law of Markets.
జె.బి.సే యొక్క మార్కెట్ సూత్రమును విమర్శనాత్మకంగా పరిశీలించుము.

(లేదా)

(b) What is Multiplier? Explain the importance of multiplier.
గుణకం అనగానేమి ప్రాముఖ్యతను తెల్పండి.

13. (a) Explain the functions of Money Market.
ద్రవ్య మార్కెట్ విధులను వివరించుము.

(లేదా)

(b) Define the types and Importance of Insurance.
బీమా రకాలను నిర్వచించి [illegible]
ప్రాముఖ్యతను తెలియజేయుము.

— ✿ —

H. Swarna Latha

P. L. Narayana

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At the End of Third Semester Degree Examinations
(with Effect from 2020-2021)
Adi Kavi Nannayya University, RJY.
Economics - III - Developmental Economics.

Time: 3hrs Max. Marks: 75 marks.

Section A

Write Short Answers for any 5 of the following:-
Each question carries 5 marks. (5 x 5 = 25 marks)

(1) Distinction between Economic Development & Economic Growth.
ఆర్థికాభివృద్ధి & ఆర్థిక వృద్ధిక మధ్య తేడా.

(2) Concept of Sustainable Development.
సుస్థిరాభివృద్ధి భావన

(3) World Bank & IMF Classification of Countries.
IMF & ప్రపంచ బ్యాంక్ దేశాల వర్గీకరణ.

(4) Foreign Disinvestment
విదేశీ పెట్టుబడుల ఉపసంహరణ.

(5) What are Rostow's Stages of Economic Growth.
రాస్టో ఆర్థిక వృద్ధి దశలు.

(6) Capital Intensive Technique — మూలధన సాంకేతిక పద్ధతి.

(7) NITI Ayog — నీతి ఆయోగ్

(8) (IDBI) Industrial Development Bank of India
భారతదేశ పారిశ్రామికాభివృద్ధి బ్యాంక్

x ——— x.

Section B.

Answer the following questions:-

Each question carries 10 marks (5 x 10 = 50 marks)

(9.) (A.) "Economic Development as a Branch of Study of Economics" - Explain.

"ఆర్థికాభివృద్ధి అర్థశాస్త్ర అధ్యయన భాగం - వివరింపుము.

(or)

(B.) Explain the measures of Economic Development & bring out their limitations.

ఆర్థికాభివృద్ధికి కొలమానాలను వివరించి వాటి పరిమితులను తెల్పుము

(10.) (A.) Explain the characteristic features of Underdeveloped Countries.

వెనకబడిన దేశాల లక్షణాలను వివరింపుము.

(or).

(B.) Explain Kuznet's Obstacles to Economic Development.

కుజ్నెట్స్ ఆర్థికాభివృద్ధి అవరోధాలను వివరింపుము.

(11.) (A.) Explain the Rostow's Stages of Economic Growth.

రోస్టౌ ఆర్థికవృద్ధి దశలను వివరింపుము.

(or)

(B.) Explain the Karl Marxian theory of Economic Growth.

కారల్ మార్క్స్ ఆర్థికవృద్ధి సిద్ధాంతమును వివరింపుము.

(12.) (A.) Explain the Unbalanced Growth Strategy

అసంతులిత వృద్ధి భావనను వివరింపుము.

(or).

(B.) What are the Choice of Techniques. Explain:

ఉత్పత్తి పద్ధతుల ఎంపిక అనగా నేమి. వివరింపుము.

(13) (A) What is Economic Planning. Explain the Concept, objectives of Economic planning.

ఆర్థిక ప్రణాళిక అనగానేమి. ఆర్థిక ప్రణాళిక భావనను మరియు ఉద్దేశాలు వివరింపుము.

(Or)

(B) Explain the role of International Institutions in Economic development.

ఆర్థికాభివృద్ధిలో అంతర్జాతీయ సంస్థల పాత్రను వివరింపుము.

x ——— x.

(1)

(2)

(3) 21/1/21.

(4) P. L. 21/1/21

At the End of semester 4. Degree Examinations
Semester 4.
Adikavi Nannaya University (effect from 2020-2021)
Economic Development - India and Andhra Pradesh.

Section A.

విభాగం - అ

Answer any five of the following. 5x5=25

ఏవైనా ఐదు ప్రశ్నలకు సమాధానాలు వ్రాయుము.

1. NITI Ayog.
   నీతి ఆయోగ్
2. Global Human Development Index.
   ప్రపంచ మానవాభివృద్ధి సూచిక.
3. Eradication of Poverty
   పేదరిక నిర్మూలన
4. Inter - state Labour Migration
   అంతర్ రాష్ట్ర వలస కార్మికులు.
5. Food Security
   ఆహార భద్రత.
6. SEZ
   ప్రత్యేక ఆర్థిక మండళ్ళు.
7. Public Expenditure
   ప్రభుత్వ వ్యయం.
8. Health programmes in A.P.
   ఆరోగ్య పథకాలు ఆం.ప్ర.

Section B.

Answer any 5 of the following 5x10=10 marks.

9 (a) Basic characteristics of Indian Economy.
   భారత ఆర్థిక వ్యవస్థ లక్షణాలు వివరించండి.
   (లేదా)
(b) Explain the objectives of 5 year plans in India.

(b) [illegible]

(10) (a) Explain Trends in National Income

జాతీయ ఆదాయ వృద్ధి పోకడలు వివరించండి.

(b) Explain the Agricultural Strategy and Agricultural Policy.

వ్యవసాయ అభివృద్ధి వ్యూహం మరియు వ్యవసాయ విధానాన్ని వివరించండి.

(11) (a) Explain the Agrarian Crisis and Land Reforms.

వ్యవసాయ సంక్షోభం మరియు భూ సంస్కరణలను వివరించండి.

(b) Explain the Tax system and Recent changes in Indian Economy.

(12) (a) Write an Essay on Atmanirbhar bharat Package.

ఆత్మ నిర్భర్ భారత్ ప్యాకేజీ [illegible]

(b) Explain the Recent Recommendations of Finance Commission.

[illegible] ఆర్థిక సంఘం [illegible] సిఫార్సులను వివరించండి.

(13) (a) Explain the basic characteristics of A.P. Economy after bifurcation in 2014.

[illegible] ఆర్థిక వ్యవస్థ [illegible] వివరించండి.

(b) Explain the new Social welfare Programmes in A.P. [illegible]

At the End of IV Semester B.A Degree Examination
(With effect from 2020-2021)
Adikavi Nannayya University, RJY
B.A - Semester IV - Course V - Statistical Methods for Economics

Time: 3 Hrs. Max. Marks: 75 marks

Section - A

Write Short Answer any five of the following :-
Each question carries 5 marks (5 x 5 = 25 marks)

(1) Primary Data — ప్రాథమిక దత్తాంశం.
(2) Questionnaire — ప్రశ్నావళి
(3) Frequency Series — పౌనఃపున్య శ్రేణులు.
(4) Features of a good Average — మంచి సగటు లక్షణాలు.
(5) Types of Correlation — సహసంబంధం యొక్క రకాలు
(6) Distinction between the Concepts of Correlation & Regression Analysis
సహసంబంధం మరియు ప్రతిగమనం భావనల మధ్య భేదం.
(7) Components of Time Series — కాలశ్రేణుల భాగాలు.
(8) Uses of Index Numbers — సూచీ సంఖ్యల ఉపయోగాలు.

Section - B

Answer the following questions :-
Each question carries 10 marks. (5 x 10 = 50 marks)

(9) (A) Define Statistics. Explain the Scope, importance & limitations of Statistics.
గణాంక శాస్త్రం ను నిర్వచించి, గణాంక శాస్త్రం యొక్క పరిధి, ప్రాముఖ్యత మరియు పరిమితులను వివరించండి?

(OR)

(B.) What is primary data? Discuss the different methods of Collecting Primary data & their merits & demerits

ప్రాథమిక దత్తాంశమనగానేమి. ప్రాథమిక దత్తాంశాన్ని సేకరించే వివిధ పద్ధతులను వాటి గుణదోషాలను వివరింపుము.

(10) (A.) What is a Schedule & a Questionnaire. Explain the essentials of a good questionnaire.

నిర్ణయిత మరియు ప్రశ్నావళి అనగానేమి. మంచి ప్రశ్నావళికి ఉండవలసిన లక్షణాలేవి.

(OR)

(B.) What is Frequency Distribution. Explain the types of frequency distribution?

పౌనఃపున్య విభాజనమనగానేమి. పౌనఃపున్య విభాజనము యొక్క రకాలను వివరింపుము.

(11) (A.) What are the measures of Central Tendency. Explain its merits & demerits.

కేంద్రస్థానపు కొలతలను తెలిపి వాటి గుణదోషములను వివరింపుము.

(OR)

(B.) Compute Co-efficient of Quartile Deviation ~~& Percentile~~ ~~Range~~ for the following data.

ఈ దత్తాంశమునకు నాలుగుభాగాల విచలనం యొక్క గుణకమును కనుగొనుము.

C.I (తరగతులు)	0-10	10-20	20-30	30-40	40-50	50-60	60-70	
Frequency పౌనఃపున్యం	8	16	22	30	24	12	6	

(12) (A.) Compute Rank Correlation from the following table.
ఇవ్వబడిన దత్తాంశమునకు కోటి సహసంబంధ గుణకాన్ని కనుక్కోండి.

X	415	434	420	430	424	428
Y	330	332	328	331	327	325

(or)

(B.) Find the regression lines from the given data:.
ఇవ్వబడిన దత్తాంశమునకు ప్రతీగమన రేఖలను కనుగొనుము.

X	1	2	3	4	5
Y	11	20	17	25	27

(13) (A.) Define Time Series & explain how the time Series are measured
కాలశ్రేణులను నిర్వచించండి, కాలశ్రేణులు ఎలా కొలవబడునో వివరించండి.

(or).

(B.) Compute Laspeyre's, Paasche's & Fisher's quantity index number for the following data.
ఇవ్వబడిన దత్తాంశమునకు లాస్పేయర్స్, పాశ్చే, ఫిషర్ పరిమాణ సూచిక సంఖ్యలను కనుగొనుము.

Commodity	Base Year		Current Year	
	Quantity	Price	Quantity	Price
A	12	10	15	12
B	15	07	20	05
C	24	05	20	09
D	05	16	05	14

X ——— X

P.L. Meiyer

UG PROGRAMME (4 Years Honors)
CBCS - 2020-21

(With History, Economics and Political Science Disciplines)

B.A
HISTORY

Syllabus and Model Question Papers

DETAILS OF COURSE TITLES & CREDITS

Sem	Course no.	Course Name	Course type (T/L/P)	Hrs./ Week (Arts/ Commeerce: 5)	Credits (Arts/ Commeerce: 4)	Max. Marks Cont/ Internal /Mid Assessment	Max.Marks Sem-end Exam
I	1	Ancient Indian History & Culture (From Indus Valley Civil. to 13 Century A.D)	T	5	4	25	75
II	2	Medieval Indian History & Culture (1206 A.D To 1764 A.D)	T	5	4	25	75
III	3	Modern Indian History & Culture (1764-1947 A. D)	T	5	4	25	75
IV	4	History & Culture of Andhra (from 1512 to 1956 AD)	T	5	4	25	75
	5	History Of Modern World (From 15th Cent. AD to 1945 AD)	T	5	4	25	75
V							

Note: *Course type code: T: Theory, L: Lab, P: Problem solving

B.A	Semester: I	Credits: 4
Course: 1	Ancient Indian History & Culture (From Indus Valley Civil. to 13 Century A.D)	Hrs/Wk: 5

Learning Outcomes:

After successful completion of this course, the student will be able to:

- Identify and define various kindsof sources and understand how history books are shaped
- Compare and contrast various stages of progress from IVC to Vedic age and analyze the Jain, Buddhist and Vedic faiths
- Increase the awareness and appreciation of Transition from Territorial States to Emergence of Empires
- Analyze the emergence of the Mauryan and Gupta empires during the "classical age" in India
- Evaluate the key facets of ancient society, polity and culture in South India—the feudalism, and the rise of technology and commerce.
- Critically examine the nature of monarchic rule and develop an comprehensive understandingof cultural evolution during ancient period
- Visualize where places are in relation to one another through map pointing

UNIT -I :

Ancient Indian Civilization (from Circa 3000 BC to 6th BC): Indus Valley Civilization - Salient Features;Vedic Age - Society, Polity, Economy, Culture during early and later Vedic period.

UNIT II:

Ancient Indian History & Culture (6th Century BC to 2rd Century AD): Doctrines and Impact of Jainism and Buddhism; Mauryan Administration, Society, Economy & Culture - Ashoka's Dhamma; Kanishka's Contribution to Indian Culture.

UNIT-III:

History & Culture of South India (2nd Century BC to 8th Century AD): Sangam Literature; Administration, Society, Economy and Culture under Satavahanas; Cultural contribution of Pallavas.

UNIT-IV:

India from 3rd century AD to 8th century AD: Administration, Society, Economy, Religion, Art, Literature and Science & Technology under Guptas – Samudragupta; Cultural contribution of Harsha: Arab Conquest of Sind and its Impact.

UNIT -V:

History and Culture of South India (9th century AD to 13th century AD): Local Self Government of Cholas; Administration, Society, Economy and Culture under Kakatiyas – Rudram Dev

REFERENCES

1. A.L. Basham, The Wonder That Was India
2. D.N.Jha, Ancient India
3. D.D.Kosambi, An Introduction to the Study of Indian History
4. D.P.Chattopadhyay, Science and Society in Ancient India
5. B.N.Mukherjee, The Rise and Fall of the Kushana Empire
6. K.A. NilakanthaShastri, A History of South India
7. R.C.Majumdar, K.K.Dutta&H.C.RoyChowdhuri (ed.), Advanced History of India
8. Kumkum Roy, The Emergence of Monarchy in North India: eighth to fourth centuries BC
9. RomilaThapar (et. al). India: Historical Beginnings and the Concept of the Aryan M.L.K. Murthy, *Pre-and Protohistoric Andhra Pradesh upto 500 B.C.*, New Delhi, 2003
10. K. Sathyanarayana, A Study of the History and Culture of Andhras

Mandatory Co-Curricular Activity:

Map pointing should be a compulsory activity as it helps student to understand vividly and clearly than the text and should be made part of Internal Examination by allotting 10 marks out of 25 marks for this skill-based activity.

Suggested Co-Curricular Activities

- Cultural Clubs
- Assignments
- Student seminars
- Literature surveys and book reviews
- Map pointing
- Individual / Group Field Studies
- Co-operative learning
- Students can be asked to create a calendar charting the dates of key events
- Students should be asked to prepare an inventory of items preserved in the museum and their usage
- Encourage the habit of Numismatics
- Collection of news reports and maintaining a record of paper-cuttings relating to topics covered in syllabus
- Group Discussions on problems relating to topics covered by syllabus
- Examinations (Scheduled and surprise tests)
- Any similar activities with imaginative thinking beyond the prescribed syllabus

B.A	Semester: II	Credits: 4
Course: 2	Medieval Indian History & Culture (1206 A.D To 1764 A.D)	Hrs/Wk: 5

Learning Outcomes:

After successful completion of this course, the student will be able to:

- Understand the socio, economic and cultural conditions of medieval India
- Describe the advent of Islam in India and study the traces of political and cultural expansion of Turks & Afghans
- Explain the Administration and art and architecture ofVijayanagar Rulers, Mughals and also analyse the rise of the Marathas and the contribution of Shivaji
- Evaluate the establishment of the British rule in India and understand the dangerous consequences disunity at all levels
- Analyze the emergence of composite culture in Indian
- Visualize where places are in relation to one another through map pointing

UNIT-I:

Impact of Turkish Invasions – Balban, AllauddhinKhilji, Md. Bin Tughlaq - Administration, Society, Economy, Religion and Cultural developments under Delhi Sultanate (from 1206 to 1526 AD).

UNIT-II:

Impact of Islam on Indian Society and Culture – Bhakti Movement; Administration, Society, Economy, Religion and Cultural developments under Vijayanagara Rulers.

UNIT-III:

Emergence of Mughal Empire – Babur – Sur Interregnum - Expansion & Consolidation of Mughal Empire – Akbar, Jahangir,Shah Jahan, Aurangazeb.

UNIT-IV:

Administration, Economy, Society and Cultural Developments under the Mughals – Disintegration of Mughal Empire - Rise of Marathas under Shivaji.

UNIT-V:

India under Colonial Hegemony : Beginning of European Settlements - Anglo-French Struggle – Conquest of Bengal by EIC.

REFERENCES:

1. Chandra, S History of Medieval India (800 – 1700)
2. Chattopadyay, B.D The Making of Early Medieval India. (Delhi, 1994)
3. Habib, Irfan, Medieval India: The Study of a Civilization
4. Habibullah, A.B.M, The Foundation of Muslim Rule in India
5. Kumar Sunil, The Emergence of the Sultanate of Delhi.
6. Nizami, K.A. Some Aspects of Religion and Politics in India in the 13th c
7. K.A. NilakantaSastri, A History of South India from Prehistoric Times to the Fall of Vijayanagara.
8. K.A.NilkantaSastri, The Cholas.
9. ShireenMoosvi, The Economy of the Mughal Empire

10. Yazdani, G. (ed) The Early History of the Deccan
11. R.C.Majumdar, The Age of Imperial Kanauj
12. R. Soma Reddy, *Late Medieval Andhra Pradesh, A.D. 1324-1724 A.D.*, New Delhi, 2014
13. HarbansMukhia, The Mughals of India.

Mandatory Co-Curricular Activity:
Map pointing should be a compulsory activity as it helps student to understand vividly and clearly than the text and should be made part of Internal Examination by allotting marks for this skill-based activity.

Suggested Co-Curricular Activities:

- Book Reading
- Student seminars
- Viva voce interviews
- Quiz Programs
- Individual / Group Field Studies
- Co-operative learning
- Students should be encouraged to prepare a chart on sequence of events
- Collection of news reports and maintaining a record of paper-cuttings relating to topics covered in syllabus
- Group Discussions on problems relating to topics covered by syllabus
- Examinations (Scheduled and surprise tests)
- Students may be asked to prepare a project on influence of Islam and Hinduism in their respective localities

B.A	Semester: III	Credits: 4
Course: 3	Modern Indian History & Culture (1764-1947 A. D)	Hrs/Wk: 5

Learning Outcomes:
After successful completion of this course, the student will be able to:

- Unearth the true nature of the British rule and its disastrous impact on Indian economy and society
- Gauge the disillusionment of people against the Company's rule even during the early 19th century
- Assess the causes and effects of Reformation movements and also inspire the public to overthrow inequalities of the present day society
- Rise above petty parochial issues after understanding the sacrificial saga of freedom struggle
- Evaluate the undercurrent of communal politics that led to India's partition and identify the enemies of India's integrity and sovereignty
- Visualize where places are in relation to one another through map pointing

UNIT I:
Policies of Expansion –Warren Hastings, Cornwallis - Subsidiary Alliance & Doctrine of Lapse – Causes & Results of 1857 Revolt – Lytton, Rippon, Curzon

UNIT II:
Social, Religious & Self-Respect Movements – Raja Rammohan Roy, DayanandaSaraswathi, Swami Vivekananda, JyotibaPhule, Narayana Guru, Periyar, Dr. B. R. Ambedkar

UNIT III:
Causes for the growth of Nationalism - Freedom Struggle from 1885 to 1920 , Moderate Phase — Militant Phase: Vandemataram Movement - Home Rule Movement

UNIT IV:
Freedom Struggle from 1920 to 1947: Gandhiji's Role in the National Movement – Revolutionary Movement – Subhas Chandra Bose

UNIT V:
Muslim League & the Growth of Communalism – Partition of India – Advent of Freedom - Integration of Princely States into Indian Union – Sardar Vallabhai Patel

REFERENCES BOOKS:

1. Anil Seal, Emergence of Indian Nationalism
2. Banerjee, Sekhar, From Plassey to Partition
3. Bipan Chandra, Rise and Growth of Economic Nationalism in India
4. Chandra, Bipan, et. al., India's Struggle for Independence
5. Bipan Chandra, Modern India
6. Joshi, P.C., Rammohun and the Forces of Modernisation in India
7. R.P.Dutt, India Today

Mandatory Co-Curricular Activity:
Map pointing should be a compulsory activity as it helps student to understand vividly and clearly than the text and should be made part of Internal Examination by allotting marks for this skill-based activity.

Suggested Co-Curricular Activities:

- Debates
- Student seminars
- Viva voce interviews
- Quiz Programmes
- Photo Album
- Recording local history
- Role Play of freedom struggle events
- Organizing photo exhibition on freedom fighters
- Celebrations of important events / personalities
- Conducting Philately
- Examinations (Scheduled and surprise tests)
- Students may be asked to prepare a project on the differences between Mughal and British administration
- Encourage students to write their autobiography or biography of their inspiring personalities.

B.A	Semester: IV	Credits: 4
Course: 4	History & Culture of Andhra (from 1512 to 1956 AD)	Hrs/Wk: 5

Learning Outcomes:
After successful completion of this course, the student will be able to:

- Interpret social and culture transformation from medieval to modern Andhra
- Relate key historical development during medieval period occurring in costal Andhra and Telangana regions and analyze socio-political and economic changes under Qutbshahi rules
- Understand gradual change, or change in certain aspects of society in Andhra, rather than rapid or fundamental changes.
- Explain how the English East India company became the most dominant power and outline the impact of colonial on different aspects in Andhra.
- Outline the issues related to caste, women, widow remarriage , child marriage, social reforms and the laws and policies of colonial administration towards these issues.
- Take pride in the non-violence struggle for Indian Independence and relate the important of peace in every life.
- Apply the knowledge of the regional history to understand the regional, linguistic and other cultural aspirations of the present day society
- Visualize where places are in relation to one another through map pointing

UNIT I:
Andhra through 16th & 19th Centuries AD: Evolution of Composite culture- the Quatbshahi of Golkonda - Administration, Society &Economy - Literature & architecture: Advent of European and settlements in Andhra - Occupation of Northren Cricars and Ceeded Districts - Early revolts again the British.

UNIT II:
Andhra Under British ruel: Administration - Land revenue settlements -Society - Education - Religion - Impact of Industrial revolution on economy- peasantry &famines - contribution of sir thomas munroe & C.P. Brown - impact of 1857 revolts in Andhra.

UNIT III:
Social Reforms &New literary Movements : Kandukuri Vereeshalingam, Ragupathi Venkatarathnam Naidu, Guruzada AppaRao,Kommarraju Venkata Laxman Rao ; New literacy movements :Rayaprolu SubbaRao, Viswanath Satyanarayana, Gurram Jashua , Boyi Bhimanna, Sri Sri.

UNIT IV:
Freedom Movement in Andhra (1885-1947): Vandemataram Movement– Home Rule Movement in Andhra - Non-Cooperation Movement - AlluriSeetarama Raju &Rampa Revolt (1922-24) - Civil Disobedience Movement – Quit India Movement.

UNIT V:
Movement for separate Andhra State (1953) and AP (1956): Causes – Andhra Maha Sabha –Conflict between Coastal Andhra &Rayalaseema – Sri Bagh Pact – work of various Committees – Martyrdom of PottiSriramulu – Formation of separate Andhra State (1953); Movement for formation of Andhra Pradesh (1956): VisalandhraMahasabha – Role of Communists – States Reorganization Committee – Gentlemen's Agreement – Formation of Andhra Pradesh

REFERENCES BOOKS:

1. H.K.Sherwani, History of the KutubShahi Dynasty
2. K. Sathyanarayana, A Study of the History and Culture of Andhras
3. B. Kesava Narayana, Political and Social Factors in Modern Andhra
4. K.V.Narayana Rao, The Emergence of Andhra Pradesh
5. M. VenkataRangaiah, The Freedom Struggle in Andhra Pradesh
6. P.R.Rao, History of Modern Andhra
7. SarojiniRegani, Highlights of Freedom Movement
8. SarojiniRegani, ఆంధ్రలోస్వాతంత్ర్యోద్యోమచరిద్ధ
9. V. Ramakrishna, Social Reform Movement in Andhra
10. B. Kesava Narayana, Modern Andhra & Hyderabad – 1858 – 1956 A.D., 2016
11. K. Koti Reddy, History of Modern Andhra, Telugu Academy, Hyderabad

Mandatory Co-Curricular Activity:

Map pointing should be a compulsory activity as it helps student to understand vividly and clearly than the text and should be made part of Internal Examination by allotting marks for this skill-based activity.

Suggested Co-Curricular Activities:

- Students may be asked to identify families/ institutions/ personalities related to freedom struggle and prepare articles
- Assign students to write a note on the historical sites or buildings in their respective areas – thus taking teaching out of the classroom and in to the field, and creating opportunities for students to socialize with their own surroundings
- Student seminars
- Debates
- Viva voce interviews
- Quiz Programmes
- Photo Album
- Recording local history
- Role Play of freedom struggle events
- Organizing photo exhibition on freedom fighters
- Celebrations of important events / personalities
- Conducting Philately
- Examinations (Scheduled and surprise tests)
- Encourage students to write their autobiography or biography of their inspiring personalities

B.A	Semester: IV	Credits: 4
Course: 5	History Of Modern World (From 15th Cent. AD to 1945 AD)	Hrs/Wk: 5

Learning Outcomes:
After successful completion of this course, the student will be able to:

- Demonstrate advanced factual knowledge of world histories, politics, and cultures
- Assess and appraise the developments in art, literature, and society during the Renaissance and utilize content knowledge of the Reformation and Counter Reformation to make predictions about the evolution of Christianity in Europe and abroad.
- Evaluate the causes for the Glorious Revolution and American Revolution and identify the background for the evolution of human rights movement.
- Understand the main events of the French Revolution and its significance in the shift in European culture from Enlightenment to Romanticis.
- Think how Russia's traditional monarchy was replaced with the world's first Communist state.
- Know how the world wars affected people all over the world and the destruction they caused.
- Develop the intellectual curiosity and habits of thought that will lead to life-long learning and continued engagement with European history, literature, culture, languages, and current affairs and acquire advanced international and intercultural competency through coursework in international studies.
- Visualize where places are in relation to one another through map pointing.

UNIT I:
Transformation from Medieval to Modern Era – Chief Characteristics; Glorious Revolution (1688) Origin of Parliament Bill of Rights – Results

UNIT II:
American Revolution (1776); French Revolution (1789) – Causes, Course and Results

UNIT III:
Unification of Italy; Unification of Germany

UNIT IV:
Communist Revolution in Russia; World War I: Causes – Results of the War – Paris Peace Conference; League of Nations

UNIT V:
World War II: Causes, Fascism & Nazism – Results; The United Nations Organization: Structure, Functions and Challenges.

REFERENCES BOOKS:

1. Burke, Peter, The Renaissance
2. C.J.H. Hayes, Modern Europe up to 1870
3. C.D. Hazen, Modern Europe up to 1945
4. Christopher Hill, From Reformation to Industrial Revolution
5. Elton, G.R., Reformation Europe, 1517-1559
6. Ferguson, The Renaissance
7. Gilmore, M.P., The World of Humanism, 1453-1517
8. Hilton, Rodney, Transition from Feudalism to Capitalism
9. J.H.Parry, The Age of Renaissance
10. J.N.L. Baker, History of Geographical Discoveries and Explorations
11. The New Cambridge Economic History of Europe, Vol. I, VII

Mandatory Co-Curricular Activity:

Map pointing should be a compulsory activity as it helps student to understand vividly and clearly than the text and should be made part of Internal Examination by allotting marks for this skill-based activity.

Suggested Co-Curricular Activities

- Watch movies related to the topics in the e-class room
- Organize guest lectures
- Publication of college-level magazine by encouraging students to write articles on contemporary history of Europe
- Viva voce interviews
- Quiz Programmes
- Examinations (Scheduled and surprise tests)

Model Question paper(Semester end)
B.A DEGREE EXAMINATION
Semester- I
Course 1 : Ancient Indian History & Culture from Indus valley civilization to 13th century A.D

Time: 3 Hours Max.Marks: 75

Section-A (25 Marks)

Answer any Five question . Each answer carries 5 marks

(5X5=25 Marks)

1) Vedic Culture వేద సంస్కృతి

2) Jainisam జైనమతం

3) Narasimha Varma –I నరసింహ వర్మ –I

4) Mahabhalipuram

5) Rani Rudhrama Devi రాణి రుద్రమా దేవి

6) Arab invasion అరబ్ దండయాత్ర

7)Kanishka

8) Kautilya

Section –B (50 Marks)

Answer any Five question. Each answer carries 10 marks 5x10=50Marks

9) A) Salient Features of Indus valley civilization?
సింధు నాగరికత యొక్క ముఖ్య లక్షణాలు వివరింపుము?

(OR)

B) Describe the Administrative system of Maurya
మౌర్య పరిపాలనా విధానము వివరించండి?

10) A) Describe the Political History of Andhra Satavahana?
ఆంధ్ర శాతవాహన రాజకీయ చరిత్రను వివరించండి?

(OR)

B) The greatness of Samudra Gupta ?
సముద్రగుప్త ని ఘనకార్యములను వివరింపుము?

11) A) The Greatness of Harshavaradhana ?
హర్షవర్ధన్ ని ఘనకార్యములను వివరింపుము?

(OR)

B) Describe the Administrative system of cholas?
చోళుల పరిపాలనా విధానము వివరించండి?

12) A) Golden age of Guptas

(OR)

B) Impact of Jainism and Buddhiam

13) A) Cultural Heritage in South India from 9th Century to 13th Century

(OR)

B) Political history of Kakatiyas

Model Question paper(Semester end)
B.A DEGREE EXAMINATION
Semester- II
Course 2: Medieval Indian History & Culture
(from 1206 to 1764 A.D)

Time: 3 Hours Max.Marks: 75

Section-A (25 Marks)

Answer any Five question . Each answer carries 5 marks

(5X5=25 Marks)

1) Ghazani Invasion
గజినీ దండయాత్ర

2) Akbar Religious policy1
అక్బర్ మతం విధానం

3) Babur
బాబర్

4) Jahangir
జహంగీర్

5) Aurangazeb Religious policy
ఔరంగజీబు మతం విధానం

6)Waran Hasting
వారన్ హస్టింగ్

7) Sufi Movement

8) Balban

Section –B (50 Marks)

Answer any Five question. Each answer carries 10 marks

(5x10=50Marks)

9. A) Describe the Administrative system of Allauddin Khilji
అల్లాఉద్దిన్ ఖిల్జి పాలనా విధానం

(OR)

B) Greatness of Sri Krishna Devaraya
శ్రీ కృష్ణ దేవరాయల ఘనకార్యములను వివరింపుము?

10. A) Golden Age of Shajahan
షాజహాన్ కాలం స్వర్ణ యుగం

(OR)

B) Impact of Islam on Indian Society or Bhakti Moment
భక్త ఉద్యమమును గూర్చి వ్రాయుము

11. A) The Greatness of Shivaji ?
శివాజీ ఘనకార్యములను వివరింపుము?

(OR)

B) Describe the Carnatic War
కర్నాటక యుద్ధాలు

12. A) Mughal Administration

(OR)

B) Akbar Religious policy

13. A) Shersha Administative policy

(OR)

B) Flassey and Buxar wars

Model Question paper(Semester end)
B.A DEGREE EXAMINATION
Semester- III

Course 3: Modern Indian History & Culture(1764-1947 A.D)

Time: 3 Hours Max.Marks: 75

Section-A (25 Marks)

Answer any Five question. Each answer carries 5 marks 5X5=25 Marks

1) Tippu Sultan
2) Warn Hasting
3) Raja Ramamohan Roy
4) Bakimchanra Cheterji
5) Balaganghadara Tilak
6) Home rule Movement
7) Subhase Chandra Bose
8) Motillal Nehru

Section –B (50 Marks)

Answer any Five question. Each answer carries 10 marks 5x10=50Marks

9) A) What is meant by Subsidiary system? What was its feature?

(OR)

B) Causes and course of the 1857 Revolt

10) A) Social Religious Reform Movement in India

(OR)

B) Dr.B.R. Ambedkar Ideology

11) A) Causes for the growth of Nationalism in India

(OR)

B) Describe the Vandemataram Movement

12) A) Describe the causes and course of the Non Co operation movement

(OR)

B) Describe the Quit India Movement

13) A) Muslim League Politics in Freedom Struggle

(OR)

B) Integration of Princely States into Indian Union

Model Question paper(Semester end)
B.A DEGREE EXAMINATION
Semester- IV
Course 4 : History & Culture OF Andhra (From 1512 TO 1956 A.D)

Time: 3 Hours Max.Marks: 75

Section-A (25 Marks)

Answer any Five question. Each answer carries 5 marks 5X5=25 Marks

1) Narasimha Reddy Revolt
2) Rippon
3) Sir Arthaur Cotton
4) Boyi Bheeimanna
5) Home Rule Movement
6) C.P Brown
7) Rampa Revolt
8) Suravaram Pratap Reddy

Section –B (50 Marks)

Answer any Five question. Each answer carries 10 marks 5x10=50Marks

9) A) Political history of QutubShais of Golkonda

(OR)

B) Occupation of Northern Circars by British Government

10) A) Impact of Industrial Revolution in India

(OR)

B) Causes and course of 1857 revolt in India

11) A) Social Reform Movement in Modern Andhra

(OR)

B) *New Literary movement in Modern Andhra

12) A) Non- Cooperation movement in Andhra

(OR)

B) Viplava Jyothi Alluri Sita Rama Raju

13) A) Martyrdom of Potti Sriramulu

(OR)

B) Movement for formation of Andhra Pradesh

UG Program (4 Years Honors)
CBCS- 2020-21

B. Com
GENERAL

Syllabus and Model Question Papers

TABLE OF CONTENTS

1. Resolutions of the Board of Studies:

Meeting held on:22/01/2021Time: 10.00 Am
At: NTR Convention Centre, Adikavi Nannaya University Campus, Rajamahendravaram

Agenda: As per the directions and guidelines/modalities issued by the APSCHE for revising the curriculum framework and updating the syllabus as out-come based B. Com programme to be effect from 2020-21 academic year under CBCS for implementing in all affiliated colleges of AKNU

Members present:

Dr. N. Udaya Bhaskar	Chairman, Dept. of Commerce and Management Studies, Adikavi Nannaya University, Rajamahednravaram, East Godavari District
Dr.J.Sanath Kumar	Member, RRDS Govt Degree College, Bhimavaram, West Godavari District
Dr. Kopparthi Ammaji	Member, BGBS Women's College, Narsapur, West Godavari District
Dr. K. Ratna Manikyam	, Member, Dept. of Commerce, Govt. College (A), Rajahmundry
Dr. M. Ramesh	Member, Dept. of Commerce and Management, Adikavi Nannaya University, Rajamahednravaram, East Godavari District

Resolutions: The B.COM board of Studies for B. Com (General) is resolved the following implementation subject to approval.

1. Adoption of revised-common programme structure and updating course-wise syllabi as per the guidelines issued by APSCHE.
2. Adoption of regulations on scheme of examination and marks/grading system of the University B.COM programme.
3. Preparation of Model question Courses in prescribed format.
4. Eligibility of student for joining the course.
5. List of Course-setters/Course evaluators with phone, email id in the prescribed format.

DETAILS OF COURSES TITLES AND CREDITS

Sem	Course No	Course Name	Course Type (T/P/L)	Hrs/Week	Credits	Max. Marks	Max. Marks
				Commerce:5	Commerce:4	Count/Internal/ Mid Assessment	Sem- End Exam
I	1A	Fundamentals of Accounting	T	5	4	25	75
	1B	Business Organization and Management	T	5	4	25	75
	1C	Business Environment	T	5	4	25	75
II	2A	Financial Accounting	T	5	4	25	75
	2B	Business Economics	T	5	4	25	75
	2C	Banking Theory & Practice	T	5	4	25	75
III	3A	Advanced Accounting	T	5	4	25	75
	3B	Business Statistics	T	5	4	25	75
	3C	Marketing	T	5	4	25	75
IV	4A	Corporate Accounting	T	5	4	25	75
	4B	Cost and Management Accounting	T	5	4	25	75
	4C	Income Tax	T	5	4	25	75
	4D	Business Laws	T	5	4	25	75
	4E	Auditing	T	5	4	25	75
	4F	Goods and Service Tax	T	5	4	25	75

Note: * Course Type Code : T-Theory, L - Lab, P: Problem solving

a) Proposed combination subjects: Accounting and Commerce.

b) Student eligibility for joining in the course: 10+2 (any discipline), Open Inter School and its equivalent.

c) Faculty eligibility for teaching the course: Passed Post Graduation Degree with relevant specialization and also having higher qualification like SET/NET/Ph. D.

d) List of Proposed Skill enhancement courses with syllabus, if any.

e) Any newly proposed Skill development/Life skill courses with draft syllabus and required resources.

f) Required instruments/software/ computers for the course (Lab/Practical course-wise required i.e., for a batch of 15 students).

g) List of Suitable levels of positions eligible in the Govt/Pvt organizations . Suitable levels of positions for these graduates either in industry/govt organization like., technical assistants/ scientists/ school teachers., clearly define them, with reliable justification.

S.No.	Position	Company/ Govt organization	Remarks	Additional skills required, if any
01	Accountant	Any Govt./Private Organization		
02	Supporting Staff	Any Govt./Private Organization		
03	Clerk	Banking Industry		
04	Entrepreneur	Own Business		

h) List of Govt. organizations / Pvt companies for employment opportunities or internships or projects.

S.No	Position	Company/ Govt organization	Remarks	Additional skills required, if any
01	Service Industry	Junior Assistant/Senior Assistant/LDC/UDC/Clerck		
02	Manufacturing Industry	Accountant/Cashier/Clerck		
03	Hotel Industry	Accountant/Cashier		
04	Banking Sector	Cashier/Asst. Cader/Clerical		

i) Any specific instructions to the teacher /Course setters/Exam-Chief Superintendent.

3. Program objectives, outcomes, co-curricular and assessment methods.

B. Com	General

1. Aim and objectives of B. Com program:
The B. Com programme aims to make the students employable and self employment oriented (Self employable). It aims to make the students learn the writing and interpretation of books of accounts, be conversant with the financial and economic environment and acquire the management skills required to manage the business.

2. Learning outcomes of B. Com:

- ❖ This program could provide Industries, Banking Sectors, Insurance Companies, Financing companies, Transport Agencies, Warehousing etc., well trained professionals to meet the requirements.
- ❖ After completing graduation, students can get skills regarding various aspects like Marketing Manager, Selling Manager, over all Administration abilities of the Company.
- ❖ Capability of the students to make decisions at personal & professional level will increase after completion of this course. Students can independently start up their own Business.
- ❖ Students can get thoroB.Comh knowledge of finance and commerce.

- ❖ The knowledge of different specializations in Accounting, costing, banking and finance with the practical exposure helps the students to stand in organization.

3. Recommended Skill enhancement courses: (Titles of the courses given below and details of the syllabus for 4 credits (i.e., 2 units for theory and Lab/Practical) for 5 hrs class-cum-lab work.

4. Recommended Co-curricular activities:(Co-curricular Activities should not promote copying from text book or from others' work and shall encourage self/independent and group learning)

A. Measurable:

1. Assignments on:
2. Student seminars (Individual presentation of Courses) on topics relating to:
3. Quiz Programmes on:
4. Individual Field Studies/projects:
5. Group discussion on:
6. Group/Team Projects on:

B General

1. Collection of news reports and maintaining a record of Course-cuttings relating to topics covered in syllabus .
2. Group Discussions on: Subject related matters.
3. Watching TV discussions and preparing summary points recording personal observations etc., under guidance from the Lecturers.
4. Any similar activities with imaginative thinking.

5. Recommended Continuous Assessment methods:

Some of the following sB.Comgested assessment methodologies could be adopted;

1. The oral and written examinations (Scheduled and surprise tests).
2. Closed-book and open-book tests.
3. Coding exercises.
4. Practical assignments and laboratory reports.
5. Observation of practical skills.
6. Individual and group project reports.
7. Efficient delivery using seminar presentations.
8. Viva voce interviews.
9. Computerized adaptive testing, literature surveys and evaluations.
10. Peers and self-assessment, outputs form individual and collaborative work.

4.Details of course-wise Syllabus:

DETAILS OF COURSE WISE SYLLABUS

B.Com	Semester: I	Credits: 4
Course: 1A	FUNDAMENTALS OF ACCOUNTING	Hrs/Wk: 5

Learning Outcomes:

At the end of the course, the student will able to

- Identify transactions and events that need to be recorded in the books of accounts.
- Equip with the knowledge of accounting process and preparation of final accounts of sole trader.
- Develop the skill of recording financial transactions and preparation of reports in accordance with GAAP.
- Analyze the difference between cash book and pass book in terms of balance and make reconciliation.
- Critically examine the balance sheets of a sole trader for different accounting periods.
- Design new accounting formulas & principles for business organisations.

UNIT I:

Introduction : Need for Accounting – Definition – Objectives, – Accounting Concepts and Conventions – GAAP - Accounting Cycle - Classification of Accounts and its Rules – BookKeeping and Accounting - Double Entry Book-Keeping - Journalizing - Posting to Ledgers, Balancing of Ledger Accounts (including Problems).

UNIT II:

S**ubsidiary Books:** Types of Subsidiary Books - Cash Book, Three-column Cash Book- Petty Cash Book (including Problems).

UNIT III:

Trial Balance and Rectification of Errors: Preparation of Trial balance - Errors – Meaning – Types of Errors – Rectification of Errors – Suspense Account (including Problems)

UNIT IV:

Bank Reconciliation Statement: Need for Bank Reconciliation - Reasons for Difference between Cash Book and Pass Book Balances- Preparation of Bank Reconciliation Statement - Problems on both Favourable and Unfavourable Balance (including Problems).

UNIT V:

Final Accounts: Preparation of Final Accounts: Trading account – Profit and Loss account – Balance Sheet – Final Accounts with Adjustments (including Problems).

TEXT BOOKS:

1. Ranganatham G and Venkataramanaiah, Fundamentals of Accounting, S Chand Publications.
2. T.S.Reddy& A. Murthy, Financial Accounting, Margham Publications.
3. S N Maheswari and SK Maheswari, Financial Accounting, Vikas Publications.
4. R L Gupta & V K Gupta, Principles and Practice of Accounting, Sultan Chand & Sons.
5. S.P. Jain & K.L Narang, Accountancy-I, Kalyani Publishers.
6. Tulasian, Accountancy -I, Tata McGraw Hill Co.
7. V.K.Goyal, Financial Accounting, Excel Books **.**
8. K. Arunjothi, Fundamentals of Accounting; Maruthi Publications.
9. Prof EChandraiah : Financial Accounting Seven Hills International Publishers.

SB.Comgested Co-Curricular Activities:

- Bridge Course for Non-commerce Students.
- Practice of Terminology of Accounting .
- Quiz, Word Scramble.
- Co-operative learning.
- Seminar.
- Co-operative learning .
- Problem Solving Exercises.
- Matching, Mismatch.
- Creation of Trial Balance.
- Visit a firm (Individual and Group).
- Survey on sole proprietorship and prepare final accounts of concern.
- Group Discussions on problems relating to topics covered in syllabus.
- Examinations (Scheduled and surprise tests).
- Any similar activities with imaginative thinking beyond the prescribed syllabus.

MODEL QUESTION COURSE

B.Com DEGREE EXAMINATION
SEMESTER: I
GENERAL
Course 1A: Fundamentals of Accounting

Time: 3Hrs. Max. Marks: 75

Section-A

Answer any **FIVE** of the following questions. **5X5=25M**

1. Bookkeeping.
2. Petty Cash Book.
3. Suspense Account.
4. Need for Bank Reconciliation.
5. Trading Account.
6. Accounting Cycle.
7. Journal Proper.
8. Trial Balance .

Section-B

Answer **FIVE** questions **5X10=50M**

9. a). What are the advantages and limitations of Double Entry System?

(OR)

b). Briefly explain accounting concepts and conventions.

10. a) Explain various types of subsidiary books.

(OR)

b) Prepare Triple Column Cash Book from the following information of Koushik.

1st March 2020

1. Cash in hand Rs.1532 and balance at bank Rs.18500.
2. Received from Salman Rs.590 and allowed him discount Rs.10.
3. Paid salaries for the month of February Rs.200.
4. Purchased merchandise payment made by cheque Rs.3200.
8. Paid Bilal & Co by cheque Rs.800 discount received Rs.20.
10. Withdrew from bank for office use Rs.400. paid rent in cash Rs.300.
14. Deposited into bank Rs.500.
15. Cash sales Rs.2460.
18. Purchased a motor car for Rs.6500 payment made by cheque.
23. Received a cheque from Salman for Rs.391 discount Rs.9.
25. Paid wages Rs.350.
28. Salman cheque paid into bank.
29. Paid general expenses Rs.360.
31. Bank informed that Salman's cheque has been dishonored.
31. Cash sales Rs.6440.

11. a) Briefly explain the advantages and limitations of trial balance

(OR)

b).Define Error. Briefly explain various types of erros.

12. a) Write the reasons for difference between pass book and cash book for bank reconciliation.

(OR)

(b) From the following particulars, prepare a Bank Reconciliation Statement for M/s Ramesh Traders as at 31st December, 2020.

i. Bank Balance as per cash book 8,000

ii. Two cheques were issued for 18,000 and 12,000 respectively, of which the cheque for 12,000 was presented on 4rd January next year.
iii. Cheque for 6,000 deposited on 25th was collected and credited by the bank on 4th January.
iv. Dividends collected by the bank 1,800 not recorded in the cash book.
v. Information relating to 4,600 deposit made by a debtor directly into the bank account has not yet been received.
vi. Bank charges 750 have been debited to the account by the bank on 31st December.

13. a) Distinguish between Profit and Loss Account and Balance Sheet.

(OR)

b) From the following Trial Balance of Ramesh as on 31st March 2020, prepare Trading and Profit and Loss account and Balance sheet taking into account the adjustments.

Trial Balance

Debit Balances Rs.	**Credit Balances Rs.**
Purchases 2,00,000	Capital 3,00,000
Salaries 10,000	Sales 2,50,000
Rent 7,500	Creditors 1,05,000
Insurance premium 1,500 .	
Drawings 50,000	
Machinery 1,40,000	
Cash at bank 22,500	
Computers 1,25,000	
Furniture 50,000	
Cash 10,000 O	
pening Stock 26,000	
Sundry debtors 12,500	

Adjustments:

1. Closing stock as on 31.3.2015 Rs. 39,000
2. Rent outstanding Rs. 1,000
3. Provide interest on capital @ 10% and on Drawings @ 8%.
4. Depreciation on Machinery @10% and Furniture @ 5%

B.Com	Semester: I	Credits: 4
Course: 1B	BUSINESS ORGANIZATION AND MANAGEMENT	Hrs/Wk: 5

Learning Outcomes:

At the end of the course, the student will be able to:

- Understand different forms of business organizations.
- Comprehend the nature of Joint Stock Company and formalities to promote a Company.
- Describe the Social Responsibility of Business towards the society.
- Critically examine the various organizations of the business firms and judge the best among them.
- Design and plan to register a business firm. Prepare different documents to register a company at his own.
- Articulate new models of business organizations.

UNIT I:

Introduction Concepts of Business, Trade, Industry and Commerce: Business – Meaning, Definition, Features and Functions of Business - Trade Classification – Aids to Trade – Industry Classification and Commerce - Factors Influencing the Choice of Suitable form of Organisation.

UNIT II:

Forms of Business Organizations: Features, Merits and Demerits of Sole Proprietor Ship and Partnership Business - Features Merits and Demits of Joint Stock Companies - Public Sector Enterprises (PSEs) - Multinational Corporations (MNCs)- Differences between Private Limited Public Limited Company.

UNIT III:

C**ompany Incorporation:** Preparation of Important Documents for Incorporation of Company - Certificate of Incorporation and Certificate of Commencement of Business - Contents of Memorandum and Articles of Association - Contents of Prospectus.

UNIT IV:

Management: Meaning Characteristics - Fayol's 14 Principles of Management - Administration Vs Management - Levels of Management.

UNIT V:

Functions of Management: Different Functions of Management - Meaning – Definition – Characteristics Merits and Demits of Planning - Principles of Organisation – Line and staff of Organisation.

REFERENCE BOOKS:

1. Industrial Organization and Management,C.B.Guptha, Sultan Chand.
2. Business Organization - C.D.Balaji and G. Prasad, Margham Publications, Chennai.
3. Business Organization -R.K.Sharma and Shashi K Gupta, Kalyani Publications.
4. Business Organization & Management: Sharma Shashi K. Gupta, Kalyani Publishers
5. Business Organization & Management: C.R. Basu, Tata McGraw Hill
6. Business Organization & Management: M.C. Shukla S. Chand,
7. Business Organisation and Management, Dr.NeeruVasishth, Tax Mann Publications.
8. Business Organisation and Management, Dr B E V L Naidu, Seven Hills International Publishers, Hyderabad .

SB.Comgested Co-Curricular Activities:

- Book Reading
- Student Seminars, Debates
- Quiz Programmes
- Assignments
- Co-operative learning
- Individual / Group Field Studies
- Group Discussions on problems relating to topics covered by syllabus
- Collecting prospectus of different companies throB.Comh media
- Collection of news reports and maintaining a record of Course-cuttings relating to topics covered in syllabus
- Talk on current affairs about business, industry etc.
- Simple project work on development of Certificate of Incorporation, Prospectus and Certificate of commencement of business
- Biography of well-known management thinkers and managers of gigantic companies
- Examinations (Scheduled and surprise tests).

MODEL QUESTION COURSE

B.Com DEGREE EXAMINATION
SEMESTER: I
GENERAL
Course1B: Business Organization And Management

Time: 3Hrs. Max. Marks: 75

Section-A

Answer any **FIVE** of the following questions. **5X5=25M**

1. Industry
2. Public Sector Enterprises
3. Prospectus
4. Administration
5. Organization
6. Commerce
7. MNCs
8. Line and Staff

Section-B

Answer **FIVE** questions **5X10=50M**

9 a) Define Trade. Briefly explain classification of trade.

(OR)

b) Define Business. What are the features and functions of Business.

10 a) What are the merits and demerits of Sole Proprietorship.?

(OR)

b) Distinguish between Private Limited Company and Public Limited Company.

11 a) Define Memorandum of Association. Explain its clauses.

(OR)

b) Briefly explain Articles of Association and its contents.

12 a) Explain the functions of Management.

(OR)

b) Explain Fayol's 14 Principles of Management.

13 a) Briefly explain merits and demerits of Planning.

(OR)

b) What are the steps involved in Planning?

B.Com	Semester: I	Credits: 4
Course: 1C	BUSINESS ENVIRONMENT	Hrs/Wk: 5

Learning Outcomes:

At the end of the course, the student will able to:

- Understand the concept of business environment.
- Define Internal and External elements affecting business environment.
- Explain the economic trends and its effect on Government policies.
- Critically examine the recent developments in economic and business policies of the Government.
- Evaluate and judge the best business policies in Indian business environment.
- Develop the new ideas for creating good business environment.

UNIT I:

Overview of Business Environment: Business Environment – Meaning – Characteristics – Scope - Macro and Micro Dimensions of Business Environment - Environmental Analysis.

UNIT II:

Economic Environment: Economic Environment – Nature of the Economy – Structure of Economy – Economic Policies & Planning the Economic Condition – NITI Ayog – National Development Council – Five Year Plans.

UNIT III:

Economic Policies: Economic Reforms and New Economic Policy – New Industrial Policy – Competition Law – Fiscal Policy – Objectives and Limitations – Monetary Policy and RBI

UNIT IV:

Social, Political and Legal Environment: Concept of Social Responsibility of Business towards Stakeholders - Demonetisation, GST and their Impact - Political Stability - Legal Changes.

UNIT V:

Global Environment : Globalization – Meaning – Role of WTO – WTO Functions - IBRD– Trade Blocks, BRICS, SAARC, ASEAN in Globalisation.

SB.COMGESTED READINGS:

1. K. Aswathappa : Essentials of Business Environment, Himalaya Publishing House.
2. Francis Cherunilam : Business Environment, Himalaya Publishing House .
3. Dr S Sankaran: : Business Environment, Margham Publications.
4. S.K. Mishra and V.K. Puri : Economic Environment of Business, HPH.
5. Rosy Joshi and Sangam Kapoor : Business Environment, Kalyanai Publications.
6. A C Fernando: Business Environment, Pearson.
7. Dr V Murali Krishna, Business Environment, Spectrum Publications.
8. Namitha Gopal, Business Environment, McGraw Hill.

SB.Comgested Co-Curricular Activities:

- Seminar on overview of business environment.
- Debate on micro v/s macro dimensions of business environment.
- Co-operative learning.
- Seminar on Monetary policies of RBI.
- Debate on social, political and legal environment.
- Group Discussions on Global environment and its impact on business.
- To learn about NITI Ayog and National Development Council.
- Seminars on Economic policies like New Industrial policy, Fiscal policy etc.
- Reports on WTO, BRICS, SAARC etc.
- Examinations (Scheduled and surprise tests) on all units

MODEL QUESTION COURSE

B.Com DEGREE EXAMINATION
SEMESTER: I
GENERAL
Course 1C: Business Environment

Time: 3Hrs. Max. Marks: 75

Section-A

Answer any **FIVE** of the following questions. **5X5=25M**

1. Environment Analysis.
2. Structure of Economy.
3. Fiscal Policy.
4. GST.
5. Trade Blocks.
6. NITI Ayog.
7. Competition Law.
8. Economic Policy.

SECTION- B

Answer **FIVE** questions **5X10=50M**

9. a) Define Business Environment. What factors influencing business environment?
(OR)
b) Describe the components and significance of business environment.

10. a) What do you mean by Economic Planning? Explain brief view of Five-Year Plans.
(OR)
b) Briefly explain the economic policies and planning the economic conditions.

11 a) Define Industrial Policy. Explain Industrial Policy 1991.
(OR)
b) What are the importance and regulations of New Economic Policy?

12. a) What are the social, political factors influencing Business Environment?
(OR)
b) Briefly explain the concept and objectives of social responsibility of business towards stakeholders.

13. a) Briefly explain the role of SAARC and BRICS in Globalization.
(OR)
b) What are the objectives, functions and organization structure of WTO?

B.Com	Semester: II	Credits: 4
Course: 2A	FINANCIAL ACCOUNTING	Hrs/Wk: 5

Learning Outcomes:

At the end of the course the student will able to:

- Understand the concept of consignment and learn the accounting treatment of the various aspects of consignment.
- Analyze the accounting process and preparation of accounts in consignment and joint venture.
- Distinguish Joint Venture and Partnership and to learn the methods of maintaining records under Joint Venture.
- Determine the useful life and value of the depreciable assets and maintenance of Reserves in business entities.
- Design an accounting system for different models of businesses at his own using the principles of existing accounting system.

UNIT I:

Depreciation: Meaning and Causes of Depreciation - Methods of Depreciation: Straight Line – Written Down Value –Annuity and Depletion Method (including Problems).

UNIT II:

Provisions and Reserves: Meaning – Provision vs. Reserve – Preparation of Bad Debts Account – Provision for Bad and Doubtful Debts – Provision for Discount on Debtors– Provision for Discount on Creditors - Repairs and Renewals Reserve A/c (including Problems).

UNIT III:

Bills of Exchange: Meaning of Bill – Features of Bill – Parties in the Bill – Discounting of Bill – Renewal of Bill – Entries in the Books of Drawer and Drawee (including Problems).

UNIT IV:

Consignment Accounts: Consignment - Features - Proforma Invoice - Account Sales – Del-credere Commission - Accounting Treatment in the Books of Consigner and Consignee - Valuation of Closing Stock - Normal and Abnormal Losses (including Problems).

UNIT V:

Joint Venture Accounts: JointVenture - Features - Difference between Joint- Venture and Consignment – Accounting Procedure – Methods of Keeping Records–One Vendor Keeps the Accounts and Separate Set off Books Methods (including Problems).

REFERENCE BOOKS:

1. Ranganatham G and Venkataramanaiah, **Financial Accounting-II,** S Chand Publications, New Delhi.
2. T. S. Reddy and A. Murthy - **Financial Accounting**, Margham Publications.
3. R.L. Gupta & V.K. Gupta, **Principles and Practice of Accounting**, Sultan Chand.
4. SN Maheswari and SK Maheswari – **Financial Accounting**, Vikas Publications.
5. S.P. Jain & K.L Narang,**Accountancy-I**, Kalyani Publishers.
6. Tulsan, **Accountancy-I**, Tata McGraw Hill Co.
7. V.K. Goyal, **Financial Accounting**, Excel Books.
8. T.S. Grewal, **Introduction to Accountancy**, Sultan Chand & Co.
9. Haneef and Mukherjee, **Accountancy-I**, Tata McGraw Hill.
10. Arulanandam and Ramana, **Advanced Accountancy**, Himalaya Publishers.
11. S.N.Maheshwari&V.L.Maheswari, **Advanced Accountancy-I**, Vikas Publishers.
12. Prof E Chandraiah, **Financial Accounting**, Seven Hills International Publishers.

SB.Comgested Co-Curricular Activities:

- Quiz Programs.
- Problem Solving Exercises.
- Co-operative learning.
- Seminar.
- Group Discussions on problems relating to topics covered by syllabus.
- Reports on Proforma invoice and account sales.
- Visit a consignment and joint venture firms(Individual and Group).
- Collection of proforma of bills and promissory notes.
- Examinations (Scheduled and surprise tests).
- Any similar activities with imaginative thinking beyond the prescribed syllabus

MODEL QUESTION COURSE

B.Com DEGREE EXAMINATION

SEMESTER: II

GENERAL

Course 2A: Financial Accounting

Time: 3Hrs. Max. Marks: 75

SECTION-A

Answer any **FIVE** of the following questions. **5X5=25M**

1. Depletion Method of Depreciation
2. General Reserve
3. Drawer
4. Normal Loss
5. Vendor
6. Bad debts
7. Del-credere commission
8. Consignor

SECTION- B

Answer **FIVE** questions. **5X10=50M**

9. a) Define Depreciation. What are the causes for Depreciation?

(OR)

b) A company whose accounting year is the calendar year purchased on 1.1.2018 a machine for Rs.40,000. It purchased further machinery on 1st October 2018 for Rs. 20,000 and on 1st July for Rs. 10,000. On 1.7.2020, 1/4th of the machinery installed on 1.1.2018 became obsolete and was sold for Rs. 6,800. Show how the machinery account would appear in the books of the company for all the 3 years under diminishing balance method. Depreciation is to be provided at 10% p.a.

10. a) Define Provision and Reserve with examples and difference between provision and reserve.

(OR)

b) What are the provisions? How are they created? Give accounting treatment in case of provision for doubtful debts.

11. a) B owes C a sum of Rs 6,000. On 1st April, 2011 he gives a promissory note for the amount for 3 months to C who gets it discounted with his bankers for Rs 5,760. On the due date the bill is dishonoured, the bank paying Rs 15 as noting charges. B then pays Rs 2,000 in cash and accepts a bill of exchange drawn on him for the balance together with Rs 100 as interest. This bill of exchange is for 2 months and on the due date the bill is again dishonoured, C paying Rs 15 for noting charges draft the journal entries to be passed in C's books.

(OR)

b) What is meant by renewal of a bill of exchange? Distinguish between Promissory Note and Bills of Exchange.

12. a) Define consignment account. Briefly explain the features and objectives of consignment accounts.

(OR)

b) Raja Mills Ltd. of Ahmedabad sent 100 pieces shirting to Fancy Stores, Delhi, on consignment basis. The consignees are entitled to receive 5 per cent commission plus expenses. The cost to Raja Mills Ltd. is Rs 600 per piece.
Fancy Stores, Delhi, pay the following expenses: Railway Freight, etc. Rs 1,000 Godown Rent and Insurance Rs 1,500 Raja Mills Ltd., draw on the consignees a draft for Rs 30,000 which is duly accepted. It is discounted for Rs 28,650. Later Fancy Stores, Delhi, report that the entire consignment has been sold for Rs 78,000. Show journal entries and the important ledger accounts in the books of the consignor.

13 a) A and B were partners in a joint venture sharing profits and losses in the proportion of four-fifth and one-fifth respectively. A supplies goods to the value of Rs.5,000 and inures expenses amounting to Rs.400. B supplies goods to the value of Rs.4,000 and his expenses amounting to Rs.300. B sells goods on behalf of the joint venture and realizes Rs.12,000. B is entitled to a commission of 5 percent on sales. B settles his accounts by bank draft. Give journal entries and necessary ledger accounts in the books of both the parties.

(OR)

b) Difference between consignment and joint venture.

B.Com	Semester: II	Credits: 4
Course: 2B	BUSINESS ECONOMICS	Hrs/Wk: 5

Learning Outcomes:

At the end of the course, the student will able to:

- Describe the nature of economics in dealing with the issues of scarcity of resources.
- Analyze supply and demand analysis and its impact on consumer behaviour.
- Evaluate the factors, such as production and costs affecting firms behaviour.
- Recognize market failure and the role of government in dealing with those failures.
- Use economic analysis to evaluate controversial issues and policies.
- Apply economic models for managerial problems, identify their relationships, and formulate the decision making tools to be applied for business.

UNIT I:

Introduction: Meaning and Definitions of Business Economics - Nature and Scope of Business Economics - Micro and Macro Economics and their Interface.

UNIT II:

Demand Analysis: Meaning and Definition of Demand – Determinants to Demand –Demand Function -Law of Demand – Demand Curve – Exceptions to Law of Demand - Elasticity of Demand – Measurements of Price Elasticity of Demand.

UNIT III:

Production, **Cost and Revenue Analysis**: Concept of Production Function – Law of Variable Proportion - Law of Returns to Scale - Classification of Costs -Break Even Analysis – Advantages.

UNIT IV:

Market Structure: Concept of Market – Classification of Markets -Perfect Competition – Characteristics – Equilibrium Price -Monopoly – Characteristics – Equilibrium Under Monopoly.

UNIT V:

National Income: Meaning – Definition – Measurements of National Income - Concepts of National Income - Components of National Income-Problems in Measuring National Income.

REFERENCES:

1. Business Economics -S.Sankaran, Margham Publications, Chennai.
2. Business Economics - Kalyani Publications.
3. Business Economics - Himalaya Publishing House.
4. Business Economics - Aryasri and Murthy, Tata McGraw Hill.
5. Business Economics -H.L Ahuja, Sultan Chand & Sons
6. Principles of Economics -Mankiw, Cengage Publications
7. Fundamentals of Business Economics -Mithani, Himalaya Publishing House
8. Business Economics -A.V. R. Chary, Kalyani Publishers, Hyderabad.
9. Business Economics -Dr K Srinivasulu, Seven Hills International Publishers.

SB.Comgested Co-Curricular Activities:

- Assignments.
- Student Seminars.
- Quiz , JAM.
- Study Projects.
- Group Discussion.
- Graphs on Demand function and demand curves.
- Learning about markets.
- The oral and written examinations (Scheduled and surprise tests).
- Market Studies.
- Individual and Group project reports.
- Annual talk on union and state budget.
- Any similar activities with imaginative thinking beyond the prescribed syllabus.

MODEL QUESTION COURSE

B.Com DEGREE EXAMINATION
SEMESTER: II
GENERAL
Course 2B: Business Economics

Time: 3Hrs. Max. Marks: 75

Section-A

Answer any **FIVE** of the following questions. **5X5=25M**

1. Micro Economics.
2. Law of Demand.
3. Cost Analysis.
4. Monopoly.
5. National Income.
6. Demand Curve.
7. BEP.
8. Forecasting.

SECTION- B

Answer **FIVE** questions. **5X10=50M**

9. a) Define Business Economics. Explain the nature and scope of Business Economics.

(OR)

b) Distinguish between Micro and Macro economics.

10. a) What is meant by Demand? What are the exceptions to Law of Demand?

(OR)

b) What do you understand by elasticity of demand ? Explain the factors which determine the elasticity of demand.

11. a) Discuss the various concepts of cost curves. Why is long cost curve flatter than the short-run cost curve?

(OR)

b) What are the advantages and limitations of Break Even Analysis?

12. a) Define Market. Briefly explain the classification of markets.

(OR)

b) Write an essay on Monopoly.

13. a) Describe the different concepts and components in National Income.

(OR)

b) Briefly explain problems in measuring National Income.

B.Com	Semester: II	Credits: 4
Course: 2C	BANKING THEORY AND PRACTICE	Hrs/Wk: 5

Learning Outcomes:

At the end of the course, the student will able to:

- Understand the basic concepts of banks and functions of commercial banks.
- Demonstrate an awareness of law and practice in a banking context.
- Engage in critical analysis of the practice of banking law.
- Organize information as it relates to the regulation of banking products and services.
- Critically examine the current scenario of Indian Banking system.
- Formulate the procedure for better service to the customers from various banking innovations.

UNIT I:

Introduction: Meaning & Definition of Bank – Functions of Commercial Banks – Credit Creation with Examples - Kinds of Banks – Central Banking Vs. Commercial Banking.

UNIT II:

Banking Systems: Unit Banking, Branch Banking, Investment Banking - Innovations in Banking – E banking - Online and Offshore Banking, Internet Banking - Anywhere Banking - ATMs – RTGS- NEFT – Mobile Banking.

UNIT III:

Types of Banks: Indigenous Banking - Cooperative Banks, Regional Rural Banks, SIDBI, NABARD - EXIM bank.

UNIT IV:

Banker and Customer: Meaning and Definition of Banker and Customer – Types of Customers – General Relationship and Special Relationship between Banker and Customer - KYC Norms.

UNIT V:

Collecting Banker and Paying Banker: Concepts - Duties & Responsibilities of Collecting Banker – Holder for Value – Holder in Due Course – Statutory Protection to Collecting Banker - Responsibilities of Paying Banker - Payment Gateways.

BOOKS FOR REFERENCE:

1. Banking Theory: Law &Practice : K P M Sundram and V L Varsheney, Sultan Chand &Sons.
2. Banking Theory, Law and Practice : B. Santhanam; Margam Publications.
3. Banking Theory and Practice, Seven Hills International Publishers, Hyderabad.
4. Banking and Financial Systems: Aryasri, Tata McGraw-Hill Education India.
5. Introduction to Banking :VijayaRaghavan,Excel books.
6. Indian Financial System :M.Y.Khan, McGraw Hill Education.
7. Banking Theory and Practice, Jagroop Singh, Kalyani Publishers.

SB.Comgested Co-Curricular Activities:

- Debates & Student Seminars.
- Quiz Programmes.
- Visit to Bank premises.
- Guest Lecture by Banking Official and Prepare a statement on periodical declarations of RBI like SLR, REPO etc.
- Collection, display and Practicing of filling of different forms used in banks.
- Survey on customers satisfaction of Banking services.
- Know about KYC norms and Talk on latest trends in banking industry.
- Online Banking.
- Individual and group project reports and Current Affairs of Banking Sector.
- Examinations (Scheduled and surprise tests) and Any similar activities with imaginative thinking beyond the prescribed syllabus.

MODEL QUESTION COURSE

B.Com DEGREE EXAMINATION
SEMESTER: II
GENERAL Course-2C
Course 2C: Banking Theory And Practice

Time: 3Hrs. Max. Marks: 75

Section-*A*

Answer any **FIVE** of the following questions. **5X5=25M**

1. Commercial banks
2. Internet Banking
3. Indigenous Banking
4. Banker Vs Customer
5. Payment Gateways
6. EXIM Bank
7. Reserve Bank of India
8. E-Banking

SECTION- B

Answer **FIVE** questions. **5X10=50M**

9. a) Define Bank. Briefly explain the functions of Commercial Banks.
(OR)
b) Distinguish between Central banking and Commercial Banking.

10. a) What are the merits and demerits of Unit Banking?
(OR)
b) Briefly explain the innovations in Banking.

11. a) Define NABARD. Explain various functions of NABARD.
(OR)
b) Briefly explain the role and importance of RRBs in Indian Economy.

12. a) Explain the special relationship between Banker and Customer.
(OR)
b) Define Banker and Customer. Explain various types of customers.

13. a) Explain the duties and responsibilities of Collecting Banker.
(OR)
b) Explain the responsibilities of Paying Banker.

B.Com	Semester: III	Credits: 4
Course: 3A	ADVANCED ACCOUNTING	Hrs/Wk: 5

Learning Outcomes:

At the end of the course, the student will able to:

- Understand the concept of Non-profit organisations and its accounting process.
- Comprehend the concept of single-entry system and preparation of statement of affairs.
- Familiarize with the legal formalities at the time of dissolution of the firm .
- Prepare financial statements for partnership firm on dissolution of the firm.
- Employ critical thinking skills to understand the difference between the dissolution of the firm and dissolution of partnership.

UNIT I:

Accounting for Non Profit Organizations: Non Profit Entities- Meaning - Features of Non-Profit Entities –Provisions as per Sec 8 - Accounting Process- Preparation of Accounting Records - Receipts and Payments Account- Income and Expenditure Account - Preparation of Balance Sheet (including problems).

UNIT II:

Single Entry System: Features – Differences between Single Entry and Double Entry – Disadvantages of Single Entry- Ascertainment of Profit and Preparation of Statement of Affairs (including Problems).

UNIT III:

Hire Purchase System: Features –Difference between Hire Purchase and Instalment Purchase Systems - Accounting Treatment in the Books of Hire Purchaser and Hire Vendor - Default and Repossession (including Problems).

UNIT IV:

Partnership Accounts-I: Meaning – Partnership Deed - Fixed and Fluctuating Capitals-Accounting Treatment of Goodwill - Admission and Retirement of a Partner(including problems).

UNIT V:

Partnership Accounts-II: Dissolution of a Partnership Firm – Application of Garner v/s Murray Rule in India – Insolvency of one or more Partners (including problems).

REFERENCES BOOKS:

1. Advanced Accountancy: T S Reddy and A Murthy by Margham Publications.
2. Financial Accounting: SN Maheswari& SK Maheswari by Vikas Publications.
3. Principles and Practice of Accounting: R.L. Gupta & V.K. Gupta, Sultan Chand & Sons.
4. Advanced Accountancy: R.L.Gupta&Radhaswamy, Sultan Chand &Sons..
5. Advanced Accountancy (Vol-II): S.N.Maheshwari&V.L.Maheswari, Vikas publishers.
6. Advanced Accountancy: Dr. G. Yogeshwaran, Julia Allen - PBP Publications.
7. Accountancy–III: Tulasian, Tata McGraw Hill Co.
8. Accountancy–III: S.P. Jain & K.L Narang, Kalyani Publishers.
9. Advanced Accounting (IPCC): D. G. Sharma, Tax Mann Publications.
10. Advanced Accounting: Prof B Amarnadh, Seven Hills International Publishers.
11. Advanced Accountancy: M Shrinivas& K Sreelatha Reddy, Himalaya Publishers.

SB.Comgested Co-Curricular Activities:

- Quiz Programs and Problem Solving exercises.
- Co-operative learning.
- Seminar and Visit a single-entry firm, collect data and Creation of Trial Balance of the firm .
- Visit Non-profit organization and collect financial statements.
- Critical analysis of rate of interest on hire purchase schemes.
- Visit a partnership firm and collect partnership deed .
- Debate on Garner v/s Murray rule in India and outside India.
- Group Discussions on problems relating to topics covered by syllabus.
- Examinations (Scheduled and surprise tests) on all units.

MODEL QUESTION COURSE

B.Com DEGREE EXAMINATION
SEMESTER: III
GENERAL
Course 3A: Advanced Accounting

Time: 3Hrs. Max. Marks: 75

Section-A

Answer any **FIVE** of the following questions. **5X5=25M**

1. Non-profit organizations
2. Statement of Affairs
3. Hire Vendor
4. Partnership Deed
5. Garner Vs Murrey
6. Dissolution of Partnership
7. Accounting Process
8. Double Entry System

Section- B

Answer **FIVE** questions. **5X10=50M**

9. a) Distinguish between Income and Expenditure and Receipts and Payment Accounts.

(OR)

b) What are the provisions and features of Non-profit organizations?

10. a) Briefly explain advantages and limitations of single entry system.

(OR)

b) Mr. Ramesh, who keeps his books on single entry system, tells you that his capital on 31-12-2019 is Rs.40,500 and on 1st January 2019 was Rs.25,800. He further informs you that he withdraws Rs.3,500 for personal purposes. He invested further capital of Rs.5,000. Besides this, there is no other information. You are required to prepare Statement of Profit and Loss for the year ended on 31-12-2019.

11. a) Malnad Coffee Works Ltd., boB.Comht coffee drying machine costing Rs.6,56,000 from Xavier Ltd on 1st January 2019 on hire purchase basis. Rs. 2,00,000 was paid on signing the contract and the balance in three annual instalments of Rs. 2,00,000 (each) by the end of December every year. Interest was charged at 15% per annum. Life of the machine was expected to be four years. You are required to pass the journal entries and necessary ledger accounts in the books of (i) Malnad Coffee Works Ltd., and (ii) Xavier Ltd.

(OR)

b) Briefly explain the advantages and limitations of Instalment System.

12. a) Briefly explain the classification of Partners.

(OR)

b) A and B are partners in a firm sharing profits and losses in the ratio of 3:2. A new partner C is admitted. A surrenders 1/5th of his share and B surrenders 2/5th of his share and B surrenders 2/5th of his share in favour of C. For the purpose of C's admission, goodwill of the firm is valued at Rs.75,000 and C brings in his share of goodwill in cash which is retained in the firm's books. Journalise the above transactions.

13. a) the Balance sheet of X, Y and Z as at 31 st March, 2018 was:

Liabilities		**Amount Rs.**	**Assets**	**Amount Rs.**
Bills Payable		2000	Cash at Bank	5,800
Employees' Provident Fund		5000	Bills Receivable	800
Workmen Compensation Reserve		6000	Stock	9,000
General Reserve		6000	Sundry Debtors	16,000
Loans		7100	Furniture	2,000
Capital A/cs:			Plant and Machinery	6,500
X	22,750		Building	30,000
Y	15,250		Advertising Suspense	6,000
Z	12,000	50,000		
		76,100		**76,100**

The profit-sharing ratio was 3:2:1. *Z* died on 31st July, 2018. The Partnership Deed provides that:
(i) Goodwill is to be calculated on the basis of three years' purchase of the five years' average profit. The profits were: 2017-18: Rs. 24,000; 2016-17: Rs. 16,000; 2015-16: Rs. 20,000 and 2014-15: Rs. 10,000 and 2013-14: Rs. 5,000.
(ii) The deceased partner to be given share of profits till the date of death on the basis of profits for the previous year.
(iii) The Assets have been revalued as: Stock Rs.10,000; Debtors Rs. 15,000; Furniture Rs.1,500; Plant and Machinery Rs. 5,000; Building Rs.35,000. A Bill Receivable for Rs. 600 was found worthless.
(iv) A Sum of Rs. 12,233 was paid immediately to *Z*'s Executors and the balance to be paid in two equal annual installments together with interest @ 10% p.a. on the amount outstanding.Give Journal entries and show the *Z*'s Executors' Account till it is finally settled.

(OR)

b) How would you distinguish between dissolution of partnership and dissolution of Firm?

B.Com	Semester: III	Credits: 4
Course: 3B	BUSINESS STATISTICS	Hrs/Wk: 5

Learning Outcomes:

At the end of the course, the student will able to:

- Understand the importance of Statistics in real life.
- Formulate complete, concise, and correct mathematical proofs.
- Frame problems using multiple mathematical and statistical tools, measuring relationships by using standard techniques.
- Build and assess data-based models.
- Learn and apply the statistical tools in day life.
- Create quantitative models to solve real world problems in appropriate contexts.

UNIT I:

Introduction to Statistics: Definition – Importance, Characteristics and Limitations of Statistics - Classification and Tabulation – Frequency Distribution Table -Diagrams and Graphic Presentation of Data (including problems)

UNIT II:

Measures of Central Tendency: Types of Averages – Qualities of Good Average - Mean, Median, Mode, and Median based Averages-Geometric Mean – Harmonic Mean(including problems)

UNIT III:

Measures of Dispersion: Meaning and Properties of Dispersion – Absolute and Relative Measures - Types of Dispersion-Range - Quartile Deviation (Semi – Inter Quartile Range) -Mean Deviation - Standard Deviation - Coefficient of Variation. (including problems)

UNIT IV:

Skewness and Kurtosis: Measures of Skewness: Absolute and Relative Measures- Co-efficient of Skewness: Karl Pearson's, Bowley's and Kelly's - Kurtosis: Meso kurtosis, Platy kurtosis and Leptokurtosis (including problems)

UNIT V:

Measures of Relation: Meaning and use of Correlation – Types of Correlation - Karlpearson's Correlation Coefficient - Probable Error-Spearman's Rank-Correlation (including problems)

TEXT BOOKS:

1. Business Statistics, Reddy C.R., Deep Publications.
2. Statistical Methods: Gupta S.P.Sultan Chand & Sons.
3. Statistics-Problems and Solutions: Kapoor V.K, Sultan Chand &Sons.
4. Fundamentals of Statistics: Elhance. D.N
5. Business Statistics, Dr.P.R.Vittal, Margham Publications
6. Business Statistics, LS Agarwal, Kalyani Publications.
7. Statistics: Dr V Murali Krishna, Seven Hills International Publishers.
8. Fundamentals of Statistics: Gupta S.C. Sultan Chand &Sons.
9. Statistics-Theory, Methods and Applications: Sancheti, D.C. & Kapoor V.K.
10. Business Statistics: J.K. Sharma, Vikas Publishers.
11. Business Statistics: Bharat Jhunjhunwala, S Chand Publishers.
12. Business Statistics: S.L.Aggarval, S.L.Bhardwaj and K.Raghuveer, Kalyani Publishers.

SB.Comgested Co-Curricular Activities :

- Student Seminars, Quiz. and Problem Solving Exercises.
- Observe Live Population Clocks – India and world.
- Collection of statistical data of village/town, District, State, Nation.
- Participate in Crop Cutting Experiments at villages.
- Percentiles in CET exams.
- Practice Statistical Functions in MS Excel and Draw diagrams and Graphs in MS Excel.
- Use statistical tools in real life like class/college results, local production etc.
- Prepare questionnaire and schedule.
- Application of averages in everyday life and Examinations (Scheduled and surprise tests).
- Any similar activities with imaginative thinking beyond the prescribed syllabus

MODEL QUESTION COURSE

B.Com DEGREE EXAMINATION

SEMESTER: III

GENERAL

Course 3B: Business Statistics

Time: 3Hrs. Max. Marks: 75

Section-A

Answer any **FIVE** of the following questions. **5X5=25M**

1. Classification of Data
2. Harmonic Mean
3. Range
4. Skewness
5. Correlation
6. Probable Error
7. Coefficient of Variation
8. Frequency Distribution

Section- B

Answer **FIVE** questions. **5X10=50M**

9. a) Highlight the role and importance of statistics in business decision making in detail.

(OR)

b) Briefly explain the nature and scope of Business Statistics.

10. a) What are the advantages and limitations of measures of central tendency?

(OR)

b) Calculate Mean and Variance of the following Data.

Size	14	16	18	20	22	24	26
Frequency	12	13	14	15	13	12	16

11. a) Calculate quartile deviation and its coefficient from the following data :

C.I	0-10	10-20	20-30	30-40	40-50
F	5	7	10	5	8

(OR)

b) Define standard deviation. Briefly explain advantages and limitations of standard deviation.

12.a) Given the following information, find the number of items (n) where rxy = 0.8, x$\sum$y = 2.5,σxy =60, $\sum$2 = 90, where x and y are the deviations from the respective means.

(OR)

b) Briefly explain the measures of skewness.

13. a) Calculate the co-efficient of correlation from the following data:

X	12	9	8	10	11	13	07
Y	14	8	6	9	11	12	3

ThroB.Comh Karl Pearson's method.

(OR)

b) Explain various types of correlation.

B.Com	Semester: III	Credits: 4
Course: 3C	MARKETING	Hrs/Wk: 5

Learning Outcomes:

At the end of the course, the student will able to:

- Develop an idea about marketing and marketing environment.
- Understand the consumer behaviour and market segmentation process.
- Comprehend the product life cycle and product line decisions.
- Know the process of packaging and labeling to attract the customers.
- Formulate new marketing strategies for a specific new product.
- Develop new product line and sales promotion techniques for a given product.
- Design and develop new advertisements to given products.

UNITI:

Introduction: Concepts of Marketing: Need, Wants and Demand - Marketing Concepts – Marketing Mix - 4 P's of Marketing – Marketing Environment.

UNIT II:

Consumer Behaviour and Market Segmentation: Buying Decision Process – Stages – Buying Behaviour – Market Segmentation –Bases of Segmentation - Selecting Segments – Advantages of Segmentation.

UNIT III:

Product Management: Product Classification – Levels of Product - Product Life Cycle - New Products, Product Mix and Product Line Decisions - Design, Branding, Packaging and Labelling.

UNIT IV:

Pricing Decision: Factors Influencing Price – Determination of Price - Pricing Strategies: Skimming and Penetration Pricing.

UNIT V:

Promotion and Distribution: Promotion Mix - Advertising - Sales promotion - Publicity – Public Relations - Personal Selling and Direct Marketing - Distribution Channels
– Online Marketing

REFERENCE BOOKS:

1. Philip Kotler, Marketing Management, Prentice Hall of India.
2. Philip Kotler & Gary Armstrong, Principles of Marketing, Pearson Prentice Hall.
3. Stanton J. William & Charles Futrel, Fundamentals of Marketing, McGraw Hill.
4. V.S. Ramaswamy S. Nama Kumari, Marketing Management – Planning, McMillan.
5. The Consumer Protection Act 1986 and Consumer Protection Act 2019.
6. Dhruv Grewal and Michael Levy, Marketing, McGraw Hill Education.
7. Dr L Natarajan, Financial Markets, Margham Publications.
8. Dr M Venkataramanaiah, Marketing, Seven Hill International Publishers.
9. C N Sonanki, Marketing, Kalyani Publications.

SB.Comgested Co-Curricular Activities:

- Quiz programs and Seminars .
- Practice of Terminology of Marketing.
- Guest lectures on various topics by marketing agents.
- Observing consumer behaviour on field trips to local markets.
- Visit a manufacturing industry/firm for product manufacturing process.
- Showing Graphs on Pricing decisions.
- Analyse the advertisements.
- Product demonstration by the student.
- Conducting the survey on middle man in marketing process and Making a advertisement.
- Examinations (Scheduled and surprise tests) .

MODEL QUESTION COURSE

B.Com DEGREE EXAMINATION
SEMESTER: III
GENERAL
Course 3C: Marketing

Time: 3Hrs. Max. Marks: 75

Section-A

Answer any **FIVE** of the following questions. **5X5=25M**

1. Marketing Management
2. Consumer Behaviour
3. Product Mix
4. Penetration Pricing
5. Personal Selling
6. Branding
7. Advertising
8. Labelling

Section- B

Answer **FIVE** questions. **5X10=50M**

9. a) Critically evaluate the trends in marketing practices in the present global environment.
(OR)
b) Explain the Marketing Environment factors for the Cosmetic Industry.

10. a) What are the advantages and limitations of market segmentation?
(OR)
b) What factors influencing consumer behaviour?

11. a) Explain the stages of Product Life Cycle and strategies to adapt at every stage.
(OR)
b) Explain various methods of pricing of a new product. .

12 a) What factors influencing price?
(OR)
b) Briefly explain the pricing strategies.

13. a) What are the Problems faced by E-Business People?
(OR)
b) What do you mean by On –Line Marketing? And also discuss the advantages of On – Line Marketing.

B.Com	Semester: IV	Credits: 4
Course: 4A	CORPORATE ACCOUNTING	Hrs/Wk: 5

Learning Outcomes:

At the end of the course, the student will able to:

- Understand the Accounting treatment of Share Capital and aware of process of book building.
- Demonstrate the procedure for issue of bonus shares and buyback of shares.
- Comprehend the important provisions of Companies Act, 2013 and prepare final accounts of a company with Adjustments.
- Participate in the preparation of consolidated accounts for a corporate group.
- Understand analysis of complex issues, formulation of well-reasoned arguments and reaching better conclusions.
- Communicate accounting policy choices with reference to relevant laws and accounting standards.

UNIT I:

Accounting for Share Capital: Kinds of Shares – Types of Preference Shares – Issue of Shares at Par, Discount and Premium - Forfeiture and Reissue of Shares (including problems).

UNIT II:

Issue and Redemption of Debentures and Issue of Bonus Shares: Accounting Treatment for Debentures Issued and Repayable at Par, Discount and Premium -Issue of Bonus Shares - Buyback of Shares - (including problems).

UNIT III:

Valuation of Goodwill: Need and Methods - Average Profit Method, Super Profits Method – Capitalization Method and Annuity Method (Including problems).

UNIT IV:

Valuation Shares: Need for Valuation - Methods of Valuation - Net Assets Method, Yield Basis Method, Fair Value Method (including problems).

UNIT V:

Company Final Accounts: Provisions of the Companies Act, 2013 - Preparation of Final Accounts – Adjustments Relating to Preparation of Final Accounts – Profit and Loss Account and Balance Sheet – (including problems with simple adjustments).

REFERENCE BOOKS:

1. Corporate Accounting – T.S Reddy and Murthy, MarghamPublications, Chennai.
2. Advanced Accounts: M C Shukla, T S Grewal and S C Gupta, S Chand Publications
3. Corporate Accounting – Haneef & Mukherji, Tata McGraw Hill Publications.
4. Corporate Accounting – RL Gupta & Radha Swami,Sultan Chand & sons
5. Corporate Accounting – P.C. Tulsian, S.Chand Publishers
6. Advanced Accountancy: Jain and Narang,,Kalyani Publishers
7. Advanced Accountancy: R.L. Gupta and M.Radhaswamy, S Chand.
8. Advanced Accountancy :Chakraborthy, Vikas Publishers
9. Corporate Accounting: S.N. Maheswari, S.K. Maheswari, Vikas Publishing House.
10. Advanced Accounts: M.C. Shukla, T.S. Grewal, S.C. Gupta, S. Chand & Company
11. Corporate Accounting: Umamaheswara Rao, Kalyani Publishers
12. Corporate Accounting: Dr ChandaSrinivas, SevenHills International Publishers,
13. Advanced Accountancy: Arulanandam& Raman, Himalaya Publishing House.

SB.Comgested Co-Curricular Activities:

- Assignments and Problem Solving Exercises.
- Collect and fill the share application form of a limited Company.
- Collect Prospectus of a company and identify its salient features.
- Collect annual report of a Company and List out its assets and Liabilities.
- Collect the annual reports of company and calculate the value of goodwill under different methods.
- Power point presentations on types of shares and share capital.
- Group Discussions on problems relating to topics covered by syllabus.

MODEL QUESTION COURSE

B.Com DEGREE EXAMINATION
SEMESTER: IV
GENERAL
Course 4A: Corporate Accounting

Time: 3Hrs. Max. Marks: 75

Section-A

Answer any **FIVE** of the following questions. **5X5=25M**

1. Forfeiture of Shares
2. Buyback of shares
3. Annuity Method of Goodwill
4. Fair value method
5. Companies Act, 2013
6. Equity Share Capital
7. Dividend
8. Goodwill

Section- B

Answer **FIVE** questions. **5X10=50M**

9. a) X Ltd. Forfeited 100 equity shares of Rs. 10 each held by Rooldu Ram on 15th December, 2015 for non-payment of First Call of Rs. 2 per share and the final call of Rs. 3 per share. These shares were re-issued to Mohan on 25th December 2015 at a discount of Rs. 3.50 per share. Pass journal entries.

(OR)

b) What are the advantages of Equity Share Capital and Preference Share Capital?

10. a) Explain the major sources where from the debentures can be redeemed.

(OR)

b) What is the purpose of issue of bonus shares? What are the conditions which have to be fulfilled while making such an issue?

11. a) RG and MK are the partners in the firm. Their capitals are 3, 00,000 and 2,00,000. During the year ended 31st March, 2010 the firm earned a profit of 1,50,000. Assuming that the normal rate of return is 20%. Calculate the value of goodwill of the firm:
    1. By capitalization method
    2. By super profit method if the goodwill is valued at 2 years purchase of super profit.

(OR)

b) Define goodwill. When may the need for evaluating goodwill arise in the case of a joint stock company?

12. a) Explain need for valuation and methods of valuation.

(OR)

b) From the following Balance Sheet of Sweetex Ltd. you are asked to-ascertain the value of each Equity Share of the company:

Liabilities	**Amount Rs.**		**Assets**	**Amount Rs.**
20,000 Equity Shares Rs. 10 each, fully paid		20,000	Good Will	30,000
1000, 6%Preference Shares of Rs.100 each, fully paid		1,00,000	Land And Building	1,00,000
Reserves	60,000		Plant and Machinery	1,20,000
Sundry Creditors	40,000		Investment(At Cost)	60,000
Provision for Taxation	20,000		Stock	50,000
Other Liabilities	10,000		Debtors	40,000
			Cash at Bank	24,000
			Preliminary Expenses	6,000
	4,30,000			**4,30,000**

For the purpose of valuing the shares of the company, the assets were revalued as: Goodwill Rs. 50,000; Land and Building at cost plus 50%, Plant and Machinery Rs. 1, 00,000; Investments at book values; Stock Rs. 80,000 and Debtors at book value, less 10%.

13.a) A limited company has an authorized capital of Rs.1,000,000 divided into 60,000 equity shares of Rs.10 each and 4,000, 10% preference shares of Rs.100 each out of which 50,000 equity share and 3,000 preference share were issued and fully paid up. The profit for the year 2019 being the first year of operation amounted to Rs.1,80,000 after income tax. The directors decided to declare a dividend of 22% on the equity share capital after.

i. Statutory minimum requirement transfer to general reserve

ii. Provision of dividend on preference shares.

Prepare profit and loss appropriation account and show liabilities side of the balance sheet.

(OR)

b) What are the salient features and provisions of Companies Act, 2013.

B.Com	Semester: IV	Credits: 4
Course: 4B	COST AND MANAGEMENT ACCOUNTING	Hrs/Wk: 5

Learning Outcomes:

At the end of the course, the student will able to:

- Understand various costing methods and management techniques.
- Apply Cost and Management accounting methods for both manufacturing and service industry.
- Prepare cost sheet, quotations, and tenders to organization for different works.
- Analyze cost-volume-profit techniques to determine optimal managerial decisions.
- Compare and contrast the financial statements of firms and interpret the results.
- Prepare analysis of various special decisions, using relevant management techniques.

UNIT I:

Introduction: Cost Accounting: Definition – Features – Objectives – Functions – Scope – Advantages and Limitations - Management Accounting: Features – Objectives – Functions –
Elements of Cost - Preparation of Cost Sheet (including problems)

UNIT II:

Material and Labour Cost: Techniques of Inventory Control – Valuation of Material Issues: FIFO - LIFO - Simple and Weighted Average Methods. Labour: Direct and Indirect Labour Cost – Methods of Payment of Wages- Incentive Schemes -Time Rate Method, Piece Rate Method, Halsey, Rowan Methods and Taylor Methods only(including problems)

UNIT III:

Job Costing and Batch Costing: Definition and Features of Job Costing – Economic Batch Quantity (EBQ) – Preparation of Job Cost Sheet – Problems on Job Cost Sheet and Batch Costing(including problems)

UNIT IV:

Financial Statement Analysis and Interpretation:Financial Statements - Features, Limitations. Need, Meaning, Objectives, and Process of Financial Statement Analysis- Comparative Analysis – Common Size Analysis and Trend Analysis (including problems)

UNIT V:

Marginal Costing: Meaning and Features of Marginal Costing – Contribution –Profit Volume Ratio- Break Even Point – Margin of Safety – Estimation of Profit and Estimation of Sales(including problems).

REFERENCES BOOKS:

1. S.P. Jain and K.L. Narang – Advanced Cost Accounting, Kalyani Publishers.
2. M.N. Arora – A test book of Cost Accounting, Vikas Publishing House Pvt. Ltd.
3. S.P. Iyengar – Cost Accounting, Sultan Chand & Sons.
4. Nigam & Sharma – Cost Accounting Principles and Applications, S.Chand& Sons.
5. S.N. Maheswari– Principles of Management Accounting, Sultan Chand & Sons.
6. I.M.Pandey – Management Accounting, Vikas Publishing House Pvt. Ltd.
7. Sharma & Shashi Gupta – Management Accounting, Kalyani Publishers.
8. Murthy & Guruswamy – Management Accounting, Tata McGraw Hill, New Delhi.
9. S.P. Gupta – Management Accounting, S. Chand Publishing, New Delhi.
10. Umamaheswara Rao and Ranganath, Cost Accounting, Kalyani Publishers.
11. Dr V Murali Krishna – Cost Accounting, Seven Hills International Publishers.

SB.Comgested Co-Curricular Activities:

- Debate on methods of payments of wages.
- Seminars and Problem Solving Exercises .
- Seminar on need and importance of financial statement analysis.
- Graphs showing the breakeven point analysis.
- Identification of elements of cost in services sector by Visiting any service firm
- Cost estimation for the making of a proposed product.
- Listing of industries located in your area and methods of costing adopted by them.
- Collection of financial statements of any two organization for two years and prepare a common Size Statements. Collection of cost sheet and pro-forma of quotation.

MODEL QUESTION COURSE

B.Com DEGREE EXAMINATION
SEMESTER: IV
GENERAL
Course 4B: Cost And Management Accounting

Time: 3Hrs. Max. Marks: 75

Section-A

Answer any **FIVE** of the following questions. **5X5=25M**

1. Elements of Cost
2. Time Rate Method
3. EBQ
4. Trend Analysis
5. Profit Volume Ratio
6. Job Costing
7. Cost Sheet
8. Inventory Control

Section- B

Answer **FIVE** questions. **5X10=50M**

9. a) Define Cost Accounting. Briefly explain the objectives and functions of Cost Accounting.

(OR)

b) Distinguish between Cost Accounting and Management Accounting

10. a) From the following details write Store Ledger under simple average method:

2006			
DEC	1	Opening Balance	100Kg @ Rs. 5.00
"	5	Received	50Kg @ Rs. 5.20
"	8	Issued	120Kg
"	10	Issued	10Kg
"	15	Received	80Kg @ Rs. 5.40
"	18	Issued	50Kg
"	20	Received	100Kg @ Rs. 5.60
"	25	Issued	40Kg
"	29	Issued	60Kg

The stock verifier found a shortage of 10 kg. on 16.12.06 and another shortage of 10 kg on 26.12.06.

(OR)

b) Define 'Labour Turnover'. How is it measured? Explain.

11. a) Distinguish between Job costing and batch costing.

(OR)

b) Annual demand for a component is 30,000 units. Cost of set-up per batch is Rs.600. Inventory carrying cost per unit per annum is Rs.1. (i) Calculate the total cost assuming batch size of 4,000 units, 5,000 units, 6,000 units, 7,000 units, 8,000 units, 9,000 units and 10,000 units. Also find the economic batch quantity. (ii) Using mathematical formula calculate economic batch quantity.

12. a) Define financial statement analysis. Explain the objectives and process of financial statement analysis.

(OR)

b) Briefly explain comparative analysis and common-size analysis.

13. a) Define Marginal Costing. Explain the features and importance of marginal costing.

(OR)

b) From the following data, you are required to calculate:

(i) P/V ratio

(ii) Break-even sales with the help of P/V ratio.

(iii) Sales required to earn a profit of Rs. 4,50,000

Fixed Expenses = Rs. 90,000
Variable Cost per unit:
Direct Material = Rs. 5
Direct Labour = Rs. 2
Direct Overheads = 100% of Direct Labour
Selling Price per unit = Rs. 12.

B.Com	Semester: IV	Credits: 4
Course: 4C	INCOME TAX	Hrs/Wk: 5

Learning Outcomes:

At the end of the course, the student will able to:

- Acquire the complete knowledge of the tax evasion, tax avoidance and tax planning.
- Understand the provisions and compute income tax for various sources.
- Grasp amendments made from time to time in Finance Act.
- Compute total income and define tax complicacies and structure.
- Prepare and File IT returns of individual at his own.

UNIT I:

Introduction: Income Tax Act-1961 - Basic Concepts: Income, Person, Assessee - Assessment Year, Previous Year, Rates of Tax, Agricultural Income,ResidentialStatusof Individual -Incidence of Tax – Incomes Exempt from Tax (theory only).

UNIT II:

Income from Salaries: Basis of Charge, Tax Treatment of Different Types of Salaries Allowances, Perquisites, Profits in Lieu of Salary, Deductions from Salary Income, Computation of Salary Income (including problems).

UNIT III:

Income from House Property and Profits and Gains from Business: Annual Value, Let-out/Self Occupied/Deemed to be Let-out house -Deductions from Annual Value - Computation of Income from House Property, Definition of Business and Profession – Procedure for Computation of Income from Business – Revenue and Capital Nature of Incomes and Expenses – Allowable Expenses – Expenses Expressly Disallowed – Computation (including problems).

UNIT IV:

Income from Capital Gains - Income from Other Sources: Meaning of Capital Asset – Types – Procedure for Computation of Long-term and Short-term Capital Gains/Losses
Meaning of Other Sources - General Incomes – Specific Incomes – Computation (including problems).

UNIT V: Computation of Total Income of an Individual: Deductions under Section 80 - Computation of Total Income (Simple problems).

REFERENCE BOOKS:

1. Dr. Vinod; K. Singhania; Direct Taxes – Law and Practice, Taxman Publications
2. T. S. Reddy and Dr. Y. Hari Prasad Reddy - Taxation , by Margham Publications
3. Premraj and Sreedhar, Income Tax, Hamsrala Publications
4. B.B. Lal - Direct Taxes; Konark Publications
5. Dr. Mehrotra and Dr. Goyal -Direct Taxes, Law and Practice, Sahitya Bhavan Publication.
6. Balachandran&Thothadri- Taxation Law and Practice, PHI Learning.
7. V.P. Gaur and D.B. Narang - Income Tax, Kalyani Publications
8. Dr Y Kiranmayi - Taxation, Jai Bharath Publishers
9. Income Tax, Seven Lecture Series, Himalaya Publications

SB.Comgested Co-Curricular Activities:

- Seminar on different topics of Income tax and Quiz programs, also Problem Solving Exercises.
- Debate on Tax Evasion and Avoidance.
- Practice of provisions of Taxation.
- Talk on Finance Bill at the time of Union Budget.
- Guest lecture by Chartered Accountant.
- Presentation of tax rates and Practice of filing IT Returns online.
- Group Discussions on problems relating to topics covered by syllabus.
- Examinations (Scheduled and surprise tests)

MODEL QUESTION COURSE

B.Com DEGREE EXAMINATION
SEMESTER: IV
GENERAL
Course 4C: Income Tax

Time: 3Hrs. Max. Marks: 75

Section-A

Answer any **FIVE** of the following questions. **5X5=25M**

1. Assessed
2. Agriculture Income
3. Perquisites
4. Gratuity
5. Self-occupied Property
6. Capital Asset
7. Interest on Securities
8. Total Income

Section- B

Answer **FIVE** questions. **5X10=50M**

9. a) What are the different categories of assesses according to their residential status? How is this status determined?

(OR)

b) Enumerate any ten items which are exempt from charge of Income-tax U/S 10.

10. a) Balu is employed by P Ltd in Pune. During the previous year, he gets the following emoluments: Basic salary: Rs. 1,86,000; dearness allowance: Rs. 12,300 (forming part of salary); city compensatory allowance: Rs. 3,100; children's education allowance: Rs. 2,340 (for 3 children); Bonus Rs.15,000; house rent allowance: Rs. 16,200 (rent paid: Rs. 20,000). Employer's contribution towards recognized provident fund Rs.20,000; Balu's contribution towards recognized provident fund Rs.40000; Income of Balu from other sources in India 80,000; Find out the taxable income and tax liability of Balu for the assessment year 2016-2017.

(OR)

b) Discuss various deductions available under the head salary.

11. a) What are the incomes chargeable under the head "Profits and Gains of Business or Profession? (OR)

b) A owns two houses, I & II. House I is let-out throB.Comhout the previous year. House II is self-occupied for nine months and let-out for three months on a monthly rent of Rs 5,000. Determine Taxable income, given the following details.

	House I	House I
Municipal Value	40000	50000
Fair Rent	50000	48000
Rent Received	48000	15000
Municipal Taxes paid	4000	5000
Insurance Premium (not yet paid)	2000	2500
Ground Rent	1000	1500
Maintenance Charges	3000	3500
Electricity Bill	5000	6000

12. a) Discuss the provisions of the IT Act, 1961 regarding: (i) Conversion of Capital Assets to Stock in Trade; (ii) Computation of Capital Gains in case of depreciable assets.

(OR)

b) Briefly explain general income and special incomes from other sources.

13. a) Briefly explain the deductions U/S 80.

(OR)

b) What is the procedure for computation of total income with examples?

B.Com	Semester: IV	Credits: 4
Course: 4D	BUSINESS LAW	Hrs/Wk: 5

Learning Outcomes:

At the end of the course, the student will able to:

- Understand the legal environment of business and laws of business.
- Highlight the security aspects in the present cyber-crime scenario.
- Apply basic legal knowledge to business transactions.
- Understand the various provisions of Company Law.
- Engage critical thinking to predict outcomes and recommend appropriate action on issues relating to business associations and legal issues.
- Integrate concept of business law with foreign trade.

UNIT I:

Contract: Meaning and Definition of Contract - Essential Elements of Valid Contract -Valid, Void and Voidable Contracts - Indian Contract Act, 1872

UNIT II:

Offer, Acceptance and Consideration: Definition of Valid Offer, Acceptance and Consideration - Essential Elements of a Valid Offer, Acceptance and Consideration.

UNIT III:

Capacity of the Parties and Contingent Contract:

Rules Regarding to Minors Contracts - Rules Relating to Contingent Contracts - Different Modes of Discharge of Contracts - Rules Relating to Remedies to Breach of Contract.

UNIT IV:

Sale of Goods Act 1930 and Consumer Protection Act 2019:

Contract of Sale - Sale and Agreement to Sell - Implied Conditions and Warranties - Rights of Unpaid Vendor- Definition of Consumer - Person - Goods - Service - Consumer Dispute - Consumer Protection Councils - Consumer Dispute Redressal Mechanism.

UNIT V:

Cyber Law: Overview and Need for Cyber Law - Contract Procedures - Digital Signature-Safety Mechanisms.

REFERENCES BOOKS:

1. J. Jaysankar, Business Laws, Margham Publication. Chennai.
2. ND Kapoor, Business Laws, S Chand Publications.
3. Balachandram V, Business law, Tata McGraw Hill.
4. Tulsian, Business Law, Tata McGraw Hill.
5. Pillai Bhagavathi, Business Law,SChand Publications.
6. Business Law, Seven Hills Publishers, Hyderabad.
7. K C Garg, Business Law, Kalyani Publishers.

SB.Comgested Co-Curricular Activities:

- Seminar on Basics of Indian Contract Act,1872.
- Quiz programs.
- Co-operative learning.
- Seminar on Cyber Law.
- Group Discussions.
- Debate on Offer, Agreement, and Contract.
- Creation of Contract by abiding rules of Indian Contract Act,1872.
- Making a sale by abiding rules of Sale of Goods Act,1930.
- Guest lecture by a Lawyer/Police officer.
- Celebrating consumers day by creating awareness among the students.
- Examinations (Scheduled and surprise tests) .
- Any similar activities with imaginative thinking beyond the prescribed syllabus

MODEL QUESTION COURSE

B.Com DEGREE EXAMINATION
SEMESTER: IV
GENERAL
Course 4D: Business Law

Time: 3Hrs. Max. Marks: 75

Section-A

Answer any **FIVE** of the following questions. **5X5=25M**

1. Agreement
2. Acceptance
3. Minor
4. Unpaid Vendor
5. Digital Signature
6. Breach of Contract
7. Unsound Mind
8. Consumer

Section- B

Answer **FIVE** questions. **5X10=50M**

9. a) "All contracts are agreements but all agreements are not contract"…Explain.

(OR)

b) What are the salient features and classification of contracts under Indian Contact Act, 1872.

10. a) What are the essentials of consideration?

(OR)

b) What is offer and Invitation to offer?

11. a) Briefly explain various modes of discharge of contract.

(OR)

b) Explain the rules relating to contingent contracts.

.

12. a) What are the salient features and contents of Sale of Goods Act, 1930?

(OR)

b) Explain the rights of a consumer under Consumer Protection Act, 2019.

13. a) Explain an overview and need for Cyber Law.

(OR)

b) What is contract procedures and safety mechanism for Cyber Laws.

B.Com	Semester: IV	Credits: 4
Course: 4E	AUDITING	Hrs/Wk: 5

Learning Outcomes:

At the end of the course, the student will able to:

- Understanding the meaning and necessity of audit in modern era.
- Comprehend the role of auditor in avoiding the corporate frauds.
- Identify the steps involved in performing audit process.
- Determine the appropriate audit report for a given audit situation.
- Apply auditing practices to different types of business entities.
- Plan an audit by considering concepts of evidence, risk and materiality

UNIT I:

Introduction: Meaning – Objectives – Importance of Auditing – Characteristics - Book Keeping vs Auditing - Accounting vs Auditing – Role of Auditor in Checking Corporate Frauds.

UNIT II:

Types of Audit: Based on Ownership, Time and Objective - Independent, Financial, Internal, Cost,Tax, Government, Secretarial Audits

UNIT III:

Planning of Audit: Steps to be taken at the Commencement of a New Audit – Audit Programme - Audit Note Book– Audit Working Courses - Audit Evidence - Internal Check, Internal Audit and Internal Control.

UNIT IV:

Vouching and Investigation: Definition and Importance of Vouching – Objectives of Vouching - Vouching of Cash and Trading Transactions – Investigation - Auditing vs. Investigation

UNIT V:

Company Audit and Auditors Report: Auditor's Qualifications – Appointment andReappointment – Rights, Duties, Liabilities and Disqualifications - Audit Report: Contents –Preparation - Relevant Provisions of Companies Act, 2013.

REFERENCESBOOKS:

1. S.Vengadamani, “Practical Auditing”, Margham Publications, Chennai.
2. Ghatalia, “Principles of Auditing”, Allied Publishers Pvt. Ltd., New Delhi.
3. Pradeesh Kumar, BaldevSachdeva&Jagwant Singh,

“Auditing Theory and Practice,Kalyani Publications
4. N.D. Kapoor, “Auditing”, S Chand, New Delhi.
5. R.G. Saxena, “Principles and Practice of Auditing”, Himalaya Publishing House New Delhi
6. JagadeshPrakesh, “Principles and Practices of Auditing”, Kalyani Publications
7. Kamal Gupta and Ashok Gupta, “Fundamentals of Auditing”, Tata McGraw Hill
8. B.N. Tondan, “Practical Auditing”, S.Chand, New Delhi.
9. K J Vijaya Lakshmi & A S Roopa, Auditing, Seven Hills International Publishers, Hyderabad

SB.Comgested Co-Curricular Activities:

- Seminars.
- Visit the audit firms.
- Visit an audit firm, write about the procedure followed by them in Auditing the books of accounts of a firm.
- Guest lecture by an auditor.
- Collect the information about types of audit conducted in any one Organization.
- Collection of audit reports and Group Discussions.
- Draft an audit program.

MODEL QUESTION COURSE

B.Com DEGREE EXAMINATION
SEMESTER: IV
GENERAL
Course 4E: Auditing

Time: 3Hrs. Max. Marks: 75

Section-A

Answer any **FIVE** of the following questions. **5X5=25M**

1. Book Keeping Vs Auditing
2. Government Audit
3. Audit Note Book
4. Investigation
5. Audit Report
6. Internal Check
7. Cost Audit
8. Vouching

Section- B

Answer **FIVE** questions. **5X10=50M**

9. a) What are the objectives and importance of auditing?

(OR)

b) Explain the role and responsibilities of auditor in checking corporate frauds.

10. a) Briefly explain various types of audit.

(OR)

b) Explain the merits and demerits of Financial Audit and Internal Audit.

11. a) What are the steps to be taken at the commencement of a New Audit?

(OR)

b) Define Internal Control. Why to have internal control? Explain the elements of a good system of Internal Control.

12. a) What are the basic objectives and functions of Vouching?

(OR)

b) Distinguish between Auditing and Investigation.

13. a) Briefly explain the rights and duties of Auditors.

(OR)

b) State the provisions of the Companies Act, 2013 regarding qualification, appointment and removal of auditors.

B.Com	Semester: IV	Credits: 4
Course: 4F	GOODS AND SERVICES TAXES	Hrs/Wk: 5

Learning Outcomes:

At the end of the course, the student will able to:

- Understand the basic principles underlying the Indirect Taxation Statutes.
- Examine the method of tax credit. Input and Output Tax credit and Cross Utilisation of Input Tax Credit.
- Identify and analyze the procedural aspects under different applicable statutes related to GST.
- Compute the assessable value of transactions related to goods and services for levy and determination of duty liability.
- Develop various GST Returns and reports for business transactions in Tally.

UNIT I: Introduction: Overview of GST - Concepts –Taxes Subsumed under GST – Components of GST- GST Council- Advantages of GST-GST Registration.

UNIT II: GST Principles –Vijay Kelkar Sha Committee Recommendations - Comprehensive Structure of GST Model in India: Single, Dual GST – GST Rates - Taxes Exempted from GST- Taxes and Duties outside the purview of GST- Taxation of Services

UNIT III: Tax Invoice- Bill of Supply-Transactions Covered under GST-Composition Scheme- Reverse Charge Mechanism- Composite Supply -Mixed Supply.

UNIT IV: Time of Supply of Goods & Services: Value of Supply - Input Tax Credit - Distribution of Credit -Matching of Input Tax Credit - Availability of Credit in Special Circumstances- Cross utilization of ITC between the Central GST and the State GST.

UNIT V: GST Returns: Regular Monthly Filing Returns-Composition Quarterly Filing Returns-GSTR-1, GSTR-2, GSTR 2A, GSTR-3, GSTR 3B -Annual Returns GSTR-9, GSTR 9A, GSTR 9B& GSTR 9C - Records to be Maintained under GST.

REFERENCES BOOKS:

1. T. S. Reddy and Dr. Y. Hari Prasad Reddy, Business Taxation (Goods and Services Taxes),Margham Publications.
2. Taxmann's Basics of GST.
3. Taxmann's GST: A practical Approach.
4. Theory & Practice of GST, Srivathsala, Himalaya Publishing House.
5. Goods and Services Tax in India - Notifications on different dates. GST Bill 2012.
6. Background Material on Model GST Law, Sahitya Bhawan Publications.
7. The Central Goods and Services Tax Act, 2017, No. 12 of 2017 Published by Authority.
8. Ministry of Law and Justice, New Delhi, the 12thApril, 2017.
9. Theory & Practice of GST: Dr. Ravi M.N, BPB Publications.

SB.Comgested Co-Curricular Activities :

- Seminars.
- Show the flow chart of GST Suvidha Provider (GST).
- Practice of Terminology of Goods and Service Tax.
- Prepare chart showing rates of GST.
- Follow GST Council meeting updates regularly.
- Creation of GST Vouchers and Tax invoices.
- Visit a Tax firm (Individual and Group).
- Guest lecture by GST official.
- Prepare Tax invoice under the GST Act.
- Practice on how to file a Returns.
- Debate on Single GS, Dual GST.
- Group Discussions on Goods and Services outside the Purview of GST

MODEL QUESTION COURSE

B.Com DEGREE EXAMINATION
SEMESTER: IV
GENERAL
Course 4F: Goods And Services Taxes

Time: 3Hrs. Max. Marks: 75

Section-A

Answer any FIVE of the following: **5X5=25M**

1. GST council
2. GST rates
3. Tax invoice
4. State GST
5. GSTR 9 A
6. Input Tax Credit
7. Scope of GST
8. GST return

Section- B

Answer **FIVE** questions. **5x10=50M**

9. a) Explain overview of GST.

(OR)

b) What are the advantages and limitations of GST.

10. a) Elaborate the comprehensive structure of GST Model in India.

(OR)

b) Briefly explain taxes exempted from GST and Duties outside the purview of GST.

11. a) Explain various steps involved in the process of registration for GST? List various types of returns used in GST.

(OR)

b) Discuss in detail the GST Valuation Rules with suitable example.

12. a) What is input tax credit ? Explain various provisions to claim credit under GST and its utilization.

(OR)

b) Discuss in detail the rules for determining place of supply under GST.

13.a) In what situations refund can be claimed under GST? What is ine procedure for claiming refund under GST ?

(OR)

b) Explain the records maintained under GST.

ADIKAVI NANNAYA UNIVERSITY:: RAJMAHENDRAVARAM
B.Com. Commerce (General) Syllabus (w.e.f:2020-21A.B)

Skill Enhancement Courses (SECs) for Semester -V,

From 2022-23(Syllabus-Curriculum)

Structure of SECs for Semester–V

(To choose One pair from the Three alternate pairs of SECs)

Course No.	***Series-A: Accountancy***	***Course No.***	***Series-B: Services***	***Course No.***	***Series-C: E commerce***
	Course Name		*Course Name*		*Course Name*
16-A	Advanced Corporate Accounting	16-B	Advertising and Media Planning	16-C	Digital Marketing
17-A	Software Solutions to Accounting	17-B	Sales Promotion and Practice	17-C	Service Marketing
18-A	Management Accounting and Practice	18-B	Logistics Services and Practice	18-C	Income Tax Procedure and Practice
19-A	Cost Control Techniques	19-B	EXIM Procedure and Practice	19-C	GST Procedure and Practice
20-A	Stock Markets	20-B	Life Insurance with Practice	20-C	E Commerce
21-A	Stock Markets Analysis	21-B	General Insurance with Practice	21-C	E Filing

Note-1: In Semester-V a B.Com. General students have to study **THREE** pairs of SECs (a total of 6courses). The Pairs are, SEC numbers 16 & 17, 18 & 19 and 20 & 21.As there shall be choice tostudents under CBCS, a total of 9 pairs shall be offered from which B.Com. General students have to choose a total of Three pairs of SECs.
The 9 pairs are from 3 series namely (A) Accountancy, (B) Services and (C) E-Commerce. Students can, however, choose their **THREE** pairs from any of the **Nine** pairs but a pair shall not bebroken.

For example students can choose any THREE pairs like the following; 16 –A &17-A (fromAccountancy), 18-B, 19-B (from Services) and 20-C, 21-C from E-Commerce.

Or 16-A&17-A, 18-C &19-C and 20-B &21-B
Or 16-B &17-B, 18-A &19-A and 20-C &21-C
Or 16-B &17-B, 18-C &19-Cand 20-A &21-A
Or 16-C &17-C, 18-B & 19-B and 20-A &21-A
Or 16-C &17-C, 18-A &19-A and 20-B, 21-B

Whereas, B.Com Computers Students can choose any two pairs from the above 9 pairs.

Note-2: One of the main objectives of Skill Enhancement Courses (SEC) is to inculcate skills related to the domain subject in students. The syllabus of SEC will be partially skill oriented. Hence, teachers shall also impart practical training to students on the skills embedded in syllabus citing related real field situations.

ADIKAVI NANNAYA UNIVERSITY:: RAJMAHENDRAVARAM

B.Com. Commerce(General) Syllabus (w.e.f:2020-21A.B)

Skill Enhancement Courses(SECs) for Semester -V,

From2022-23(Syllabus-Curriculum)

Structure of SECs for Semester–V

(To choose One pair from the THREE alternate pairs of SECs)

Course Number	Name of Course	Hours/ Week	Credits	Marks	
				IA–25	SemEnd
16-A	Advanced Corporate Accounting	5	4	25	75
17-A	Software Solutions to Accounting	5	4	25	75
OR					
18 -A	Management Accounting and Practice	5	4	25	75
19-A	Cost Control Techniques	5	4	25	75
OR					
20-A	Stock Markets	5	4	25	75
21-A	Stock Markets Analysis	5	4	25	75

***Note**: FIRST and SECOND PHASES (2 spells) of APPRENTICESHIP between 1st and 2nd year and between 2nd and 3rd year (two summer vacations)

***Note**: THIRD PHASE of APPRENTICESHIP Entire 6th Semester

B.Com	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course:16A	Advanced Corporate Accounting	Hrs/Wk:5

LearningOutcomes

Aftercompletingthe course, thestudent shallbeableto:

1. UnderstandCorporateAccountingenvironment
2. RecordTransactionsrelatedtoPurchaseofBusiness,Amalgamationand Reconstruction
3. AnalyzethesituationsofPurchaseofBusinessandLiquidation
4. Create formulas and calculations relating to Amalgamation, Internal Reconstruction andHoldingcompanyaccounts
5. Acquire skills of Accounting Procedure of Advanced Corporate AccountingEnvironment.

Syllabus: Total75hrs(Teaching60,Training10,Others05 includingIE etc.)

Unit-I:PurchaseofBusiness

Meaning - Purchase Consideration - Methods for determining Purchase Consideration-DischargeofPurchaseConsideration-AccountingTreatment.

Unit-II:AmalgamationofCompanies

MeaningandObjectives-ProvisionsforAmalgamationofCompaniesasperAccountingStandard14-AccountingTreatment.

Unit-III:InternalReconstructionofCompanies

Meaning - Forms of Internal Reconstruction - Alteration of Share Capital and Reduction of ShareCapital-AccountingTreatment.

Unit-IV:AccountsofHoldingCompanies

Meaning of Holding Companies and Subsidiary companies- Consolidated Financial Statements-Legalrequirementson Consolidation-CalculationofMinorityInterest-AccountingTreatment. **Unit-V:Liquidation**

Meaning - Modes of Winding up of a Company- - Liquidator's Final Statement of Account - Calculation of Liquidator's Remuneration - Preparation of Statement of Affairs and DeficiencyAccount-AccountingTreatment

References:

1. Goyal, Bhushan Kumar.CorporateAccounting. Taxmann,NewDelhi
2. Kumar,Alok.CorporateAccounting.KitabMahal
3. Monga,J.R.FundamentalsofCorporateAccounting.MayurPaper Backs,NewDelhi
4. Sah,RajKumar,ConceptBuildingApproachtoCorporateAccounting,Cengage
5. SehgalAshok &SehgalDeepak.CorporateAccounting
6. TulsianP.C.CorporateAccounting.SChand &Co.New Delhi
7. *https://thebookee.net/ad/advanced-corporate-accounting-and-accounting-standards*
8. WebresourcessuggestedbytheTeacher concernedandtheCollege Librarianincludingreadingmaterial

Co-CurricularActivities:

A. Mandatory(*studenttraining byteacher inrelated realtimefieldskills: total10 hours*)**:**

1. **For Teachers**: Training of students by the teacher (using actual field material) inclassroom and field for a total of not less than 10 hours on techniques in AdvancedCorporateAccounting.
   AccountsandcalculationintheeventofrecentMergers,LiquidationsandInternalReconstruction.
   a. CalculationofPurchaseConsiderationforagivenpurchaseofbusiness(ref.unit-1)
   b. Preparationof AccountsforRecentBankingCompaniesmergers(ref.unit-2)
   c. DesignReconstructionformulaforacurrentsickCompany.(Ref.unit-3)
   d. CalculateMinorityInterestfor a givenCompany(ref.unit4)
   e. PreparationofStatementofAffairsfora recentLiquidation(ref. unit.5)
2. **For Students:** Individual Fieldwork/Project work on identified real time situationswith respect to Amalgamation, Liquidation, Purchase Consideration.On practicalaspects dealt with by an Auditor. Each student has tomake observations and submitto the teacher a handwritten Fieldwork/Project work Report, not exceeding 10 pages,onhis/herobservations etc.
3. Max marksforFieldwork/Projectwork Report:05.
4. Suggested Format for Fieldwork/Project work Report: (not more than 10 pages**):** Titlepage, student details, contents, objective, step-wise work done, findings, conclusionsandacknowledgements.
5. Unittests(IE).

B. SuggestedCo-CurricularActivities

1. Trainingofstudentsbya relatedfieldexpert.
2. Assignments including technical assignments like Working with Audit Company forObservationofPurchaseConsideration andObservationofrecentAmalgamations in BankingSector andCorporateSector
3. Seminars,Conferences, discussionsbyinvitingconcernedinstitutions
4. FieldVisit
5. Invited Lecturesandpresentationsonrelatedtopics.

B.Com	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course:17A	Software Solutions to Accounting	Hrs/Wk:5

Course LearningOutcomes

Aftercompletingthecourse, thestudent shallbeableto:

At the endofthe course,the studentwill ableto;

9. Understand the technicalenvironment ofaccounting softwares.
10. Highlight themajoraccountingsoftwares inIndia.
11. Applybasicsofaccountingsoftwaresintobusinessfirmsforaccountingtransactions.
12. Understand thevariousversionsofTallyandothersoftwares.
13. Integrate the conceptofdifferentAccounting softwaresforaccountingpurpose
14. Design newapproachesfor useofaccountingsoftwareenvironment.

Syllabus: Total75hrs (Teaching60, Training10,Others 05includingIEetc.)

Unit-1:ComputerizedAccounting

MicrosoftExcelSpreadSheet-FunctionsinExcel-PreparationofAccounts,StatementsandBudgetsusingMSExcel-Analysis andInterpretation.

Unit-II:IntroductiontoLeadingAccountingSoftwares-Busy-Marg–QuickBooks-ZohoBooks-Tally-Featuresand Accounting.

Unit-III:TallyERP-9-CompanyCreation-Tally StartupScreen-GatewayofTally-CreateaCompany-Alter & Delete company-Backup andRestore-SecurityFeatures inTally.

Unit-IV:Tally-AccountingMasters-Groups-CreateLedgers-Alter&Delete-**InventoryMasters**-CreatingStockGroups -StockItems-Unit of Measurement-Alter &Delete.

Unit-V:Tally-VoucherEntry-VouchersTypes -VouchersEntry-AlteranddeletingSettings PurchaseVouchers and Sales Vouchers includingTaxcomponent–Reports Generation.

References

1. Nadhani,AshokK,TallyERP 9TrainingGuide,BPBPublications
2. Tally9 in SimpleSteps, Kogent SolutionsInc.,John Wiley&Sons.
3. Tally9.0 (EnglishEdition), (GoogleeBook)ComputerWorld
4. Tally.ERP 9 MadeSimple BasicFinancial AccountingbyBPBPublisher.
5. TallyERP9For Real TimeAccountingbyAvichiKrishnan
6. Fundamentalsof Computers, byV. Rajaraman,PHI.
7. TallyERP 9 book advanceduser,Swayam Publication(www.tallyerp9book.com)
8. *WebresourcessuggestedbytheTeacherconcernedandtheCollegeLibrarianincludingreading material*

Co-CurricularActivities

A. Mandatory(*studenttrainingby teacherinrelated realtimefield skills:total 10hours*)**:**

1. **ForTeachers**:Trainingofstudentsbytheteacher(usingactualfieldmaterial)inclassroom and field for a total of not less than 10 hours on techniques in ComputerizedAccounting, working with Accounting Software. Train the students in ComputerizedAccountswith selectedAccountingsoftware.
   a. WorkingwithExcel-Spreadsheet calculationsandtabulationLabPractice(Ref.unit-1)
   b. Workingwith anyaccountingsoftware-analyzethe specialcharacters(ref. unit-2)
   c. CompanyCreationLabPractice-(ref.unit-3)
   d. CreatingMastersin Tallywith a given Company-Lab Work.Lab Work(ref.Unit4)
   e. Voucher Entry for Given Transactions- Generation of Reports for a given CompanyLabWork(ref.Unit.5)
2. **For Student**: Each student has to visit at least one business organization dealt withComputerized Accounting. Collect data relating to the business transactions and practiceincollegecomputerlab.EachstudenthastoprepareoneSystembasedaccountingduring the semester. They shall write their observations and submit a Fieldwork/Projectworkreport, not exceeding10pages, to theteacher inthegiven format.
3. MaxmarksforFieldwork/Project work Report:05
4. Suggested Format for Fieldwork/Project work (not more than 10 pages)**:** Title page,student details,Contents, objective, step-wise work done, findings, conclusions andacknowledgements.

5. Unittests(IE**).**

B. SuggestedCo-CurricularActivities

1. Trainingofstudentsbya relatedfieldexpert.
2. Assignmentsincluding technical assignmentslikeWorkingwithExcel &Tally
3. Seminars,Conferences, Discussionsbyinvitingconcernedinstitutions
4. FieldVisit
5. Invitedlectures andpresentationsonrelatedtopics

B.Com	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course:18A	Management Accounting and Practice	Hrs/Wk:5

LearningOutcomes

Uponsuccessfulcompletion ofthecoursethestudentwillbeable to

1. Understandthenatureandscopeofmanagementaccountingand differentiatemanagementaccounting,financial accountingandcost accounting.
2. Computeratiosanddrawinferences
3. Analyzetheperformanceoftheorganizationbypreparingfundsflowstatementandcashflow statements
4. Preparecashbudget,fixedbudgetandflexiblebudget.

Syllabus:*(Total 75hrs(Teaching60,Training10, Others05includingIEetc.)*

UNITI:Introduction Nature&ScopeofManagementAccounting– ManagementAccountingPrinciples– SignificanceofManagementAccounting-Differencebetweenmanagementaccounting,financialaccountingandCostaccounting– LimitationsofManagementAccounting–InstallationofManagement Accounting –Tools of Management Accounting.

UNIT2:RatioAnalysis

Meaning - Advantages and Limitation of Ratio Analysis – Types of Ratios –Profitability Ratios-Gross Profit Ratio (GPR) – Net Profit Ratio (NPR) – Operating Ratio–Solvency Ratios-CurrentRatio – Liquidity Ratio – Debt-Equity Ratio-Turnover Ratios-Fixed Assets Turnover Ratio –Working Capital Turnover Ratio – Debtors Turnover Ratio – Creditors Turnover Ratio - StockTurnOver Ratio -ReturnonInvestment(ROI)-Calculation and interpretation.

UNIT3:FundFlowandCashFlowAnalysisasperAS3

Meaning and Concept of Working Capital (Fund) – Fund Flow Statement –Meaning and Uses ofFunds Flow Statement – Preparation of Funds Flow Statement. Cash Flow Statement – Meaningand Uses of Cash Flow Statement – Preparation of Cash Flow Statement – Difference betweenCashFlow Statement and Funds flow Statement.

UNIT4:BudgetingandBudgetaryControl

Meaning of Budget – Forecast and Budget - Elements of Budget – Features – objectives andbudget procedure -– Classification of Budgets - Meaning of Control – Meaning of Budgetarycontrol – objectives of Budgetary control system – Advantages and Limitations of Budgetarycontrolsystem. Preparecashbudget, fixed budgetandflexiblebudget.

UNIT5:ManagementReporting:

Reports - Meaning –- Modes of Reporting – Requisites of a good report — Kinds of Reports – GeneralformatsofReports-NeedforManagementReporting-financialreportingVs.ManagementReporting-StrategiesforWritingEffective Reporting.

References

5. ManagementAccountingand financialcontrolS.N.Maheswari,SultanChandandSons.
6. Principlesof Management AccountingbyManmohan&Goyal, Publisher: PHILearning
7. Costand ManagementAccountingbySP Jain and KLNarang
8. IntroductiontoManagementAccounting– HorngreenandSundlemPublisher:PHILearning
9. Costand ManagementAccountingbyM.N. Arora, VikasPublishingHousePVTltd.,
10. Management Accounting: Text, Problems & Cases by Khan & Jain, Tata McGraw Hill(TMH)

WebSources:Websourcessuggestedbytheconcernedteacherandcollegelibrarianincludingreadingmaterial.

Co-CurricularActivities:

A Mandatory: (*student training by teacher in related real time field skills: total 10 hours)***1.Teachers:**Teachershallprovidestudentswithfinancialdatarelatingtobusinessorganizationsandtrainthem(usingactualfieldmaterial)topresentsuchdatainamoremeaningfulmannertofacilitatemanagerialdecisionmaking,preparationofvariousbudgets,forecast,analyze,interpretandpresentsuchinformationindifferentreportingforms.

2. Student: Students shall visit any local company and collect their financial data orfrom web sources. Differentiate management accounting, financial accounting and costaccounting. Extract the Financial data of any company and Compute Ratios and drawinferences, prepare Cash budgets, Fixed and flexible budgets and submit a brief reportafter analyzingsuch data.

3. Max marksforFieldwork/Projectwork Report:05.

4. Suggested Format for Fieldwork/Project work (not more than 10 pages): Title page,studentdetails,contents,objective,step-wise work done,findings,conclusionsandacknowledgements.

5. Unittests(IE).

B.SuggestedCo-CurricularActivities

1. Organize short term training on specific technical skills in collaboration withComputerDepartmentorskilltraininginstitution(GovernmentorNon-GovernmentOrganization).
2. Seminars/Conference/ Workshops on management accountant profession, skillsrequired for Management accountant Professional Development, integration oftechnicaland analyticalskillsforeffectivejobperformance,Ethicalbehaviorofmanagementaccountant.
3. OnjobworkwithICMAprofessionaldurationofworkbedecidedonthe basisoffeasibilityand opportunity.
4. InteractionwithAreaSpecificExperts.

B.Com	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course:19A	Cost Control Techniques	Hrs/Wk:5

LearningOutcomes

Upon completionofthe coursethestudent willbeableto

1. Differentiatecostcontrol,costreductionconceptsandidentifyeffective techniques.
2. Allocateoverheadson thebasisofActivityBasedCosting.3:Evaluatetechniquesof costauditand rulesfor cost record.
4:Appraisetheapplicationofmarginalcostingtechniques toevaluateperformances,fixsellingprice, make or buydecisions.

Syllabus:(Total75hrs (Teaching60,Training10, Others05includingIEetc.)

Unit1:Introduction-NatureandScope Introduction**:**MeaningofCostControl– CostControlTechniques– RequisitesofeffectiveCostControlSystem–CostReduction –meaning– essentialsforaneffectivecostReductionProgram –Scopeofcostreduction-DifferencebetweenCostControlandCostReduction–Meaningofcostaudit – Types of Cost Audit– Auditingtechniques.

Unit2:**Activity BasedCosting**

Concept of ABC – Characteristics of ABC– Categories of ABC – Allocation of Overheadsunder ABC – Cost Reduction under ABC – advantages of implementing ABC –Application onoverheadallocation on thebasis of ABC-

Unit3:**CostVolumeProfitAnalysis(CVPAnalysis)**

Applications of Marginal Costing – profit planning – Evaluation of Performance-fixing sellingprice – Key Factor –Make or Buy decision – Accept or Reject - closing down or suspendingactivities–

Unit4:**Standard CostingandVarianceAnalysis**

Concept of Standard Cost and Standard Costing – Advantages and limitations – analysis ofvariances-importance of Variance Analysis - computation and application of variances relating tomaterialand labour.

Unit5:ApplicationofModernTechniques

Kaizen Costing – Introduction – objectives – scope –Principles – 5 S (Sort, Set in Order, Shine,Standardize, and Sustain) in Kaizen Costing– Advantages and Disadvantages of Kaizen Costing.LearningCurve Analysis-conceptand Application.

References

3. CostandManagementAccountingbySPJain andKLNarang.
4. CostAccountingbyM.C. Shukla,T.S.Grewal&DrM.P.Gupta,S.ChandandCompanyPrivateLimited, New Delhi
5. Cost Accounting:Principles & Practice Bookby M.N.Arora,VikasPublishing HousePrivate Limited.
6. AdvancedCostAccounting:JKMitra,NewAgeInternational
7. AdvancedCostAccounting:SNMaheswari,S.ChandandCompanyPrivateLimited,NewDelhi .

Web Sources: Web sources suggested by the concerned teacher and college librarian

includingreadingmaterial**.**

Co-CurricularActivities:

A. **Mandatory(***student training byteacher in relatedreal timefieldskills: total 10 hours)*

1. **ForTeachers:**Teachershouldtrainstudents(usingactualfieldmaterial)inclassroom/field for not less than10 hours on techniques relating to determine fixedCosts,variable costs based on the data of concerned firm, to identify and analyze of costvariancesand topreparebudgetingreports ofbusiness/industryhouses.

2. **Students:** Students should develop skills by adopting techniques on differences betweencost controls and cost reduction, allocation of overheads on the basis of Activity BasedCosting.Shouldvisitany businessandlearn the methodsand techniquesof ascertainingcostsofvariousproductsusingwithsamematerial,machineandmoneyundersameman agement (For example, Dairy, Sweet, Leather products etc.) and identify the reasons forvariances in estimated and actual cost and submit a report in the given format not exceeding10pages to theteacher

3. Max marksforFieldwork/Projectwork Report:05.

4. Suggested Format for Fieldwork/Project work (not more than 10 pages): Title page,student details, contents, objective, step-wise work done, findings, conclusions andacknowledgements.

5. Unittests(IE).

B. **SuggestedCo-CurricularActivities**

1. OrganizeshorttermtrainingonspecifictechnicalskillsincollaborationwithComputerDepa rtmentorskilltraininginstitution(GovernmentorNon-GovernmentOrganization). LikeZoho, Fresh book,MSExcel….

2. Seminars/Conference/ Workshops on Cost accountant profession, skills required forcost accountant Professional Development, integration of technical and analytical skillsforeffectivejobperformance, Ethical behaviourof managementaccountant.

3. Real time workexperience withICMA professional duration of work be decided onthebasis of feasibilityand opportunity.

4. ArrangeforInteractionwithAreaSpecificExperts.

B.Com	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course:20A	StockMarkets	Hrs/Wk:5

LearningOutcomes:

Bythe completion of thecourse, thestudentswill beable to

1. Exposeto theoryand functionsof theShareMarket inFinancial Sectorasjob careers
2. Studythefunctioningof capital markets and createawareness amongthe public
3. Acquireknowledgeon operationsof ShareMarket andResearch skills
4. InvolveinactivitiesofMutualFundsandstockmarketfirms
5. Enhancetheir skills bypracticinginpreparation ofaccountingstatements

Syllabus:(Total 75hrs(Teaching60,Training10, Others05 includingIEetc.)

UNIT1:Introduction,Nature,Scopeandbasicsof stockmarket

Introduction of Investments-Need of Investment-Short and Long Term investment-Moneymarket Vs Capital Market-Primary Market-Secondary Market-Depositories-Buy Back Shares-Forward Contract and Future Contract- Types of Investors- Speculators, Hedgers, Arbitragers.**UNIT2:Capital Markets**

Definition-Participantsof CapitalMarket Participants-PrimaryMarketissues ofEquitySharesand Preference Shares and Debentures its types Mutual Funds –Secondary Market-/StockExchange-National Stock Exchange of India-Over the Counter Exchange of India – QualifiedIndividual/InstitutionalBuyers-Under writers.

UNIT3.-**FinancialIntermediaries**

Depositories- -Buy Back of Shares-- Forward Contract and Future Contract- differences – Participantsin FutureContract-Clearingof Mechanism.

UNIT4.**Stock Indices**

Index anditstypes-SENSEX-CalculationMethodology-TypesofClearingMembers.

UNIT5.–**RegulatoryMechanism**

Security and Exchange Board of India (SEBI)-Powers, functions,-Over The Counter Exchange(OTCE)ofIndia-Functions and Mechanism.

References:

6. I.M.Pandey.,Financial Management,VikasPublishingHouse
7. PrasannaChandra,FincialManagementTaTaMcGrawHill
8. Bhole.L.M. FinancialMarketsandInstitutions,TataMcGrawHillPublishingHouse
9. KhanMY,JainPK,FinancialManagement,TataMcGrawHill
10. KishoreRavi.M.,FinancialManagement,TaxmanPublication
11. *Web resources suggested by the Teacher concerned and the College Librarian includingreading material*

Co-CurricularActivities:

A. Mandatory*(studenttrainingbyteacherinreal timefieldskills: 10hours***):**

1. **For Teachers: Training** of students by the teacher(using actual field material) inclassroom and field for not less than 10 hours on techniques in valuation of sharesofselectedcompanies,preparationofdocuments,identificationoflocalindividuals / institutions who are involved in share markets. Listing out LocalMoneyMarketinstitutions,Identifyingtheinvestorsandtheirexperienceinoperational activities
   AnalysisofvariouscompaniesFinancialStatementsandinterpretations
2. **ForStudents:**Studentsshall**i**ndividuallystudytheworkofstockmarketprofessionals and agencies and make observations. Their observations shall bewrittenastheFieldwork/ProjectworkReportinthegivenformatnotexceeding10pages and submit to theteacher.
3. Max marksforFieldwork/Projectwork Report:05.
4. Suggested Format for Fieldwork/Project work (not more than 10 pages**):** Titlepage, student details, contents, objectives, step-wise work done, findings,conclusionsand acknowledgements.
5. Unittests(IE).

B. SuggestedCo-CurricularActivities

1. Trainingof students bya related field expert.
2. Assignments (including technical assignments like identifying the investors and theiractivitiesin sharemarkets
3. Seminars,Conferences, discussionsbyinvitingconcernedinstitutions
4. VisitstolocalInvestmentInstitutions,offices,
5. Invitedlecturesandpresentationsonrelatedtopicsbyfieldexperts.

B.Com	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course:21A	Stock Markets Analysis	Hrs/Wk:5

LearningOutcomes:

Bythe completion of thecourse, thestudents areableto

1. Exposeto theoryand functionsof themonetaryand FinancialSector asjob careers
2. Studythefunctioningoflocal Capitalmarketsand
3. Createawarenessamongthepublic bygivingreporting after analysis
4. AcquireknowledgeonoperationsofShareMarket andResearch skills
5. Enhancetheir skillsbyinvolvingactivities ofShareMarket analysis

Syllabus: Total75hrs(Teaching60,Training10,Others05includingIEetc.)

UNIT 1:Introduction, Nature, Scope and basics of stock market analysis IntroductionofInvestments-NeedofSecurityAnalysis-Typesofanalysis-FundamentalAnalysis,Technical Analysis, QuantityAnalysis.

UNIT 2:Fundamental Analysis-Based on Company's Records and Performance-EPS Ratio-Price to Sales Ration-P/Earnings Ratio, P/Equity Ratio, ROI,D/P Ratio- Intrinsic Value-

UNIT 3. –**Technical Analysis**- Based on Share Price Movement and Market Trends-BullishPattern-Bearishpattern

UNIT4-

QuantityAnalysis: Basedondataforspecial Researchpurpose(Descriptive,Correlation,Comparative andExperimental)bypreparingquestionnaire,observation,focusgroups and interviews – DowTheory

UNIT5.–**MutualFunds**

Importance and the role of Mutual Fund –Types of Mutual Funds-Various schemes in India-GrowthFund, IncomeFund,Growthand IncomeFund,Taxplanningschemes,othercategories,AssetManagement Mutual Funds-itsmethod ofanalysis's

References:

1. Khan.M.Y.FinancialManagement,VikasPublishingHouse
2. Bhole.L.M.Financial MarketsandInstitutions,TataMcGrawHillPublishingHouse
3. PrasannaChandra,InvestmentAnalysisandPortfolioManagement,TataMcGrawHill
4. DamodharanAswath, Valuation:SecurityAnalysisfor InvestmentandcorporateFinance.,Johnwiely,Newyork
5. Francis.J.C.,InvestmentAnalysisandManagement,TataMcGrawHill

6 WebresourcessuggestedbytheTeacherconcernedand theCollegeLibrarianincludingreading material

Co-CurricularActivities:

B.Mandatory:*(studenttraining byteacher inreal timefield skills:10 hours)*

1. For Teachers: Training of students by the teacher (using actual field material)inclassroomandfieldfornotlessthan10hoursonSecurityMarketsanalysis,preparationofdocumentsandAnalysisofSharesanddebentures,FundamentalAnalysis of various companies Financial Statements and interpretations, TechnicalAnalysis of Various Financial Statements, Quantity Analysis of various companiesFinancial statements and interpretations, Analysis of Mutual fund operations and theirperformances

CaseStudiesofvariouscompanies'performances basedonanalysisoftheirsecuritiesandthe success stories ofinvestors.

2. For Students: Students shall individually study the data of selected institutionsandtheirperformancebyanalyzingthestatementslearningfrompracticalexperiences from Charted Accountants and Cost Accountants. They shall record theirobservations in a hand written Fieldwork/Project work report not exceeding 10 pagesinthegiven format and submit to the teacher.

3. Max marksforFieldwork/Projectwork Report:05**.**
4. SuggestedFormatforFieldwork/Projectwork Report**(**notmorethan10pages):Title page, student details, contents, objective, step-wise work done, findings,conclusionsand acknowledgements.
5. Unittests(IE).

B.**SuggestedCo-CurricularActivities**

1. Trainingofstudentsbya relatedfieldexpert.
2. Assignments (including technical assignments like identifying sources of local financialinstitutions,
3. Seminars,Conferences, discussionsbyinvitingconcernedinstitutions
4. Visits to local Financial Institutions like HDFC securities, ICICI Direct Securities RelianceSecuritiesetc.
5. Invited lectures and presentations on related topics by field expert

ADIKAVI NANNAYA UNIVERSITY:: RAJMAHENDRAVARAM
B.Com. Commerce(General) Syllabus (w.e.f:2020-21A.B)

MODEL QUESTION PAPER (Sem-end. Exam)
B.Com DEGREE EXAMINATION
SEMESTER –V
Course: Advanced Corporate Accounting

Time: 3Hrs **Max. Marks:75**

SECTION-A (Short Answer Questions)

Answer any FIVE of the following questions **5x5=25 Marks**

1. Purchase Consideration
2. Objectives for Amalgamation of Companies
3. Alteration of Share Capital
4. Subsidiary Company
5. Causes of Liquidation
6. Objectives of Holding Company
7. Statement of Affairs
8. Reduction of capital

SECTION-B (Essay Questions)

Answer any FIVE of the following questions **5x10=50 Marks**

9 (a) Discuss various methods of computing Purchase Consideration.

(OR)

(b) Ramesh Ltd. was registered with a share capital of Rs.10,00,000 in equity shares of Rs.10 each to acquire the business of M/s R &K. The balance sheet of M/s R & K at the time of acquisition was as follows:

Liabilities	Amount	Assets	Amount
Bills Payable	32,000	Cash at Bank	58,000
Sundry creditors	60,000	Bills Receivable	26,000
Reserve Fund	28,000	Sundry creditors	96,000
Capital Accounts		Stock	36,000
R	2,40,000	Furniture	4,000
K	2,40,000	Machinery	1,80,000
		Buildings	2,00,000
	6,00,000		**6,00,000**

The assets were subject to the following revaluation:
(i) Plant and Machinery to be depreciated by 20%.
(ii)Furniture to be depreciated by 10%.
(iii) Land and Buildings to be appreciated by 20%.
(iv)A provision to be made for bad debts @ 5%.
(v)Goodwill of the firm was valued atRs.68,000.

The Purchase Consideration was to be discharged as follows:

(i) Allotment of 20,000 equity shares of Rs.10 each at Rs.12 per share.

(ii) Allotment of 1,000 14% debenturesofRs.100 each at a discount of 10%.

(iii) Balance in cash.

The cost of acquisition of the companyamountedtoRs.10,000was borne by Ramesh Ltd. You are required to give journal entries in the books of Ramesh Ltd. and prepare the balance sheet of the company after acquisition of M/s R & K's business.

10 (a) Explain various provisions for Amalgamation of Companies as per A.S.14.

(OR)

(b) You are given below the balance sheets of Ram Ltd. and Laxman Ltd. As on March31, 2021:

Liabilities	Ram Ltd.	Laxman Ltd.
Equity Share Capital (Rs.10 each)	10,000	5000
12% Preferences hare capital (Rs.100 each)	4500	3000
General Reserve	1200	1000
Export Profit Reserve	800	500
Investment Allowance	500	400
Reserve Profit and Loss a/c	2000	1600
10% Debentures (Rs.100 each)	1500	1000
Trade Creditors	1000	800
Outstanding expenses	500	200
	22,000	**13,500**
Assets	RamLtd.	Laxman Ltd.
Land and Buildings	6,000	4,000
Plant and Machinery	6,500	3,500
Furniture and Fittings	1,200	1,000
Investments	1,500	1,000
Stock	3,000	2,000
Debtors	2,000	1,000
Cash and Bank Balances	1,800	1,000
	22,000	**13,500**

Ram Ltd. Takes over Laxman Ltd. As on April1, 2021, you are also given the following additional information:

1. Ram Ltd. discharges the purchase consideration as stated below:
Issued12% Preference shares of Rs.100 each to discharge the preference shareholders of Laxman Ltd. at10% premium. Issued 5,00,000 equity shares of Rs.10 each at par. Paid cash at Rs.2.50 per equity share.
2. Laxman Ltd. Followed weighted average method for valuing inventories where as Ram Ltd. Followed FIFO basis. Laxman Ltd. Followed FIFO basis, its value of stock as on March 31, 2021would have been more by Rs. 2,00,000
3. The amalgamation is considered as amalgamation in the nature of merger.

You are required to prepare the balance sheet of Ram Ltd. after amalgamation.

11 (a) Explain various types of capital reduction. Briefly explain the accounting procedure to be followed depend upon capital reduction.

(OR)

(b) Distinguish between internal reconstruction and external reconstruction.

12(a) What are the objectives and features of Holding Companies?

(OR)

(b) H Ltd. Acquires 3/4th of share capital of S Ltd., on 31-12-2020, when the balance sheets of the twocompanies are as under:

Liabilities	**H Ltd. Rs.**	**S Ltd. Rs.**	**Assets**	**H Ltd. Rs.**	**S Ltd. Rs.**
Share Capital (10/- each)	50,000	30,000	Fixed Assets	50,000	30,000
General Reserve	15,000	8,000	Current Assets	33,000	35,000
Profit & Loss A/C	10,000	7,000	Shares in S Ltd	20,000	-
10% Debentures	15,000	8,000			
Creditors	13,000	12,000			
	1,03,000	**65,000**		**1,03,000**	**65,000**

You are required to prepare a consolidated balance sheet as on 31st December, 2020.

13(a)What is meant by Liquidation? Explain role and responsibilities of liquidator.

(OR)

(b) Briefly explain various modes of winding up of a Company.

MODEL QUESTION PAPER (Sem-end. Exam)

B.Com DEGREE EXAMINATION
SEMESTER –V
Course : Software Solutions to Accounting

Time:3Hrs **Max. Marks:75**

SECTION-A (Short Answer Questions)

Answer any FIVE of the following questions **5x5=25 Marks**

1. How to insert/Delete rows in Excel?
2. Explain features of ZOHO Books.
3. Explain Tally Screen in detail.
4. How to create unit of measurement in Tally?
5. How to create a Ledger in Tally?
6. Explain contra voucher in Tally.
7. Explain stock journal in Tally.
8. Explain Receipt Voucher in Tally.

SECTION-B (Essay Questions)

Answer any FIVE of the following questions **5x10=50 Marks**

9 (a) Explain any TEN functions in MS Excel.

(OR)

(b) Briefly explain statements and budgeting using MS Excel.

10 (a) Discuss various features of Tally in Accounting.

(OR)

(b) Explain various leading accounting softwares.

11 (a) How to Create/Alter/Delete a Company in Tally?

(OR)

(b) Explain the functions and objectives of Tally ERP9.

12 (a) How to create Stock Group/Stock Category/Stock item in Tally?

(OR)

(b) Explain Multi Ledger creation in Tally.

13 (a) Discuss Sales invoice/Purchase invoice with suitable examples in Tally.

(OR)

(b) Explain Debit Note/Credit Note with suitable examples in Tally.

ADIKAVI NANNAYA UNIVERSITY:: RAJMAHENDRAVARAM

B.Com. Commerce(General) Syllabus (w.e.f:2020-21A.B)

MODEL QUESTION PAPER (Sem-end. Exam)

B.Com DEGREE EXAMINATION

SEMESTER –V

Course: Management Accounting and Practice

Time:3Hrs **Max.Marks:75**

SECTION-A(Short Answer Questions)

Answer any FIVE of the following questions **5x5=25 Marks**

1. Significance of Management Accounting
2. Limitations of Management Accounting
3. Meaning of ratio analysis
4. Debtors turnover ratio
5. Uses of Funds Flow Statement
6. Elements of a budget
7. Need for management reporting
8. Financial reporting

SECTION-B (Essay Questions)

Answer any FIVE of the following questions **5x10=50 Marks**

9 (a) Distinguish between Management Accounting, Financial accounting and CostAccounting.

(OR)

(b) What are the steps involved in installation of Management Accounting system.

10 (a) Explain advantages and limitations of Ratio Analysis.

(OR)

(b)Following Balance Sheet relates to Rakesh Products Limited as on 31-03-2022

Liabilities	Rs.	Assets	Rs.
Equity Share Capital	5,00,000	Fixed Assets	9,00,000
6% Debentures	2,00,000	Cash at bank	10,000
Reserves	1,00,000	Stock	1,30,000
Creditors	3,50,000	Debtors	1,60,000
Profit and loss account	50,000		
	12,00,000		**12,00,000**

Calculate (a) Current Ratio (b) Quick Ratio and (c) Debt-equity ratio

11 (a) From the following Balance Sheets prepare funds flow statement

Liabilities	2019 Rs.	2020 Rs.	Assets	2019 Rs.	2020 Rs.
Creditors	40,000	44,000	Cash	10,000	7,000
Bank loan	40,000	50,000	Debtors	30,000	50,000
Bills Payable	25,000	-	Stock	35,000	25,000
Capital	1,25,000	1,53,000	Machinery	80,000	55,000
			Land	40,000	50,000
			Buildings	35,000	60,000
	2,30,000	2,47,000		2,30,000	2,47,000

Additional Information: (a) During the year machinery worth Rs.10,000 was sold for Rs. 8,000 (accumulated Depreciation 3,000) (b) Depreciation provided on March, 2019 Rs.25,000 and 2020

Rs.40,000 (c) Profit during the year Rs. 45,000 (d) Dividends paid Rs. 6,000.

(OR)

(b) Distinguish between Funds Flow Statement and Cash Flow Statement.

12 (a) With the following data for a 50% activity prepare a budget for production at 75% and 90% capacity.

Production at 50% capacity	1,000 units
Direct Materials	Rs. 50 per unit
Direct Wages	Rs. 25 per unit
Direct Expenses	Rs.15 per unit
Factory Overheads	Rs. 25,000 (70% variable)
Administrative Overheads	Rs. 20,000 (25% variable)

(OR)

(b) Define Budgetary Control. Explain various objectives of Budgetary Control Systems.

13 (a) Define Report. Explain various kinds of reports and general formats of reports.

(OR)

(b) Discuss various strategies for writing effective Reporting.

ADIKAVI NANNAYA UNIVERSITY:: RAJMAHENDRAVARAM
B.Com. Commerce(General) Syllabus (w.e.f:2020-21A.B)

MODEL QUESTION PAPER (Sem-end. Exam)
B.Com DEGREE EXAMINATION
SEMESTER –V
Course: Cost Control Techniques

Time: 3Hrs **Max.Marks:75**

SECTION-A (Short Answer Questions)

Answer any FIVE of the following questions **5x5=25 Marks**

1. Cost Audit
2. Cost Reduction
3. Concept of ABC
4. Marginal costing
5. Make or buy Decisions
6. Standard costing
7. Kaizen costing
8. Learning Curve Analysis

SECTION-B (Essay Questions)

Answer any FIVE of the following questions **5x10=50 Marks**

9 (a) Briefly explain various types of cost control techniques.

(OR)

(b)Define cost control. Distinguish between cost control and cost reduction.

10 (a) Explain various advantages of implementing ABC.

(OR)

(b) Describe various categories of ABC and allocation of overheads under ABC.

11 (a) The sales and profit during two years were as follows.

Year	Sales(Rs)	Profit
2020	1,70,000	25,000
2021	1,90,000	30,000

You are required to calculate (i) P/V Ratio (ii) Fixed cost (iii) BEP (iv) The sales required to earn aprofit Rs. 40,000.

(OR)

(b) What are the advantages and limitations of Cost Volume Profit Analaysis?

12 (a) From the following particulars calculate: (1) Material cost variance (2) Material price variance (3)Material usage variance.

Material	Standard units	Standard price	Actual units	Actual price
A	1010	1.00	1080	1.20
B	410	1.50	380	1.80
C	350	2.00	380	1.90

(OR)

(b) Briefly explain various objectives of Standard Costing.

13 (a) What are the objectives of Kaizen costing? Explain its principles.

(OR)

(b) Explain the advantages and limitations of Kaizen costing.

ADIKAVI NANNAYA UNIVERSITY:: RAJMAHENDRAVARAM
B.Com. Commerce(General) Syllabus (w.e.f:2020-21A.B)

MODEL QUESTION PAPER (Sem-end. Exam)
B.Com DEGREE EXAMINATION
SEMESTER –V
Course: STOCK MARKETS

Time: 3Hrs **Max.Marks:75**

SECTION-A(Short Answer Questions)

Answer any FIVE of the following questions **5x5=25 Marks**

1. Hedgers and Arbitragers
2. Types of Investors
3. Under Writers
4. National Stock Exchange
5. Buy back of Shares
6. SENSEX
7. Future Contract
8. Over the Counter Exchange

SECTION-B (Essay Questions)

Answer any FIVE of the following questions **5x10=50 Marks**

9 (a) Explain the nature and scope of Stock Markets.

(OR)

(b) Distinguish between Primary Market and Secondary Market.

10 (a) Distinguish between Capital Market and Money Market.

(OR)

(b) Briefly explain various types of Mutual Funds.

11 (a) Define Capital Market. Explain the participants of Capital Market.

(OR)

(b) Write about the functions of Stock Exchange.

12 (a) Discuss the differences between Forward Contract and Future Contract.

(OR)

(b) Define Index. Explain the various types of Stock Indices.

13 (a) Briefly explain the powers and functions of SEBI.

(OR)

(b) Write about the functions and mechanism of Over the Counter Exchange of India (OTCE).

ADIKAVI NANNAYA UNIVERSITY:: RAJMAHENDRAVARAM

B.Com. Commerce(General) Syllabus (w.e.f:2020-21A.B)

MODEL QUESTION PAPER (Sem-end. Exam)

B.Com DEGREE EXAMINATION

SEMESTER –V

Course: STOCK MARKETS ANALYSIS

Time: 3Hrs **Max.Marks:75**

SECTION-A (Short Answer Questions)

Answer any FIVE of the following questions **5x5=25 Marks**

1. Investment Avenues
2. EPS
3. Intrinsic Value
4. Concept of Mutual Funds
5. SENSEX
6. Quantity Analysis
7. Questionnaire
8. Bullish Candle

SECTION-B (Essay Questions)

Answer any FIVE of the following questions **5x10=50 Marks**

9 (a) What are the main objectives and importance of Security Analysis?

(OR)

(b) What are the advantages and limitations of Technical Analysis?

10 (a) Explain different types of Investment Analysis.

(OR)

(b) Explain various types of Ratio Analysis.

11 (a) Define Fundamental Analysis. What are elements of Fundamental Analysis?

(OR)

(b) Briefly Bullish Pattern v/s Barrish Patterns.

12 (a) What are the principles and features of DOW Theory?

(OR)

(b) Discuss the different research methods using for collection of data.

13 (a) Define Mutual Fund. Explain the growth of Mutual Funds in India.

(OR)

(b) Koushik Ltd. has currently an ordinary share capital of Rs. 25,00,000, consisting of 25,000 Share of Rs. 100 each. The management is planning to raise another Rs. 20,00,000to finance a major program of expansion through one of the three possible financial plans.

(I) Entire through Ordinary Shares

(II) Rs. 10,00,000 through Ordinary Shares and Rs. 10,00,000 through long-term borrowing at 8 percent interest p.a.

ADIKAVI NANNAYA UNIVERSITY:: RAJMAHENDRAVARAM
B.Com. Commerce Syllabus (w.e.f:2020-21A.B)

Skill Enhancement Courses(SECs) for Semester -V,

From2022-23(Syllabus-Curriculum)

Structure of SECs for Semester–V

(To choose One pair from the THREE alternate pairs of SECs)

Course Number	Name of the Course	Hours/ Week	Credits	Marks	
				IA–25	Sem End
16-B	Advertising and Media Planning	5	4	25	75
17-B	Sales Promotion and Practice	5	4	25	75
OR					
18 -B	Logistics Services and Practice	5	4	25	75
19-B	EXIM Procedure and Practice	5	4	25	75
OR					
20-B	Life Insurance Procedure with Practice	5	4	25	75
21-B	General Insurance with Practice	5	4	25	75

B.Com	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course:16B	Advertising and Media Planning	Hrs/Wk:5

LearningOutcomes:

Atthesuccessfulcompletionof thecoursestudents areableto:

- Understandthe roleofadvertisingin businessenvironment
- Understandthelegal and ethicalissues inadvertising
- Acquireskillsin creatingand developingadvertisements
- Understandup-to-dateadvancesinthecurrentmediaindustry.
- Acquirethe necessaryskillsforplanninganadvertisingmediacampaign.

SYLLABUS: Total 75hrs(Teaching60, Training10,Others 05including IE etc.)

UNIT-I: Introduction, Nature and Scope Advertising- Nature and Scope- Functions - ImpactonSocial,EthicalandEconomicalAspects- ItsSignificance– AdvertisingasaMarketingToolandProcess for Promotion ofBusinessDevelopment-Criticism on advertising

UNIT-II:StrategiesofAdvertisements

Types of Advertising Agencies and their Strategies in Creating Advertisements - Objectives - Approach - Campaigning Process - Role of Advertising Standard Council of India (ASCI) - DAGMARapproach

UNIT-III:ProcessofAdvertisement CreativenessandCommunicationofAdvertising– CreativeThinking –Process–Appeals– CopyWriting-Issuesin CreationofCopyTesting– SloganElements ofDesignand PrinciplesofDesign**UNIT-IV:MediaPlanning**

AdvertisingMedia-Role ofMedia -Typesof Media -PrintMedia-ElectronicMediaand otherMedia-Advantages andDisadvantages– Media Planning-Selection ofMedia

UNIT-V:Analysisof MarketMedia

Media Strategy – Market Analysis -Media Choices - Influencing Factors - Target,Nature,Timing,Frequency,Languages andGeographicalIssues-CaseStudies

References:

1. Bhatia.K.Tej -AdvertisingandMarketinginRuralIndia-McMillan India
2. GhosalSubhash-MakingofAdvertising-McMillanIndia
3. JethWaneyJaishri&Jain Shruti-AdvertisingManagement-OxforduniversityPress
4. AdvertisingMediaPlanning,SeventhEditionPaperback–byRoger Baron (Author),JackSissors (Author)
5. MediaPlanningandBuyingin 21stCentury–Ronald DGeskey
6. Media Planning and Buying: Principles and Practice in the Indian Context – ArpitaMenon
7. PublicationsofIndianInstituteofMassCommunications
8. AdvertisingandSalesmanship.P.Saravanavel,MarghamPublications
9. Publicationsof ASCI
10. Webresourcessuggested bytheTeacher concernedandtheCollege Librarianincludingreadingmaterial

Co-CurricularActivities:

A-Mandatory:(student trainingbyteacherintherelatedfield skills: total10 hours**):**

1. ForTeacher:

Students shall be practically trained, (using actual field material) in classroom and fieldfor 10 hours, in the skills/techniques related to advertising and media planning. Trainingshall include;

- Collectionofdataandmaterial,handlingofmaterialandsampleadvertisementpreparation.
- sloganpreparation,makingofadvertisementand advertisementstrategies
- workingwith mediaandreportpreparationon ethicalissues
- preparationofnetbasedadvertisementsandmediaplanning

2. For Student: Students shall individually choose a local or regional advertising agency, visit,study it's processes, strategies, business aspects etc. They may also make a comparative study ofmediaadvertisements.Eachstudenthastosubmithis/herobservationsasahandwrittenFieldwork/ProjectworkReport notexceeding10pagesinthegivenformatto theteacher.

3. Max marksforFieldwork/Projectwork Report:05**.**

4. Suggested Format for Fieldwork/Project work Report (not more than 10 pages**):** Title page,student details, contents, objective, step-wise work done, findings, conclusions andacknowledgements.

5. Unittests(IE).

B-SuggestedCo-CurricularActivities

- Surveyonexistingproductsadvertisements
- Creationofadvertisingon severalproducts
- InvitedLectures
- Handson experiencewith thehelp offield experts
- Debates,Seminars, Group Discussions,Quiz, etc.
- Assignments,Casestudies,Compilationofpaper cuttings,Preparationofrelatedvideos,Class exhibitions.

B.Com	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course:17B	Sales Promotion and Practice	Hrs/Wk:5

LearningOutcomes:

Bythe end of thecoursestudents areable to:

1. Analysevarioussalespromotionactivities
2. Getexposed tonewtrends insales Promotion
3. Understandthe conceptsof creativityinsalespromotion
4. Enhanceskillstomotivatethesalespersontoreachtheirtargets
5. Developtheskillsofdesigningofsalespromotionevents

SYLLABUS: Total 75hrs(Teaching60,Training10, Others05 includingIEetc.)

UNIT-I: Introduction to Sales Promotion: Nature and Scope of Sales Promotion-InfluencingFactors - Sales Promotion and Control - Strengths and Limitations of Sales Promotion – SalesOrganization-Setting-upof SalesOrganization- Types ofSales Organization.

UNIT-II: Sales Promotion and Product Life Cycle: Types of Sales Promotion - ConsumerOriented - Trade Oriented - Sales Oriented - Various Aspects -Sales Promotion methods indifferentProductLifeCycle–CrossPromotion-SalesExecutiveFunctions-TheoriesofPersonalSelling-Surrogate Selling.

UNIT-III:StrategiesandPromotionCampaign: ToolsofSalesPromotion-Displays,Demonstration, Fashion Shows, Conventions -Conferences,Competitions –Steps in designingof Sales Promotion Campaign – Involvement of Salesmen and Dealers – Promotional Strategies -EthicalandLegal issues in Sales Promotion.

Unit-IV: **Salesmanship and Sales Operations**: Types of Salesman - Prospecting - Pre-approachand Approach - Selling Sequence - Sales budget, Sales territories, Sales Quota's - Point of Sale –Sales Contests - Coupons and Discounts - Free Offers - Showrooms and Exhibitions - SalesManager Qualities and functions.

Unit-V: **SalesforceManagementandDesigning:**Recruitment and Selection- Training -Induction - Motivation of sales personnel - Compensation and Evaluation of Sales Personnel - DesigningofEvents forEnhancingSales Promotion

References:

1. Don.E.Schultz-SalesPromotionEssentials-McGrawhillIndia
2. S.H.HKazmi&SatishK Batra, AdvertisingandSales Promotion-ExcelBooks
3. JethWaneyJaishri&Jain Shruti-AdvertisingManagement-OxforduniversityPress
4. Dr.ShailaBootwalaDr.M.D. LawrenceandSanjayR.Mali-AdvertisingandSalesPromotion-NiraliPrakashan
5. SuccessfulSalesPromotion– PranChoudhury
6. AdvertisingandSalesPromotion Paperback–S. H.H.Kazmi&SatishBatra
7. Publicationsof ASCI
8. Kazmi&Batra,ADVERTISING&SALESPROMOTION,Excel Books, 2008
9. Web resources suggested by the Teacher concerned and the College Librarian includingreadingmaterial

Co-CurricularActivities:(LecturerParticipation:Total10Hours)

A.Mandatory: (*student training by teacher in the related field skills: total 10 hours*)**:1ForTeacher:**

Trainingofstudentsbytheteacher(usingactualfieldmaterial)for10hoursintheclassroomand field fornot less than 10hours ontechniquesinareas suchas;

- Designspecialtoolsandtechniquesforsalespromotion
- Planningofsalespromotion andstrategicplanningfor givenproduct
- ReportWritingon SuccessStoriesofSales promotionagencies
- Preparationof reportonlegal issuesinsalespromotiontechniques.

2.ForStudent:

Students have to get individually training in the field the functional aspects of salespromotion, advertisement, strategic planning, sales promotion agencies and related legalissues, Students have to involve the sales promotion activities as practical training. Takeup survey on sales promotional activities of existing products. Each student has to recordhis/herobservationsandprepareahandwrittenFieldwork/ProjectworkReport,notexcee ding10 pages,andsubmit toteacher in thegiven format.

3) Max marksforFieldwork/ProjectworkReport:10
4) Suggested Format for Fieldwork/Project work Report (not more than 10 pages**):** Titlepage, student details, contents, objective, step-wise work done, findings, conclusions andacknowledgements.

5.Unittests(IE).

V:SuggestedCo-CurricularActivities

Assignments, Class seminars, Case studies, Compilation of paper cuttings, Groupdiscussions, Debates, Quiz, Class exhibitions, Preparation of related videos, Invitedlecturesetc.

B.Com	Semester – V (Skill Enhancement Course- Elective)	Credits4
Course:18B	Logistics Services and Practice	Hrs/Wk:5

LearningOutcomes

Uponsuccessful Completionofthe coursethe student willbe ableto

1. AppraisethePrinciplesof Logisticsanditsinformatics.
2. ExaminetheFinancialIssuesin Logisticssectorperformance.
3. DescribebasicEOQmodel andABCanalysis.
4. Determine warehouse safety rules, concepts of Retail Logistics and strategies of SupplyChainManagement.

SyllabusTotal75hrs(Teaching60,Training10,Others05includingIEetc.)

UNITI: Introduction

Logistics - meaning - Principles of Logistics-Technology & Logistics - Informatics.Warehouse-Meaning - Types –Benefits of Warehousing. Transportation-Meaning -Types – Benefits.Courier/Express-Meaning-CourierGuidelines– PricinginCourier-ExpressSectorforinternationaland domesticshipping-Reverselogisticsin e-commercesector.

UNIT2:GlobalLogistics

Global SupplyChain-OrganizingforGlobalLogistics-StrategicIssuesinGlobalLogistics -Forces driving Globalization- Modes of Transportation in Global Logistics Barriers to GlobalLogistics-MarketsandCompetition-FinancialIssuesinLogistics Performance.

UNIT3:Inventory

Need of Inventory-Types of Inventories-Basic EOQ Model-Classification of material - ABCAnalysis-VED,HML,-MaterialRequirementPlanning(MRP)-meaningandAdvantagesMaterialshandlingand storagesystems-Principles of MaterialsHandling.

UNIT4:Warehousing&Distribution Operations

Need for Warehouse – Importance of warehouse- Stages involved receipt of goods-Advancedshipmentnotice(ASN)-WarehouseActivities-receiving,sorting,loading,unloading,Picking,Packingand dispatch -safetyrules andProceduresto beobserved in a Warehouse.

Unit5:RetailLogisticsandSupplyChain Management

Concepts of Retail Logistics and supply chain- Supply chain efficiency-Fundamentals of SupplyChain and Importance - SCM concepts and Definitions - Supply chain strategy- Strategic DriversofSupplyChain Performance – keydecision areas– ExternalDrivers ofChange.

References

1. VinodVSople(2009) LogisticManagement(2ndEdn.)Pearson Limited.
2. Logistics Management for International Business: Text and Cases, Sudalaimuthu&AnthonyRaj, PHILearning,First Edition, 2009.
3. FundamentalsofLogisticsManagement(TheIrwin/McGraw-HillSeriesinMarketing),Douglas Lambert,JamesRStock, LisaM.Ellram,McGraw-hill/Irwin,FirstEdition,1998.
4. Fundamentalsof LogisticsManagement,DavidGrant,DouglasM.Lambert,JamesR.Stock, Lisa M. Ellram,McGrawHill HigherEducation, 1997.
5. LogisticsManagement, IsmailReji,ExcelBook,FirstEdition,2008.

Web Sources: Web sources suggested by the concerned teacher and college librarian includingreading material.

Co-CurricularActivities:

A. **Mandatory:** *(Studenttrainingbyteacherin therelatedfieldskills:10hrs)*

1. **For Teachers**: Shall give hands-on training to students (using actual field material)inclassroom and field in operations of (specific unit/s) logistics sector with reference tomaterial handling and storage processes, warehousing design and financial issuesconfrontedin logistics sector.
2. **Students:** Visit any local logistics provider / local mart etc., observe and understand itsoperations, financial issues, material handling and storage processes, warehouse designand submit a hand written Fieldwork/Project work Report in the given format on theobservationsmade to theteacher
3. Max marksforFieldwork/Projectwork Report:05.
4. Suggested Format for Fieldwork/Project work Report (not more than 10 pages): Titlepage, student details, contents, objective, step-wise work done, findings, conclusions andacknowledgements.
5. Unittests(IE).

B. **SuggestedCo-CurricularActivities:**

1. Organize short term training on specific technical skills like Zoho, Fresh book, MSExcel….in collaboration with Computer Department or skill training institution(Governmentor Non-Government Organization).
2. Seminars/Conference/ Workshopsoncareeropportunitiesinlogisticssector,trendsinlogisticssector, Automation in the sector etc.
3. Realtimeworkexperiencewithlogisticssector.
4. ArrangeforInteractionwithAreaSpecificExperts.

B.Com	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course: 19B	EXIM Procedure and Practice	Hrs/Wk:5

LearningOutcomes:

Uponsuccessfulcompletionofthecoursethe studentwillbe ableto

1. Understand the significance of Export and Import Management and its role in Economyandas job careers
2. Acquireknowledgeon Proceduresof export and import
3. InvolveinpreandpostEXIMactivities
4. Enhancetheir skills bypracticingin foreign trade

Syllabus: Total 75hrs (Teaching 60, Training10, Others 05 including IE

etc.**)UNIT1: IntroductionofEXIMpoliciesand procedures**

ObjectivesofEXIMpolicies-RoleofexporthousesinthedevelopmentofEconomy-State TradingCorporationsandSEZs-FlowofProcedurefor exportandimportprocess.

UNIT2:Productplanningandforimportandexport

Export Promotion Councils in India and Commodities Board of India- Its functions and theirrole - Registration cum Membership Certificate (RCMC) and registration of Export Credit andGuaranteeCorporation ofIndia (ECGC)

UNIT3:Documentationatthetimeof EXIMgoods

Commercial documents- Principal and Auxiliary documents - Regulatory documents (relating toGoods,Shipment, Payment,Inspection, Payment,Excisableand FERA)

UNIT4:PaymentProceduresinforeigntrade

FactorsdeterminesforPaymentandmethodsofReceivingAmount-Paymentinadvance-Documentary Bills- Documentary credit under Letter of Credit- Different types of Letters ofCredit -Open account with periodical settlement.

UNIT5:InsuranceandShipmentofGoods

Cargo Insurance (Marine)- Types of Marine insurance policies- Kinds of losses - Shipment ofgoods- Clearing andforwardingagents- itsrole andsignificance- ClassificationofservicesEssentialand Optional services-clearanceprocedures for exportofgoods.

References

1. RamaGopal.C;Exportand ImportProcedure-NewAge InternationalPublishers
2. NeelamArora,Export and Import Procedure and documentation- Himalaya PublishingHouse
3. Dr.SwapnaPilai,Exportand ImportProcedure&documentation- SahityabhawanPublications
4. Sudhirkochhar,ExportandImportProcedure-AggarwalBookhouse
5. *WebresourcessuggestedbytheTeacherconcernedandtheCollegeLibrarianincludingreading material*

Co-CurricularActivities:

A. **Mandatory***(Studenttrainingbyteacherintherelatedfieldskills:10hrs):*

1. **For Teachers:**Training of students by teacher (using actual field material)inclassroom and field for not less than 10 hours on techniques of foreign trade byinvolvingstudentsinmakingobservations,preparationofdocuments,identificationo fexportablegoodsandrecordingexperiences ofexporters.
2. **For Students:** students shall visit export import houses or related centers andobserve processes of identification of exportable goods, registration of RCMC,logistic support and insurance procedures. They shall submit their observations asan individual handwritten Fieldwork/Project work Report in the given format andsubmit to teacher.
3. Max marksforFieldwork/Projectwork Report:05
4. Suggested Format for Fieldwork/Project work (not more than 10 pages): Titlepage,studentdetails,contents,objective,step-wiseworkdone,findings,conclusionsand acknowledgements.
5. Unittests(IE).

B. **SuggestedCo-CurricularActivities**

1. Trainingof students byarelated fieldexpert.
2. Assignments(includingtechnicalassignmentslikeidentifyingsourcesofexportablean dExcisablegoods,CaseStudiesofexportproceduresandthesuccess stories and getting practical experiences by exporting Agricultural andlocalproducts includingDWACRA
3. Seminars,Conferences,discussionsbyinvitingconcernedinstitutions
4. Visitstoexportingunits. SEZsandExporthouses
5. Invitedlecturesandpresentationsonrelatedtopicsbyfieldexperts.

B.Com	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course:20B	Life Insurance with Practice	Hrs/Wk:5

LearningOutcomes

Aftercompletingthecourse,the student shallbeable to:

1. Understandthe FeaturesofLife Insurance,schemesandpoliciesandinsurancecompaniesinIndia
2. Analyzevariousschemes andpoliciesrelatedtoLife Insurancesector
3. Choosesuitableinsurancepolicyforgiven situationand respectivepersons
4. Acquire InsuranceAgencyskills and otheradministrativeskills
5. Acquireskillofsettlementofclaimsundervariouscircumstances

Syllabus: Total75hrs(Teaching60,Training10, Others05includingIE etc.)

Unit-I:Featuresof Lifeinsurancecontract

LifeInsurance-Features- Advantages-GroupInsurance– GroupGratuity Schemes-GroupSuperannuationSchemes,Social SecuritySchemes-Life Insurance companies inIndia.

Unit-II:PlansofLifeInsurance

Types of Plans: Basic - Popular Plans – Term Plans-Whole Life-Endowment-Money Back-Savings-Retirement-Convertible - Joint Life Policies - Children‘s Plans - Educational AnnuityPlans-VariableInsurancePlans– Riders

Unit-III:PrinciplesofLifeInsurance

Utmost Good Faith- Insurable Interest- Medical Examination - Age proof, Special reports - Premium payment - Lapse and revival – Premium, Surrender Value, Non-Forfeiture Option - AssignmentofNomination-Loans – Surrenders –Foreclosure.

Unit-IV:PolicyClaims

Maturity claims, Survival Benefits, Death Claims, Claim concession - Procedures - Problems inclaimsettlement -ConsumerProtection Actrelatingto lifeinsuranceandinsuranceclaims.

Unit-V:RegulatoryFrameworkandMiddlemen

RoleofIRDAI&otherAgencies-RegulatoryFramework-MediatorsinLifeInsurance–Agencyservices – Development Officers and other Officials.

References:

1. G.S.Pande, Insurance –PrinciplesandPracticesofInsurance,HimalayaPublishing.
2. C.Gopalkrishna,Insurance–Principles andPractices,SterlingPublishersPrivateLtd.
3. G.R.Desai,LifeInsuranceinIndia,MacMillan India.
4. M.N.Mishra,InsurancePrinciplesandPractices,Chand&Co,NewDelhi.
5. M.N.Mishra,Modern ConceptsofInsurance,S.Chand&Co.
6. P.S.Palandi, Insurancein India,ResponseBooks–SagarPublications.
7. Taxman,InsuranceLawManual.
8. *https://www.irdai.gov.in*
9. https://www.policybazaar.com
10. WebresourcessuggestedbytheTeacher concernedandtheCollege Librarianincludingreadingmaterial

Co-CurricularActivities:

A. **Mandatory** *(Studenttrainingbyteacherinthe relatedfieldskills:10hrs.):*

1. **ForTeachers:**Trainingofstudentsbyteacher(usingactualfieldmaterial)inclassroom/field for not less than 10 hours on techniques/skills of life insurance sectorfromopeningof insurancepolicies to settlement of claims.
   a. Workingwithwebsites toascertainvariousLICCompaniesandtheirschemesinLife Insurancesector (Ref. unit-1)
   b. Working with websites to ascertain various policies in Life Insurance sector(Ref.unit-2)
   c. Working with websites like policy bazaar.com forCalculation of Premium forSpecifiedpolicies andascertain variousoptions under policy(ref. unit-3)
   d. Preparation of statements for claims under various policies working with specifiedLife Insurance Company for settlement of Claims under different circumstances(Ref.Unit 4)
   e. PreparethestudentstochoosetheLifeInsurancefieldandshowtheopportunities inpublicandprivateinsurance companies.(ref. Unit.5)
2. **For Students:** Students shall take up individual Fieldwork/Project work and makeobservations on the procedures followed in the life insurance activities includingidentifying customers, filling applications, calculation of premium and settlement ofinsurance claims.Working with Insurance Agents and Life Insurance companies maybe done if possible. Each student shall submit a hand-written Fieldwork/Project workReporton his/her observations inthe given format to teacher.
3. Max marksforFieldwork/ProjectworkReport:05
4. SuggestedFormatforFieldwork/Projectwork(not morethan10pages**):**Titlepage,student details, contents, objective, step-wise work done, findings, conclusions andacknowledgements.
5. Unittests(IE).

B. **SuggestedCo-CurricularActivities**

1. Trainingofstudentsbya relatedfieldexpert.
2. AssignmentsincludingtechnicalassignmentslikeWorkingwithanyinsuranceCompanyfor observation ofvarious policies,premiums,claims, loansandotheractivities.
3. Seminars,Conferences, discussionsbyinvitingconcernedinstitutions
4. FieldVisit
5. Invitedlectures andpresentationson relatedtopics

B.Com	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course:21-B	General Insurance with Practice	Hrs/Wk:5

CourseLearningOutcomes

Aftercompletingthecourse,the student shallbeable to:

1. UnderstandtheFeaturesofGeneral InsuranceandInsuranceCompaniesin India
2. Analyzevariousschemes andpoliciesrelatedtoGeneral Insurancesector
3. Choosesuitableinsurancepolicyunder Health,Fire,Motor,andMarineInsurances
4. AcquireGeneralInsuranceAgencyskillsandadministrativeskills
5. Applyskillforsettlement of claimsunder variouscircumstances

Syllabus: Total75hrs(Teaching60,Training10,Others05includingIE etc.)

Unit-I:Introduction

General Insurance Corporation Act - General InsuranceCompanies in India - Areas of GeneralInsurance- Regulatory Framework of Insurance- IRDA-Objectives -Powers and Functions -Roleof IRDA-InsuranceAdvisoryCommittee.

Unit-II:MotorInsurance

MotorVehiclesAct1988-Requirementsforcompulsorythirdpartyinsurance–PolicyDocumentation & Premium- Certificate of insurance – Liability without fault – Compensation onstructureformulabasis-Hit and Run Accidents.

Unit-III:Fire&MarineInsurance

Kinds of policies – Policy conditions –Documentation-Calculation of premium- Calculation ofLoss-Payment of claims.

Unit-IV:AgricultureInsurance

Types of agricultural insurances - Crop insurance - Problems of crop insurance - Crop InsuranceVsAgriculturalrelief -Considerations inCrop insurance-LiveStockInsurance.

Unit-V:Health&MedicalInsurance

TypesofPolicies-CalculationofPremium-Riders-ComprehensivePlans-PaymentofClaims.

References:

1. M.N.Mishra,InsurancePrinciplesandPractices, Chand&Co,NewDelhi.
2. M.N.Mishra,ModernConceptsofInsurance,S.Chand&Co.
3. P.S.Palandi, Insurancein India,ResponseBooks –SagarPublications.
4. C.Gopalkrishna,Insurance–PrinciplesandPractices,SterlingPublishersPrivate Ltd.
5. G.R.Desai, LifeInsurancein India,MacMillanIndia.
7. *https://www.irdai.gov.in*
8. https://www.policybazaar.com
9. Webresourcessuggested bytheTeacher concernedandtheCollege Librarianincluding readingmaterial.

Co-CurricularActivities

A. **Mandatory:** *(Studenttraining byteacher intherelatedfield skills:10hrs.)*

1. **For Teachers**: Training of students by teacher (using actual field material) in classroomand field for not less than 10 hours on techniques/skills in aspects of General Insuranceareaincluding calculation of premiumandclaimsettlements.
   a. AscertaintheregulatoryframeworkandfunctionsofIRDAandInsuranceAdvisoryCommit teewithrespecttoimportantcasesin GeneralInsuranceField(Ref.unit-1)
   b. WorkingwithspecifiedGICCompanyandanalyzethedocumentationprocedureandPremi umpayment with respectto Motor &Otherinsurances(ref. unit-2)
   c. WorkingwithspecifiedGICCompanyandanalyzethedocumentationprocedureforPolicya greement andpayment of Claimsof GeneralInsurance(ref. unit-3)
   d. WorkingwithBanksandCooperativeSocieties withrespecttoCrop Insurance andClaimsSettlement(Ref.unit 4)
   e. WorkingwithspecifiedMedical InsuranceCompaniestoascertainvariouspoliciesundermedicalinsurance andsettlementofclaims (ref. Unit.5)
2. **For Students**: Students shall individually undertake Fieldwork/Project work and makeobservations on the procedures and processes of various insurance policies and claims inreal time situations. Working with Insurance Agents and General Insurance companies ispreferred. Each student shall submit a hand-written Fieldwork/Project work Report onhis/herobservations in the given format to teacher.
3. Max marksforFieldwork/Projectwork Report:10
4. Suggested Format for Fieldwork/Project work (not more than 10 pages**):** Title page,student details,Contents, objective, step-wise work done, findings, conclusions andacknowledgements.
5. Unittests(IE**)**

B. **SuggestedCo-CurricularActivities**

1. Trainingofstudentsbya relatedfieldexpert.
2. AssignmentsincludingtechnicalassignmentslikeWorkingwithGeneralInsurancecompani esforobservation ofpolicies and claimsundercertain policies.
3. Seminars,Conferences, discussionsbyinvitingconcernedinstitutions
4. FieldVisit
5. Invitedlectures andpresentationsonrelatedtopics

MODEL QUESTION PAPER (Sem-end. Exam)

B.Com DEGREE EXAMINATION
SEMESTER –V
Course: Advertising and Media Planning

Time:3Hrs **Max. Marks:75**

SECTION-A (Short Answer Questions)

Answer any FIVE of the following questions **5x5=25 Marks**

1. Advertising
2. Criticizing of advertising
3. Role of ASCI
4. Creative thinking
5. Target marketing
6. Types of Media
7. Electronic media
8. Media strategy

SECTION-B (Essay Questions)

Answer any FIVE of the following questions **5x10=50 Marks**

9 (a) Briefly explain the nature, scope and functions of advertising.

(OR)

(b) Write about ethical impacts of advertising.

10 (a) Explain the process of advertising campaign.

(OR)

(b) Briefly explain the role of Advertising Standard Council of India.

11 (a) What is copy writing? What are the elements of copy righting?

(OR)

(b) Briefly explain slogan elements of design and principles of design.

12 (a) Define Media Planning. Explain its advantages and disadvantages of Media Planning.

(OR)

(b) Explain various types of advertising Media.

13 (a) Write about Advertising Media Concentration Strategies.

(OR)

(b) What factors influencing Market Media?

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B.Com. Commerce Syllabus (w.e.f:2020-21A.B)

MODEL QUESTION PAPER (Sem-end. Exam)

B.Com DEGREE EXAMINATION

SEMESTER –V

Course : Sales Promotion and Practice

Time:3Hrs **Max. Marks:75**

SECTION-A (Short Answer Questions)

Answer any FIVE of the following questions **5x5=25 Marks**

1. Sales organization
2. Cross promotion
3. Promotional strategies
4. Personal selling
5. Sales budget
6. Sale contests
7. Training
8. Motivation of sales personal

SECTION-B (Essay Questions)

Answer any FIVE of the following questions **5x10=50 Marks**

9 (a) Briefly explain the strengths and limitations of sales promotion.

(OR)

(b) Explain various types of sales organization.

10 (a) Discuss the various sales promotion methods in different Product Life Cycle.

(OR)

(b) Explain different theories of personal selling

11 (a) Explain in detail the terms of sales territories and sales Quota's.

(OR)

(b) What are the steps in designing of sales promotion campaign?

12 (a) Discuss the compensation and evaluation of sales personnel

(OR)

(b) Explain the compensations and evaluation of sales personal.

13 (a) What are the role, qualities and functions of sales manager?

(OR)

(b) Explain designing of events for enhancing Sales Promotion.

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B.Com. Commerce Syllabus (w.e.f:2020-21A.B)

MODEL QUESTION PAPER (Sem-end. Exam)

B.Com DEGREE EXAMINATION

SEMESTER –V

Course: Logistics Services and Practice

Time:3Hrs **Max. Marks:75**

SECTION-A (Short Answer Questions)

Answer any FIVE of the following questions **5x5=25 Marks**

1. What is transportation and its benefits?

2. Define courier and explain courier guidelines.

3. Discuss various Modes of transportation in Global logistics.

4. What are the Strategic issues in Global logistics?

5. Write about EOQ.

6. Explain various types of inventory.

7. What is the need for warehouse?

8. What is retail logistics and supply chain?

SECTION-B (Essay Questions)

Answer any FIVE of the following questions **5x10=50 Marks**

9 (a) Write the meaning of logistics and explain principles of logistics.

(OR)

(b) What do you know about Reverse logistics in E-Commerce Sector?

10 (a) What are the Global logistics barriers?

(OR)

(b) Briefly explain various modes of Transportation in Global Logistics.

11 (a) Write the concept and principles of material handling.

(OR)

(b) What is inventory? Briefly explain advantages and limitations of inventory.

12 (a) Briefly explain various warehouse activities in Logistics Management.

(OR)

(b) Explain the safety rules and procedure in the warehouse.

13 (a) What is supply-chain? Explain its strategy.

(OR)

(b) Explain fundamentals of supply chain and its importance.

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B.Com. Commerce Syllabus (w.e.f:2020-21A.B)

MODEL QUESTION PAPER (Sem-end. Exam)

B.Com DEGREE EXAMINATION

SEMESTER –V

Course : EXIM Procedures and Practice

Time: 3Hrs **Max. Marks:75**

SECTION-A (Short Answer Questions)

Answer any FIVE of the following questions **5x5=25 Marks**

1. Bill of Entry
2. Certificate of Origin
3. EXIM policy
4. Letter of credit
5. RCMC
6. Sales tax formalities for exports
7. Documentary Bill
8. Cargo Insurance

SECTION-B (Essay Questions)

Answer any FIVE of the following questions **5x10=50 Marks**

9 (a) Explain the objectives of EXIM Policies.

(OR)

(b) Discuss the flow of procedure for Export and Import process.

10 (a) Describe the formalities and registrations with the different authorities before anexporter can accept export contract.

(OR)

(b) Explain the Functions and their role of Export promotion councils in India andcommodities board of India.

11 (a) Describe different regulatory documents which serve the purpose of monitoring therealization of Export proceeds.

(OR)

(b) What is Bill of lading and explain the purposes its serves?

12 (a) Describe the different methods of receiving payment in case of Export Contract.

(OR)

(b) Briefly explain different types of Letters of Credit.

13 (a) Describe the different types of Marine Insurance policies that can be issued.

(OR)

(b) Briefly explain the clearance procedure for export of goods.

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B.Com. Commerce Syllabus (w.e.f:2020-21A.B)

MODEL QUESTION PAPER (Sem-end. Exam)

B.Com DEGREE EXAMINATION

SEMESTER –V

Course : Life Insurance with Practice

Time: 3Hrs **Max. Marks:75**

SECTION-A (Short Answer Questions)

Answer any FIVE of the following questions **5x5=25 Marks**

1. Group Insurance
2. Joint Life Policies
3. Riders.
4. Surrender Value
5. Foreclosure of Insurance Policy
6. Claim Concession
7. Agency Services
8. IRDAI

SECTION-B (Essay Questions)

Answer any FIVE of the following questions **5x10=50 Marks**

9 (a) What is 'Insurance'? Explain the Advantages of Insurance.

(OR)

(b) Briefly explain the growth of Life Insurance Companies in India.

10 (a) Write about various Children's Insurance Plans.

(OR)

(b) Explain about various types of Insurance Plans.

11 (a) Elaborate the 'Principles of Life Insurance'.

(OR)

(b)How an Insurance policy is lapsed and how can it be revived? Explain.

12 (a) Describe the Procedure of an Insurance Claim Settlement.

(OR)

(b) Explain Consumer Protection Act relating to Life Insurance and Insurance Claims.

13 (a) Explain the Role of IRDA in Regulation and Development of Insurance Sector in India.

(OR)

(b) Who is 'Insurance Agent'? Explain the functions of an Insurance Agent in detail.

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B.Com. Commerce Syllabus (w.e.f:2020-21A.B)

MODEL QUESTION PAPER (Sem-end. Exam)

B.Com DEGREE EXAMINATION

SEMESTER –V

Course: General Insurance with Practice

Time: 3Hrs **Max. Marks :75**

SECTION-A (Short Answer Questions)

Answer any FIVE of the following questions **5x5=25 Marks**

1. Difference between General insurance and Life insurance
2. Role of IRDA
3. What is certificate of insurance
4. Liability without fault
5. Documents required for Fire insurance
6. Hit and Run accidents
7. Livestock insurance
8. Payment of Claims

SECTION- B (Essay Questions)

Answer any FIVE of the following questions **5x10=50 Marks**

9 (a) Write about the powers and functions of IRDA.

(OR)

(b) Explain in detail about the Insurance Advisory committee.

10 (a) Explain the requirements for compulsory third party insurance.

(OR)

(b) What are the salient features of Motor Vehicles Act - 1988?

11 (a) Write about the Kinds of policies in respect of Fire Insurance.

(OR)

(b) Documents required for Marine insurance policy.

12 (a) What are the types of Agricultural Insurance?

(OR)

(b) What are the considerations in Crop Insurance?

13 (a) What do you know about the comprehensive plans with reference to the Health andMedical insurances?

(OR)

(b) Briefly explain various types of Health and Medical Insurance Policies in India.

ADIKAVI NANNAYA UNIVERSITY:: RAJMAHENDRAVARAM
B.Com. Commerce Syllabus (w.e.f:2020-21A.B)

Skill Enhancement Courses(SECs) for Semester -V,

From2022-23(Syllabus-Curriculum)

Structure of SECs for Semester–V

(To choose One pair from the THREE alternate pairs of SECs)

CourseNumber 6&7	Name of the Course	Hours/ Week	Credits	Marks	
				IA–25	SemEnd
16-C	Digital Marketing	5	4	25	75
17-C	Service Marketing	5	4	25	75
OR					
18 -C	Income Tax Procedure and Practice	5	4	25	75
19-C	GST Procedure and Practice	5	4	25	75
OR					
20-C	E Commerce	5	4	25	75
21-C	E filing	5	4	25	75

B.Com	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course: 16C	Digital Marketing	Hrs/Wk:5

LearningOutcomes

Uponsuccessfulcompletion ofthecoursestudentswillbeableto;

a. AnalyzeonlineMicroandMacroEnvironment
b. Design andcreate website
c. Discusssearchenginemarketing
d. Createblogs,videos,andshare

Syllabus: Total75hrs(Teaching60,Training10, Others05including IEetc.)

Unit1:Introduction

Digital marketing: Meaning – importance – traditional online marketing vs digital marketing – online market place analysis Micro Environment – Online Macro Environment - trends in digitalmarketing–competitiveanalysis.

Unit–II:Web siteplanning and creation

Web Site: meaning – objectives – components of website - website creation – incorporation ofdesignand– addingcontent,installingand activatingplugins.

Unit3:Search EngineOptimization (SEO) SEO:Meaning–HistoryandgrowthofSEO– ImportanceofSearchEngine-OnpageOptimization – offpage optimization – Role of Search Engine Operation- google Ad words – SearchEngineMarketing: Campaign Creation–Ad Creation,ApprovalandExtensions.

Unit4:Social MediaMarketing:

Meaning of social media and Social Media Marketing – social Management tools-strategy andplanning – social media network – Social Networking – video creation and sharing – use ofdifferentsocial mediaplatforms -Content creation-Blogging– GuestBlogging.

Unit5:Emailmarketing: Meaning–Evolutionofemail– importanceofemailmarketing– DevelopmentandAdvancementsinemailmarketing-emailmarketingplatforms– creatingandTrackingemailers–create forms – create opt-in lists – mapping industry trends and eliminating spammessages.

References

1. Digital Marketing for Dummies **by** Ryan Deiss& Russ Henneberry, publisher John Wileyfirst edition 2020.
2. **Youtility by**JayBaer,Published byGilda MedialLC Portfolio 2013,
3. **EpicContentMarketingby**JoePulizzi,McGraw-HillEducation,2013
4. NewRulesofMarketingand PRbyDavidMeermanScott.Wiley,2017
5. **Social Media Marketing All-in-one Dummies by** JanZimmerman, DeborahNg, JohnWiley&Sons.
6. DigitalMarketing2020 **by**DannyStar,IndependentlyPublished,2019
7. *Websourcessuggestedbytheconcernedteacherandcollegelibrarianincludingreadingmaterial*.

Co-CurricularActivities:

A. **Mandatory** *(Studenttrainingbyteacherinfieldrelatedskills:10hrs.):*

1. **For Teachers**: teacher shall train students (using actual field material)in classroom/fieldfor not less than 10 hours in the skills in digital marketing viz., SEO, SEM, Social mediaMarketing, content writing, e-mail marketing, web designing and development, Blogging,Google ad words.
2. **Students**: Students shall individually undertake an online study on any aspect such asAnalysis of local online Micro and Macro Environment and make a trend analysis of digitalmarketing, Build a blog on any topic or subject of their interest, Develop website to marketfor (real/imaginary) product or service, Create video with product or service description toevoke customer attention. Each student has to submit his/her observations as a handwrittenFieldwork/Project work Reportnotexceeding10pagesinthe givenformattotheteacher.
3. Max marksforFieldwork/Projectwork Report:05.
4. Suggested Format for Fieldwork/Project work (not more than 10 pages): Title page,studentdetails,contents,objective,step-wiseworkdone,findings,conclusionsandacknowledgements.
5. Unittests(IE).

B. **SuggestedCo-CurricularActivities**

1. Organize short term training on Digital Marketing in collaboration with local or onlineskillproviders.
2. Seminars/Conference/ Workshopsonsignificantandemergingareasin DigitalMarketing
3. RealtimeworkexperiencewithDigitalmarketingserviceproviders.
4. ArrangeforInteractionwithAreaSpecificExperts.

B.Com	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course:17C	Service Marketing	Hrs/Wk:5

LearningOutcomes

Uponsuccessfulcompletion ofthe coursethe studentwill beable to;

1. Discussthereasonsforgrowthofservicesector.
2. ExaminethemarketingstrategiesofBankingServices,insuranceandeducationservices.
3. Reviewconflicthandlingandcustomer Responsesinservicesmarketing
4. Describesegmentation strategiesinservicemarketing.
5. Suggestmeasurestoimproveservicesqualityandtheirservicedelivery.

Syllabus: Total75hrs(Teaching60,Training10,Others05includingIE etc.)

Unit1:Introduction:NatureandScopeofservices

Introduction: Nature and Scope of services characteristics of services, classification of services – need for service marketing - reasons for the growth of services sector,Overview of marketingDifferent Service Sectors -Marketing of Banking Services -Marketing in Insurance Sector -MarketingofEducation Services.

Unit-2:ConsumerBehaviorinServicesMarketing

Customer Expectations on Services- Factors influencing customer expectation of services.- Service Costs experienced by Consumer, the Role of customer in Service Delivery, ConflictHandlingin Services,Customer Responsesin Services,Concept ofCustomer Delight

Unit-3:CustomerRelationshipmarketingandServicesMarketSegmentation.

CustomerRelationshipmarketing:Meaning-
Importanceofcustomer&customer'sroleinservicedelivery,Benefitsofcustomerrelationship,retentio nstrategies.ServicesMarketSegmentation:- Market segmentation -Basis & Need for segmentation of services, bases ofsegmentationservices, segmentation strategies inservicemarketing.

UNIT4:CustomerDefinedServiceStandards.

CustomerDefinedServiceStandards - HardandSoft,ConceptofServiceLeadershipandServiceVision-MeetingCustomerDefinedServiceStandards-ServiceFlexibilityVersusStandards - Strategiesto Match Capacity andDemand-managing Demand andSupply ofService– applicationsofWaitingLine andQueuingTheoriestoUnderstandPatternDemand.

Unit5:ServiceDevelopmentandQuality Improvement.

Service Development – need, importance and Types of New Services - stages in development ofnew services, service Quality Dimensions - Service Quality Measurement and Service Mapping,ImprovingServiceQualityandServiceDelivery,ServiceFailure andRecovery.

References

1. JohnE.G.Bateson,K.DouglasHoffman:ServicesMarketing,Cengage Learning,4e,2015publication
2. VinnieJauhari,KirtiDutta:ServicesMarketing: OperationsandManagement,OxfordUniversityPress,2014.
3. Valarie A. Zeithaml and Mary Jo-Bitner: Services Marketing – Integrating CustomerFocusAcross TheFirm,Tata McGrawHill PublishingCompanyLtd., 6e, 2013.
4. NimitChowdhary,MonikaChowdhary,TextbookofMarketingOfServices: TheIndian Experience, Macmillan, 2013.
5. K.RamaMohanaRao,Services Marketing,Pearson,2e,2011.
6. Dr.K.Karunakaran,ServiceMarketing(TextandCasesinIndianContext),Himalaya Publications.
7. *Websourcessuggestedbytheconcernedteacherandcollegelibrarianincludingreading material*.

Co-CurricularActivities:

A. **Mandatory** *(Studenttrainingbyteacherinfieldrelatedskills:10hrs.):*

1. **ForTeachers:**Teachershalltrainstudents(usingactualfieldmaterial)inclassroom/field for 10 hours in the skills in service marketing such as planning anddesigning marketing strategies for any real/imaginary service of their interest, proceduretoidentifycustomerbehavior and theirsatisfaction for anyserviceandissues thereof.

2. **Students:** Students shall individually take up a study on marketing strategies adopted(w.r.t.) any one specific service product) adopted by any of the service providers likeBanking, Insurance, Telecom companies, (BSNL, Reliance Jio, Airtel, etc.) any othersectorlikeelectrichouseholdappliances,hospitals,hotelsetc.AssessCustomerexpectatio nsandCustomersatisfactionfeedbackonservicesprovidedbyNetworkproviders. Of Mobile Companies/Banking/Insurance/hospitals Zamoto, Swiggy, etc. Eachstudenthastosubmithis/herobservationsasahandwrittenFieldwork/ProjectworkReport not exceeding10pagesin thegiven formatto the teacher.

3. Max marksforFieldwork/Projectwork Report:05.

4. SuggestedFormatforFieldwork/Projectwork(notmorethan10pages):Titlepage,studen t details, contents, objective, step-wise work done, findings, conclusions andacknowledgements.

5. Unittests(IE).

B. **SuggestedCo-CurricularActivities**

1. Organizeshorttermtrainingonspecifictechnicalskillsincollaborationwith ComputerDepa rtment or skill training institution (Government or Non-GovernmentOrganization). LikeZoho, Freshbook, MSExcel….
2. Seminars/Conference/ Workshopsonemergingtrendsinservicemarketing
3. Realtimeworkexperiencewithservicemarketingproviders
4. ArrangeforInteractionwithAreaSpecificExperts.

B.Com	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course: 18C	Income Tax Procedure and Practice	Hrs/Wk:5

LearningOutcomes

Aftersuccessfullycompletingthecourse, the student shall beable to:

6. Understandthebasic conceptsincomputation oftaxliabilityunderallheads ofincomeof theindividuals.
7. Analyze theclubbing provisions, aggregate income after set-off and carry forward oflossesunder the IncomeTaxAct.
8. Computetaxable income and taxliabilityof individuals and firms.
9. Acquiretheabilityto fileonlinereturns ofincome.
10. AcquireskillsofTDS/TCSandonline filingof Taxreturns.

Syllabus: Total75hrs(Teaching60,Training10,Others05 includingIE etc.)

Unit-I:Computationof TotalIncomeandTaxLiability

ComputationofTotalIncomeandTaxLiabilityofIndividuals-FirmsandCompanies-ProcedureforAssessmentincludingProblems in calculation oftaxforfirms&Companies

Unit-II:Clubbingof Income-Setoff ofLosses

Meaning of clubbing of income– Different items come under the provisions of clubbing ofincome

Meaning of set-off of losses and carry-forward and set-off of losses – Types of set-off - Intra-setoffandInter-set off

Unit-III:TaxPayment-Penalties

Advance Payment of Tax - Persons liable to pay Advance Tax – Procedure for Computation ofAdvance Tax – Due Dates for the Payment of Advance Tax - Consequences of Non-payment ofAdvanceTax-Refundoftax, intereston refund–Appeals and Revisions

Unit-IV:ReturnsFiling

Procedure for Assessment - Filing of Return – Prescribed Forms for filing of Returns – PAN &TAN-On-linefilingofReturns-26 AS -Traces.

Unit-V:TDS&TCSande-Filing

TDS-TCS-ProvisionsinbriefrelatingtoTDS/TCS-Schedulefordeposit&SubmissionofReturnsof TDS-Form-16 generation.

References:

1. SystematicApproachtoIncomeTax,GirishAhuja&RaviGupta, BharatLawHousePvt.Ltd, New Delhi.
2. IncomeTax,VinodK.Sinhania&MonicaSinhania,TaxmannPublicationsPvt.Ltd,NewDelhi.
3. TaxationLaw&Practice,Mehtrotra&Goyal,SahityaBhavanPublications,Agra.
4. E.A.Srinivas,CorporateTax Planning,TataMcGrawHill.
5. VinodK.Singhania,Taxman'sDirectTaxesPlanningandManagement.
6. BhagawatiPrasad,DirectTaxesLawsPractice,VishwaPrakashan.
7. https://incometaxindia.gov.in
8. Webresourcessuggested bytheTeacher concernedandtheCollege Librarianincludingreadingmaterial

Co-CurricularActivities

A. **Mandatory** *(Studenttrainingbyteacherinfieldrelatedskills:10hrs.):*

1. **For Teachers:** Training of students by the teacher (using actual field material) inclassroom/field for not less than 10 hours on techniques in tax consultancy, IncomeTaxcalculationandTaxfiling.Taxfilinginrespecttoindividuals,firmsandCorporate. Income Tax Portal for a selected Tax Payer. Each student has to be trainedinusingforms forfiling of returns.
   a. Tax Calculation and preparation of Annexure w.r.t employees in the institutionsandselected organizations (ref. unit-1)
   b. Workingwith Clubbingincomeand setof losses/carryforwardlosses for a given Company/organization(ref. unit-2)
   c. Working with CBDT website for Income Tax website for various provisions andPenalties(ref. unit-3)
   d. WorkingwithOnlinetax portal fordownloadingdifferentformats(ref.unit4)
   e. PreparationofTDSandTCS reportsandgeneratingForm16fromrespectiveDDO(ref. unit.5)
2. **ForStudents:**StudentsshallindividuallytakeupafieldstudyandmakeobservationsonTaxAssessmentandSubmissionofTaxReturntoIncometaxdepartment,paymentoftaxandotherformalities.They mayalsoworkwithanIncome Tax Practitioner and participate in the real time submissions of Tax. Eachstudent has to submit his/her observations as a handwritten Fieldwork/Project workReportnot exceeding10pages in thegivenformat to the teacher.Max marksforFieldwork/Projectwork Report:05
3. Suggested Format for Fieldwork/Project work (not more than 10 pages**):** Title page,student details,Contents, objective, step-wise work done, findings, conclusions andacknowledgements.
4. Unittests(IE).

B. **SuggestedCo-CurricularActivities**

1. Trainingofstudentsbya relatedfieldexpert.
2. Assignments including technical assignments like Working with Tax Consultancy forobservationof TaxAssessmentand Return FilingProcedure.
3. Seminars,Conferences,discussionsbyinvitingconcerned institutions
4. FieldVisit
5. Invitedlectures andpresentationsonrelatedtopics

B.Com	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course: 19C	GST Procedure and Practice	Hrs/Wk:5

LearningOutcomes

Aftercompletingthecourse,the student shallbeable to:

1. UnderstandtheconceptofLiabilityandPaymentofGST
2. CreateanewcompanyinTallywithGSTcomponentsandestablishenvironmentforGSTVouche rentry.
3. Comprehendtheutilizationofinputtaxcredit,andthereversechargemechanisminGST
4. AcquireSkills ofpreparationofGSTReturns inaccordancewithGSTLawand Tally
5. Acquireskillofonlinepaymentof GSTthroughGSTPortal.

Syllabus: Total75hrs(Teaching60,Training10, Others05includingIE etc.)

Unit1:GST-LiabilityandPayment

Output tax liability - Input tax credit utilization-- Schedule for payment of GST-Interest/penaltyforlate/non-filingof return-Payment of GST-GST Network

Unit-II:GST–AccountingMastersandInventoryMastersin Tally

Company Creation- General Ledgers & GST Ledgers Creation - Stock Groups , Stock Items andUnitof Measure-GSTRate Allocation to Stocks

Unit-III:GSTVoucherEntry

GST Vouchers - Customizing the Existing Voucher types with applicable GST Rates – Mappingof Input Tax Credit on Purchase Vouchers - Output Tax on Sales Vouchers- Purchase and SalesVoucherEntries with Single RatedGSTand Multiple Rated GST Goods.

Unit-IV:GSTReturns

Regular Monthly returns and Annual Return- Returnsfor Composition Scheme- Generation ofReturns-GSTR-1, GSTR-2, GSTR-3, GSTR-4, GSTR-9, GSTR-3B

Unit-V:PaymentofGSTonline

PaymentofGST-ElectronicFilingofGSTReturns–Refunds–Penalties-Administrativestructureof GST Officers-Powers-Jurisdiction.

References:

1. Ahuja,Girish,GuptaRavi,GST&CustomsLaw.
2. Babbar,Sonal,Kaur,RasleenandKhurana, Kritika.GoodsandServiceTax(GST)andCustomsLaw. Scholar Tech Press.
3. Bansal,K.M.,GST&CustomsLaw,TaxmannPublication.
4. Singhania,Vinod K. and Singhania Monica. Students' guide to Income Tax. UniversityEdition.Taxmann Publications PvtLtd.,New Delhi.
5. SisodiaPushpendra,GST Law,Bharat LawHouse.
6. ***Webresources***:https://cbic-gst.gov.in
7. Webresourcessuggested bytheTeacher concernedandtheCollege Librarianincludingreadingmaterial

Co-CurricularActivities

A. **Mandatory** *(Studenttrainingbyteacherinfieldrelatedskills:10hrs.):*

1. **ForTeachers:**Trainingofstudentsbytheteacher(usingactualfieldmaterial)inclassroom/ field for not less than 10 hours on techniques in computation of and onlinesubmissionof GST. On TallyERP9 forenteringentries of aselectedfirm.
   a. Calculationofoutput taxliabilityand inputTaxCredit throughvoucherentries(ref.unit-1)
   b. Creation ofCompanyand workingwith Masters in TallyERP9(ref. unit-2)
   c. VoucherentryalongwithInputtaxandoutputtaxedentries (ref.unit-3)
   d. Preparationof GSTReturnsforregular dealerandcompositedealerin tally(Ref.unit 4)
   e. OnlinePaymentof GSTusingTally(ref.unit.5)
2. **ForStudents:**StudentsshalltakeupindividualfieldstudyonEntryofGSTVoucher, Calculation of Input Tax and Output Tax including single rated /multi ratedGST with a selected organizations. Submission of online GST Returns for a selectedbusinessfirm.Eachstudenthastosubmithis/herobservationsasahandwrittenField work/Project work Report not exceeding 10 pages in the given format to theteacher.
3. Max marksforFieldwork/Projectwork Report:05.
4. Suggested Format for Fieldwork/Project work Report (not more than 10 pages**):** Titlepage, student details, contents, objective, step-wise work done, findings, conclusionsandacknowledgements.
5. Unittests(IE).

B. **SuggestedCo-CurricularActivities**

1. Trainingofstudentsbya relatedfieldexpert.
2. Assignments including technical assignments like Working with Tally forObservationofreal-time entriesfortransactionof accountingwithinventory
3. Seminars,Conferences, discussionsbyinvitingconcernedinstitutions
4. FieldVisit
5. Invitedlecturesandpresentationsonrelatedtopics.

B.Com	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course: 20C	E-Commerce	Hrs/Wk:5

LearningOutcomes:

Bythe completion of thecourse, thestudents areableto

1. Understandthemechanismofecommerce
2. Equipspecializationin websitedesigningfor ecommerce
3. Enhancetheirskillsinoperationalservicesof ecommerce
4. Involveinactivitiesofe commerce
5. Ableto create awareness amongthepubliconecommerceactivities

SyllabusTotal75hrs(Teaching60,Training10 andothers05includingIE etc)

UNIT1:Introduction,NatureandScope

Introduction- Definition –importance- Nature and scope of e commerce-Advantages andlimitations-Typesofecommerce– B2B,B2C,C2B,C2C,B2A,C2A-Frameworkecommerce**UNIT2:-EnvironmentalandTechnical support Aspects**

TechnicalComponents-Internetanditscomponentstructure-InternetVs Intranet,VsExtranetand their differences-Website design- its structure-designing, developing and deploying thesystem-

UNIT3.**–SecurityandLegalAspects**

Security environment –its preliminaries and precautions-protecting Web server with Firewalls-Importance of Digital Signature –its components – Cyber Law-Relevant Provisions of IT Act2000.

UNIT4.-OperationalServicesof eCommerce

E retailing –features- E Services-Banking, Insurance, Travel, Auctions, Learning, Publicationand Entertainment-Payment of utilities (Gas, Current Bill, Petrol Products)- On Line Shopping(Amazon,Flip kart, Snapdeal etc.)

UNIT5.–**EPaymentSystem**

Types of e payment system- its features-Digital payments (Debit Card/Credit Cards, InternetBanking, Mobile wallets- Digital Apps (unified Payment Services-Phone Pay, Google Pay,BHIMEtc.)UnstructuredSupplementaryServicesData(BankPrepaidCard,Mobilebanking)-

References:

1. Bharat Bhaskar , Electronic Commerce Framework, Technology and Application.McGraw HillEducation
2. Bajaj,D.Nag,ECommerce, TataMcGrawHillPublication
3. WhitelyDavid , E-Commerce,McGrawHill
4. TNChhabra,ECommerce,DhanapatRai&Co
5. DaveChaffey,E BusinessandECommerceManagement,PearsonPublication
6. Dr.PratikkumarPrajapati,Dr.M.Patel,ECommerce,RedshinePublication

7. Web resources suggested by the Teacher concerned and the College Librarian includingreading material

Co-CurricularActivities(teacherparticipation:total15hours):

A. Mandatory

1. ForTeachers: Training of studentsby theteacher(using actualfieldmaterial)inclassroom and field for a total of not less than 10 hours on the skills of listing out the localinstitutions who are involved in e commerce activities, Identifying the institutions and theirexperience in operational activities of e commerce, Case studies are to be **a**nalyzed ofvariousproblemsraised atthetimeofepaymentandoperationalactivitiesofecommerce

2. ForStudents:Studentsshallindividually undertake fieldstudy bycontactwebsitedesigners and studying various procedures adopted by the merchants and individuals andtheirexperiences.Eachstudenthastorecordandsubmithis/herobservationsinahandwritten Fieldwork/Project work Report not exceeding 10 pages to teacher in the givenformat.

3. Max marksforFieldwork/ProjectworkReport:05.

4. Suggested Format for Fieldwork/Project work Report (not more than 10 pages**):** Titlepage,studentdetails, contents, objective, step-wise work done, findings, conclusions andacknowledgements.

5. Unittests(IE).

B. SuggestedCo-CurricularActivities

1Trainingofstudents byarelatedfield expert.

2. Assignments (including technical assignments like volume of business operated through ecommerce,CaseStudies ofproblems raisedat the time ofecommerce

3. Seminars,Conferences, discussions byinvitingconcerned institutions

4. Conductsurveysonprosandconsof ecommerce

5. Invitedlectures andpresentationsonrelatedtopicsbyfieldexperts.

B.Com	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course: 21C	E Filing	Hrs/Wk:5

LearningOutcomes:

Bythe completion of thecourse, thestudents areableto

- Understandandapplybasicknowledgeof Indian TaxSystem
- Equipspecializationintaxationsystem
- Enhancetheirskillsinpresentingreturns
- InvolveinactivitiesofCharted Accountantsforfilingreturns
- filereturnsofIncomeTaxandGST

Syllabus: Total75hrs(Teaching60,Training10,Others05 includingIE etc.)

UNIT1:Introduction,NatureandScope

Introduction- Definition –importance and scope of returns--Types of Assesses –under IncomeTaxand Goods and ServiceTax-Sources ofincome-

UNIT2:-**ReturnsfilingunderIncomeTax**

TypesofReturns-Modeoffiling-Manual-ElectronicBureauofInternalRevenueForm(eBIR)Electronic Filing and Electronic and Payment System (eFPS)-for Individuals-ITR1,ITR2,ITR3,ITR4,ForFirms andCompaniesITR5,ITR6,ITR7.

UNIT3:–PenaltiesandProsecutionunderIncomeTax

Nonpayment, failure to comply,-Concealment-, Book Audit, Loans-International transactions,TDS

UNIT4:-.ReturnsfilingunderGoodsServiceTax

GSTR1.GSTR1,GSTR2, GSTR2A,GSTR3B, GSTR4,GSTR5, GSTR6

UNIT5.–PenaltiesandProsecution underGST

Differencesbetweenfeesandpenalty-Typesofpenaltiesundersection122to138

References:

1. VarunPanwar,JyothiMahajanIntroductiontoefilingreturnsMKMPublishers
2. HemachandjainandH.N.TiwariComputerApplicationinBusinessTaxman'sPublication
3. SusheelaMadanComputerApplicationinBusinessMKMPublishers
4. www.incometaxindiafiling.gov.in
5. www.taxguru.in 6.www.bharatlaws.com
7. www.cbic-gst.gov.in 8..www.taxmann.com

Web resources suggested by the Teacher concerned and the College Librarian including readingmaterial

Co-CurricularActivities(teacherparticipation:total15hours):

A. Mandatory

1. For Teachers: Training of students by the teacher (using actual field material) inclassroom and field for not less than 10 hours on the skills of Local tax consultantsand the problems raised at the time of e filing, Identifying the assesses and theirexperienceinefilingactivities,Analysisofvariousreturnsfiledthroughmanualande filing and their difficulties and advantages, Listing out assesses who paid penaltiesand identifythevarious reasons

2. ForStudents:Filingoftaxreturnsthroughthetaxexpertsandconcernedwebsites,Stude nts shall be submittedaproject report onfilingof returns.

3. Max marksforFieldwork/Projectwork Report:05**.**

4. Suggested Format for Fieldwork/Project work Report (not more than 10 pages**):**Title page, student details, contents, objective, step-wise work done, findings,conclusionsand acknowledgements.

5. Unittests(IE).

B. SuggestedCo-CurricularActivities

- Trainingof students bya related field expert.
- Assignments (including technical assignments like collection of submitted returnsofvarious organizations,Case Studies of problems raised at the time of submission ofreturns.
- Seminars,Conferences,discussionsbyinvitingconcernedinstitutions
- Visitstolocalcharted Accountantstoexposethepracticalfilingprocedure
- Invitedlecturesandpresentationsonrelatedtopicsbyfieldexperts.

ADIKAVI NANNAYA UNIVERSITY:: RAJMAHENDRAVARAM

B.Com. Commerce Syllabus (w.e.f:2020-21A.B)

MODEL QUESTION PAPER (Sem-end. Exam)

B.Com DEGREE EXAMINATION

SEMESTER –V

Course : Digital Marketing

Time:3Hrs **Max. Marks:75**

SECTION-A (Short Answer Questions)

Answer any FIVE of the following questions **5x5=25 Marks**

1. Online Macro Environment
2. Online Market
3. Website Planning
4. Website Creation
5. Role of Search Engine Operation
6. Social Networking
7. Blogging
8. Email Marketing

SECTION-B (Essay Questions)

Answer any FIVE of the following questions **5x10=50 Marks**

9 (a) Distinguish between traditional online marketing and digital marketing.

(OR)

(b) Explain various trends in digital marketing.

10 (a) What are the objectives and importance of website planning?

(OR)

(b) What are the steps involved in website creation?

11 (a) Discuss the role of Search Engine Operation.

(OR)

(b) Briefly explain the advantages and limitations of Campaign Creation.

12 (a) Explain various objectives and functions of Social Media Marketing.

(OR)

(b) Discuss various different social media platforms in India.

13 (a) Explain the development and advancements in e mail marketing.

(OR)

(b) Describe mapping industry trends and eliminating spam messages.

ADIKAVI NANNAYA UNIVERSITY:: RAJMAHENDRAVARAM

B.Com. Commerce Syllabus (w.e.f:2020-21A.B)

MODEL QUESTION PAPER (Sem-end. Exam)

B.Com DEGREE EXAMINATION

SEMESTER –V

Course: Service Marketing

Time:3Hrs **Max. Marks:75**

SECTION-A (Short Answer Questions)

Answer any FIVE of the following questions **5x5=25 Marks**

1. Need for service marketing
2. Reasons for the growth of service sector
3. Concept of customer delight
4. Conflicts handling in service
5. Meaning and importance of customer relationship
6. Define service standards
7. Importance of service development
8. Service failure and recovery

SECTION-B (Essay Questions)

Answer any FIVE of the following questions **5x10=50 Marks**

9 (a) Explain nature and scope and characteristics of service marketing.

(OR)

(b) Briefly explain classifications of service.

10 (a) What are the factors influencing customer expectations of service?

(OR)

(b) What is the role of customer in service delivering?

11 (a) Briefly explain the concept and need for market segmentation.

(OR)

(b) Explain segmentation strategies in Service Marketing.

12 (a) How to managing demand and supply of service?

(OR)

(b) Briefly explain the concept of Service Leadership and Service Vision.

13 (a) Explain the stages in development of new service.

(OR)

(b) Discuss the service quality measurement and service mapping.

ADIKAVI NANNAYA UNIVERSITY:: RAJMAHENDRAVARAM

B.Com. Commerce Syllabus (w.e.f:2020-21A.B)

MODEL QUESTION PAPER (Sem-end. Exam)

B.Com DEGREE EXAMINATION

SEMESTER –V

Course: Income Tax Procedure and Practice

Time:3Hrs **Max. Marks:75**

SECTION-A (Short Answer Questions)

Answer any FIVE of the following questions **5x5=25 Marks**

1. Define company.
2. Tax rates for individuals
3. Set off and carry forward losses
4. Refund of tax
5. PAN
6. Form 26AS Traces
7. Form 16
8. TDS

SECTION-B (Essay Questions)

Answer any FIVE of the following questions **5x10=50 Marks**

9 (a) How to compute total income of company?

(OR)

(b) Explain the Computation of Total Income and Tax Liability of Individuals.

10 (a) What is clubbing of income? Explain the provisions laid down in Income Tax Act inregard to clubbing of incomes?

(OR)

(b) Briefly explain meaning of set-off of losses and carry-forward and set-off of losses.

11(a) What are the provisions laid down in Income Tax Act in regard to advance tax?

(OR)

(b) List out the prescribed forms for filing of returns.

12 (a) What are the provisions laid down in Income Tax act in regard to Tax deducted atsources?

(OR)

(b) The following are particulars of income. Calculate gross total income of theindividual for the assessment year 2022-23

Income from 1st house property	Rs. 50,000
Loss from 2nd house property	Rs. 40,000
Income from interest on securities	Rs. 35,000
Loss from loose tools business	Rs. 30,000
Profit from speculation business	Rs. 30,000

Loss from short term capital asset	Rs. 16,000
Long-term capital losses	Rs. 55,000
Long-term capital gains on investments	Rs. 41,000

13 (a) Ms. Roopa submits the following particulars. Compute tax liability of Ms. Sunitha forthe assessment year 2022-23.

Incomes:

a) Computed salary income Rs. 2,00,000
b) Computed income from property let out Rs. 65,000
c) Agricultural income from Bangladesh Rs. 1,00,000
d) Share of Income from HUF Rs. 1,70,000
e) Computed income from STCG Rs. 75,000.

Expenses:

a) Life Insurance premium paid Rs. 28,000 (Sum assured Rs. 25,00,000)
b) Medical Insurance premium paid Rs. 18,000
c) Loan repayment towards home loan installment Rs. 20,000
d) Contribution of Rs. 20,000 to the Swachh Bharat Kosh set up by the central government.

(OR)

(b) Ramesh, Suresh and Mahesh are partners in a firm sharing profits and losses in the ratio of 2:2:1 respectively. The Profit and loss account for the year ended 31st march, 2022 is as follows.

Profit and Loss a/c

Particulars	**Amount (Rs)**	**Particulars**	**Amount (Rs)**
To Rent of Factory	1,76,000	By Gross Profit B/d	4,98,200
To Interest on capital in excess of specified limit		By Interest on Non-Govt.Securities	10,000
Ramesh	1,000		
Suresh	500		
Mahesh	500		
To Salary to Suresh	72,000		
To Commission to Mahesh	36,000		
To Net Profit	2,22,200		
	5,00,200		**5,00,200**

Compute the Total Income of the Firm and Taxable Income of the three partners in thefirm. Suresh and Mahesh are working partners.

ADIKAVI NANNAYA UNIVERSITY:: RAJMAHENDRAVARAM

B.Com. Commerce Syllabus (w.e.f:2020-21A.B)

MODEL QUESTION PAPER (Sem-end. Exam)
B.Com DEGREE EXAMINATION
SEMESTER –V
Course: GST Procedure and Practice

Time:3Hrs **Max. Marks:75**

SECTION-A (Short Answer Questions)

Answer any FIVE of the following questions **5x5=25 Marks**

1. What are the methods of payment of GST?
2. Who is liable to pay GST?
3. How to create GST ledger?
4. Difference between general ledger & GST ledgers.
5. What is mapping of ITC on purchase vouchers?
6. Write purchase & sales voucher entries with single rates GST.
7. Explain about forms of GSTR.
8. What is electronic filing of GST forms?

SECTION-B (Essay Questions)

Answer any FIVE of the following questions **5x10=50 Marks**

9 (a) What is ITC and explain about ITC utilization?

(OR)

(b) Explain the Schedule for payment of GST.

10 (a) Briefly explain about Interest/Penalties for late/non-filing of return.

(OR)

(b) Discuss the General Ledgers & GST Ledgers Creation.

11 (a) Explain about Company creation in Tally.

(OR)

(b) Explain about stock groups, stock items and unit of measure in Tally.

12 (a) Discuss various types of GST vouchers.

(OR)

(b) Explain about Input Tax Credit and Output tax Credit.

13 (a) How to generate GST returns?

(OR)

(b) Explain about Administrative structure of GST officers, Jurisdiction and their powers.

ADIKAVI NANNAYA UNIVERSITY:: RAJMAHENDRAVARAM

B.Com. Commerce Syllabus (w.e.f:2020-21A.B)

MODEL QUESTION PAPER (Sem-end. Exam)
B.Com DEGREE EXAMINATION
SEMESTER –V
Course: E-Commerce

Time:3Hrs **Max. Marks:75**

SECTION-A (Short Answer Questions)

Answer any FIVE of the following questions **5x5=25 Marks**

1. Define e-commerce.
2. What is meant by internet?
3. Define security environment.
4. What is meant by E-Retailing?
5. What is meant by E-payment system?
6. Define online shopping.
7. What is meant by cyber law?
8. Define internet banking?

SECTION-B (Essay Questions)

Answer any FIVE of the following questions **5x10=50 Marks**

9 (a) Explain nature, scope and objectives of E-commerce.

(OR)

(b) Discuss various types of e-commerce.

10 (a) Describe differentiation between internet Vs intranet Vs Extranet.

(OR)

(b) Define Internet. Briefly explain the component structure of Internet.

11 (a) Explain importance of digital signature and components of cyber law.

(OR)

(b) Briefly explain various salient features of IT Act, 2000.

12 (a) Discuss in details of E-services.

(OR)

(b) What are the advantages and limitations of online shopping?

13 (a) Explain advantages and limitations of E-payment system in India.

(OR)

(b) Describe in details of digital Apps.

MODEL QUESTION PAPER (Sem-end. Exam)
B.Com DEGREE EXAMINATION
SEMESTER –V
Course: E-Filing

Time:3Hrs **Max. Marks:75**

SECTION-A (Short Answer Questions)

Answer any FIVE of the following questions **5x5=25 Marks**

1. Types of assesses
2. Types of returns
3. Electronic Filing and Payment System (EFPS)
4. TDS
5. GSTR 3
6. Difference between fees and penalty
7. ITR 4 SUGAM
8. Book Audit

SECTION-B (Essay Questions)

Answer any FIVE of the following questions **5x10=50 Marks**

9 (a) Explain the scope and importance of Returns.

(OR)

(b) Write about source of income under Income Tax and Goods and Services Tax (GST).

10 (a) Write brief note on any four forms of Income Tax returns for Firms and Companies.

(OR)

(b) Write brief notes on any four forms of Income Tax returns for Individuals.

11 (a) Mention different types of TDS returns forms and due date of TDS returns.

(OR)

(b) Is there such a concept as “International Taxation” in the real world and what actually is “TaxPlanning?

12 (a) How many types of returns filing under Goods and Services Tax (GST)?

(OR)

(b) Briefly explain the returns filing under GSTR1 and GSTR2.

13 (a) How many types of penalties under Section 122 to 138?

(OR)

(b) Distinguish between fees and penalties.

UG Program (4 Years Honors)
CBCS-2020-21

B. Com
COMPUTER APPLICATIONS

Syllabus and Model Question Papers

TABLE OF CONTENTS

1. Resolutions of the Board of Studies:

Meeting held on:22/01/2021Time: 10.00 Am
At: NTR Convention Centre, Adikavi Nannaya University Campus, Rajamahendravaram

Agenda: As per the directions and guidelines/modalities issued by the APSCHE for revising the curriculum framework and updating the syllabus as out-come based B. Com programme to be effect from 2020-21 academic year under CBCS for implementing in all affiliated colleges of AKNU

Members present:

Dr. N. Udaya Bhaskar	Chairman, Dept. of Commerce and Management Studies, Adikavi Nannaya University, Rajamahednravaram, East Godavari District
Dr.J.Sanath Kumar	Member, RRDS Govt Degree College, Bhimavaram, West Godavari District
Dr. Kopparthi Ammaji	Member, BGBS Women's College, Narsapur, West Godavari District
Dr. K. Ratna Manikyam	, Member, Dept. of Commerce, Govt. College (A), Rajahmundry
Dr. M. Ramesh	Member, Dept. of Commerce and Management, Adikavi Nannaya University, Rajamahednravaram, East Godavari District

Resolutions: The UG board of Studies for B. Com (Computer applications) is resolved the following implementation subject to approval.

1. Adoption of revised-common programme structure and updating course-wise syllabi as per the guidelines issued by APSCHE.
2. Adoption of regulations on scheme of examination and marks/grading system of the University UG programme.
3. Preparation of Model question Courses in prescribed format.
4. Eligibility of student for joining the course.
5. List of Course-setters/Course evaluators with phone, email id in the prescribed format.

DETAILS OF COURSES TITLES AND CREDITS

Sem	Course No	Course Name	Course Type (T/P/L)	Hrs/Week	Credits	Max. Marks	Max. Marks
				Commerce :5	Commerce :4	Count/Internal/ Mid Assessment	Sem- End Exam
I	1A	Fundamentals of Accounting	T	5	4	25	75
	1B	Business Organization and Management	T	5	4	25	75
	1C	Information Technology	T+L	3+2	3+1	25	75
II	2A	Financial Accounting	T	5	4	25	75
	2B	Business Economics	T	5	4	25	75
	2C	E-Commerce and Web Designing	T+L	3+2	3+1	25	75
III	3A	Advanced Accounting	T	5	4	25	75
	3B	Business Statistics	T	5	4	25	75
	3C	Programming with C &C++	T+L	3+2	3+1	25	75
IV	4A	Corporate Accounting	T	5	4	25	75
	4B	Cost and Management Accounting	T	5	4	25	75
	4C	Income Tax	T	5	4	25	75
	4D	Business Laws	T	5	4	25	75
	4E	Auditing	T	5	4	25	75
	4F	Data Base Management System	T+L	3+2	3+1	25	75

Note: * Course Type Code : T-Theory, L - Lab, P: Problem solving

a) Proposed combination subjects: Accounting and Commerce.

b) Student eligibility for joining in the course: 10+2 (any discipline), Open Inter School and its equivalent.

c) Faculty eligibility for teaching the course: Passed Post Graduation Degree with relevant specialization and also having higher qualification like SET/NET/Ph. D.

d) List of Proposed Skill enhancement courses with syllabus, if any.

e) Any newly proposed Skill development/Life skill courses with draft syllabus and required resources.

f) Required instruments/software/ computers for the course (Lab/Practical course-wise required i.e., for a batch of 15 students).

g) List of Suitable levels of positions eligible in the Govt/Pvt organizations . Suitable levels of positions for these graduates either in industry/govt organization like., technical assistants/ scientists/ school teachers., clearly define them, with reliable justification.

S.No.	Position	Company/ Govt organization	Remarks	Additional skills required, if any
01	Accountant	Any Govt./Private Organization		
02	Supporting Staff	Any Govt./Private Organization		
03	Clerk	Banking Industry		
04	Entrepreneur	Own Business		

h) List of Govt. organizations / Pvt companies for employment opportunities or internships or projects.

S.No	Position	Company/ Govt organization	Remarks	Additional skills required, if any
01	Service Industry	Junior Assistant/Senior Assistant/LDC/UDC/Clerck		
02	Manufacturing Industry	Accountant/Cashier/Clerck		
03	Hotel Industry	Accountant/Cashier		
04	Banking Sector	Cashier/Asst. Cader/Clerical		

i) Any specific instructions to the teacher /Course setters/Exam-Chief Superintendent.

3. Program objectives, outcomes, co-curricular and assessment methods.

B. Com	Computer applications

1. Aim and objectives of B. Com program:
The B. Com programme aims to make the students employable and self employment oriented (Self employable). It aims to make the students learn the writing and interpretation of books of accounts, be conversant with the financial and economic environment and acquire the management skills required to manage the business.

2. Learning outcomes of B. Com:

- This program could provide Industries, Banking Sectors, Insurance Companies, Financing companies, Transport Agencies, Warehousing etc., well trained professionals to meet the requirements.
- After completing graduation, students can get skills regarding various aspects like Marketing Manager, Selling Manager, over all Administration abilities of the Company.
- Capability of the students to make decisions at personal & professional level will increase after completion of this course. Students can independently start up their own Business.
- Students can get thorough knowledge of finance and commerce.

- ❖ The knowledge of different specializations in Accounting, costing, banking and finance with the practical exposure helps the students to stand in organization.

3. Recommended Skill enhancement courses: (Titles of the courses given below and details of the syllabus for 4 credits (i.e., 2 units for theory and Lab/Practical) for 5 hrs class-cum-lab work.

4. Recommended Co-curricular activities:(Co-curricular Activities should not promote copying from text book or from others' work and shall encourage self/independent and group learning)

A. Measurable:

1. Assignments on:
2. Student seminars (Individual presentation of Courses) on topics relating to:
3. Quiz Programmes on:
4. Individual Field Studies/projects:
5. Group discussion on:
6. Group/Team Projects on:

B Computer applications

1. Collection of news reports and maintaining a record of Course-cuttings relating to topics covered in syllabus .
2. Group Discussions on: Subject related matters.
3. Watching TV discussions and preparing summary points recording personal observations etc., under guidance from the Lecturers.
4. Any similar activities with imaginative thinking.

5. Recommended Continuous Assessment methods:

Some of the following suggested assessment methodologies could be adopted;

1. The oral and written examinations (Scheduled and surprise tests).
2. Closed-book and open-book tests.
3. Coding exercises.
4. Practical assignments and laboratory reports.
5. Observation of practical skills.
6. Individual and group project reports.
7. Efficient delivery using seminar presentations.
8. Viva voce interviews.
9. Computerized adaptive testing, literature surveys and evaluations.
10. Peers and self-assessment, outputs form individual and collaborative work.

4.Details of course-wise Syllabus:

DETAILS OF COURSE WISE SYLLABUS FOR THEORY & MODEL QUESTION COURSES

B.Com	Semester: I	Credits: 4
Course: 1A	FUNDAMENTALS OF ACCOUNTING	Hrs/Wk: 5

Learning Outcomes:

At the end of the course, the student will able to

- Identify transactions and events that need to be recorded in the books of accounts.
- Equip with the knowledge of accounting process and preparation of final accounts of sole trader.
- Develop the skill of recording financial transactions and preparation of reports in accordance with GAAP.
- Analyze the difference between cash book and pass book in terms of balance and make reconciliation.
- Critically examine the balance sheets of a sole trader for different accounting periods.
- Design new accounting formulas & principles for business organisations.

UNIT I:

Introduction : Need for Accounting – Definition – Objectives, – Accounting Concepts and Conventions – GAAP - Accounting Cycle - Classification of Accounts and its Rules – BookKeeping and Accounting - Double Entry Book-Keeping - Journalizing - Posting to Ledgers, Balancing of Ledger Accounts (including Problems).

UNIT II:

S**ubsidiary Books:** Types of Subsidiary Books - Cash Book, Three-column Cash Book- Petty Cash Book (including Problems).

UNIT III:

Trial Balance and Rectification of Errors: Preparation of Trial balance - Errors – Meaning – Types of Errors – Rectification of Errors – Suspense Account (including Problems)

UNIT IV:

Bank Reconciliation Statement: Need for Bank Reconciliation - Reasons for Difference between Cash Book and Pass Book Balances- Preparation of Bank Reconciliation Statement - Problems on both Favourable and Unfavourable Balance (including Problems).

UNIT V:

Final Accounts: Preparation of Final Accounts: Trading account – Profit and Loss account – Balance Sheet – Final Accounts with Adjustments (including Problems).

TEXT BOOKS:

1. Ranganatham G and Venkataramanaiah, Fundamentals of Accounting, S Chand Publications.
2. T.S.Reddy& A. Murthy, Financial Accounting, Margham Publications.
3. S N Maheswari and SK Maheswari, Financial Accounting, Vikas Publications.
4. R L Gupta & V K Gupta, Principles and Practice of Accounting, Sultan Chand & Sons.
5. S.P. Jain & K.L Narang, Accountancy-I, Kalyani Publishers.
6. Tulasian, Accountancy -I, Tata McGraw Hill Co.

7. V.K.Goyal, Financial Accounting, Excel Books .
8. K. Arunjothi, Fundamentals of Accounting; Maruthi Publications.
9. Prof EChandraiah : Financial Accounting Seven Hills International Publishers.

Suggested Co-Curricular Activities:

- Bridge Course for Non-commerce Students.
- Practice of Terminology of Accounting .
- Quiz, Word Scramble.
- Co-operative learning.
- Seminar.
- Co-operative learning .
- Problem Solving Exercises.
- Matching, Mismatch.
- Creation of Trial Balance.
- Visit a firm (Individual and Group).
- Survey on sole proprietorship and prepare final accounts of concern.
- Group Discussions on problems relating to topics covered in syllabus.
- Examinations (Scheduled and surprise tests).
- Any similar activities with imaginative thinking beyond the prescribed syllabus.

MODEL QUESTION COURSE – THEORY

B.Com. DEGREE EXAMINATIONS
Semester: I
Course(1A): Fundamentals of Accounting

Time: 3 Hours. Max Marks: 75

Section-A

Answer any **FIVE** of the following questions. **5X5=25M**

1. Bookkeeping.
2. Petty Cash Book.
3. Suspense Account.
4. Need for Bank Reconciliation.
5. Trading Account.
6. Accounting Cycle.
7. Journal Proper.
8. Trial Balance .

Section-B

Answer **FIVE** questions **5X10=50M**

9. a). What are the advantages and limitations of Double Entry System?

(OR)

b). Briefly explain accounting concepts and conventions.

10. a) Explain various types of subsidiary books.

(OR)

b) Prepare Triple Column Cash Book from the following information of Koushik.

1st March 2020

1. Cash in hand Rs.1532 and balance at bank Rs.18500.
2. Received from Salman Rs.590 and allowed him discount Rs.10.
3. Paid salaries for the month of February Rs.200.
4. Purchased merchandise payment made by cheque Rs.3200.
8. Paid Bilal & Co by cheque Rs.800 discount received Rs.20.
10. Withdrew from bank for office use Rs.400. paid rent in cash Rs.300.
14. Deposited into bank Rs.500.
15. Cash sales Rs.2460.
18. Purchased a motor car for Rs.6500 payment made by cheque.
23. Received a cheque from Salman for Rs.391 discount Rs.9.
25. Paid wages Rs.350.
28. Salman cheque paid into bank.
29. Paid computer applications expenses Rs.360.
31. Bank informed that Salman's cheque has been dishonored.
31. Cash sales Rs.6440.

11. a) Briefly explain the advantages and limitations of trial balance

(OR)

b).Define Error. Briefly explain various types of erros.

12. a) Write the reasons for difference between pass book and cash book for bank reconciliation.

(OR)

(b) From the following particulars, prepare a Bank Reconciliation Statement for M/s Ramesh Traders as at 31st December, 2020.

i. Bank Balance as per cash book 8,000
ii. Two cheques were issued for 18,000 and 12,000 respectively, of which the cheque for 12,000 was presented on 4rd January next year.
iii. Cheque for 6,000 deposited on 25th was collected and credited by the bank on 4th January.
iv. Dividends collected by the bank 1,800 not recorded in the cash book.
v. Information relating to 4,600 deposit made by a debtor directly into the bank account has not yet been received.
vi. Bank charges 750 have been debited to the account by the bank on 31st December.

13. a) Distinguish between Profit and Loss Account and Balance Sheet.

(OR)

b) From the following Trial Balance of Ramesh as on 31st March 2020, prepare Trading and Profit and Loss account and Balance sheet taking into account the adjustments.

Trial Balance

Debit Balances Rs.	**Credit Balances Rs.**
Purchases 2,00,000	Capital 3,00,000
Salaries 10,000	Sales 2,50,000
Rent 7,500	Creditors1,05,000
Insurance premium 1,500	
Drawings 50,000	
Machinery 1,40,000	
Cash at bank 22,500	
Computers 1,25,000	
3Furniture 50,000	
Cash 10,000	
Opening Stock 26,000	
Sundry debtors 12,500	

Adjustments:

1. Closing stock as on 31.3.2015 Rs. 39,000
2. Rent outstanding Rs. 1,000
3. Provide interest on capital @ 10% and on Drawings @ 8%.
4. Depreciation on Machinery @10% and Furniture @ 5%

B.Com	Semester: I	Credits: 4
Course: 1B	BUSINESS ORGANIZATION AND MANAGEMENT	Hrs/Wk: 5

Learning Outcomes:

At the end of the course, the student will be able to:

- Understand different forms of business organizations.
- Comprehend the nature of Joint Stock Company and formalities to promote a Company.
- Describe the Social Responsibility of Business towards the society.
- Critically examine the various organizations of the business firms and judge the best among them.
- Design and plan to register a business firm. Prepare different documents to register a company at his own.
- Articulate new models of business organizations.

UNIT I:

Introduction Concepts of Business, Trade, Industry and Commerce: Business – Meaning, Definition, Features and Functions of Business - Trade Classification – Aids to Trade – Industry Classification and Commerce - Factors Influencing the Choice of Suitable form of Organisation.

UNIT II:

Forms of Business Organizations: Features, Merits and Demerits of Sole Proprietor Ship and Partnership Business - Features Merits and Demits of Joint Stock Companies - Public Sector Enterprises (PSEs) - Multinational Corporations (MNCs)- Differences between Private Limited Public Limited Company.

UNIT III:

C**ompany Incorporation:** Preparation of Important Documents for Incorporation of Company - Certificate of Incorporation and Certificate of Commencement of Business - Contents of Memorandum and Articles of Association - Contents of Prospectus.

UNIT IV:

Management: Meaning Characteristics - Fayol's 14 Principles of Management - Administration Vs Management - Levels of Management.

UNIT V:

Functions of Management: Different Functions of Management - Meaning – Definition – Characteristics Merits and Demits of Planning - Principles of Organisation – Line and staff of Organisation.

REFERENCE BOOKS:

1. Industrial Organization and Management,C.B.Guptha, Sultan Chand.
2. Business Organization - C.D.Balaji and G. Prasad, Margham Publications, Chennai.
3. Business Organization -R.K.Sharma and Shashi K Gupta, Kalyani Publications.
4. Business Organization & Management: Sharma Shashi K. Gupta, Kalyani Publishers
5. Business Organization & Management: C.R. Basu, Tata McGraw Hill
6. Business Organization & Management: M.C. Shukla S. Chand,
7. Business Organisation and Management, Dr.NeeruVasishth, Tax Mann Publications.
8. Business Organisation and Management, Dr B E V L Naidu, Seven Hills International Publishers, Hyderabad .

Suggested Co-Curricular Activities:

- Book Reading
- Student Seminars, Debates
- Quiz Programmes
- Assignments
- Co-operative learning
- Individual / Group Field Studies
- Group Discussions on problems relating to topics covered by syllabus
- Collecting prospectus of different companies through media
- Collection of news reports and maintaining a record of Course-cuttings relating to topics covered in syllabus.
- Talk on current affairs about business, industry etc.
- Simple project work on development of Certificate of Incorporation, Prospectus and Certificate of commencement of business.
- Biography of well-known management thinkers and managers of gigantic companies
- Examinations (Scheduled and surprise tests).

MODEL QUESTION COURSE – THEORY

B.Com. DEGREE EXAMINATIONS
Semester: I
Course(1B): Business Organization and Management

Time: 3 Hours. Max Marks: 75

Section-A

Answer any **FIVE** of the following questions. **5X5=25M**

1. Industry
2. Public Sector Enterprises
3. Prospectus
4. Administration
5. Organization
6. Commerce
7. MNCs
8. Line and Staff

Section-B

Answer **FIVE** questions **5X10=50M**

9 a) Define Trade. Briefly explain classification of trade.

(OR)

b) Define Business. What are the features and functions of Business.

10 a) What are the merits and demerits of Sole Proprietorship.?

(OR)

b) Distinguish between Private Limited Company and Public Limited Company.

11 a) Define Memorandum of Association. Explain its clauses.

(OR)

b) Briefly explain Articles of Association and its contents.

12 a) Explain the functions of Management.

(OR)

b) Explain Fayol's 14 Principles of Management.

13 a) Briefly explain merits and demerits of Planning.

(OR)

b) What are the steps involved in Planning?

B Com	Semester: I(Computer Applications)	Credits: 4
Course: 1C	INFORMATION TECHNOLOGY	Hrs/Wk: 5

Learning Outcomes:

At the end of the course, the students is expected to DEMONSTRATE the following cognitive abilities (thinking skill) and psychomotor skills.

A. Remembers and states in a systematic way (Knowledge).

1. Describe the fundamental hardware components that make up a computer's hardware and the role of each of these components.
2. Understand the difference between an operating system and an application program, and what each is used for in a computer.
3. Use technology ethically, safely, securely, and legally.
4. Use systems development, word-processing, spreadsheet, and presentation software to solve basic information systems problems.

B. Explains (Understanding).

5. Apply standard statistical inference procedures to draw conclusions from data.
6. Retrieve information and create reports from databases.
7. Interpret, produce, and present work-related documents and information effectively and accurately

C. Critically examines, using data and figures (Analysis and Evaluation**).

8. Analyse compression techniques and file formats to determine effective ways of securing, managing, and transferring data.
9. Identify and analyse user needs and to take them into account in the selection, creation, integration, evaluation, and administration of computing based systems.
10. Analyse a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.
11. Identify and analyse computer hardware, software

D. Working in 'Outside Syllabus ***Area' under a Co-curricular Activity*(Creativity)** Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.

E. Efficiently learn and use Microsoft Office applications.

UNIT I:

Introduction: Computer Definition - Characteristics and Limitations of Computer Hardware— Generations of Computer, Classification of Computers, Applications of Computer, Basic Components of PC, Computer Architecture - Primary and Secondary Memories- Input and Output Devices- Operating System- Function of Operating System- Types of Operating System- Languages and its Types.

UNIT II:

MS word: Word Processing – Features-Advantages and Applications- Parts of Word Window- Toolbar- Creating, Saving, Closing, Opening and Editing of a Document-Moving and Coping a Text-Formatting of Text and Paragraph- Bullets and Numbering-Find and Replace - Insertion of objects-Headers and Footers- Page Formatting- Auto Correct- Spelling and Grammar- Mail Merge- Macros.

UNIT III:

MS Excel:

Features – Spread Sheet-Workbook – Cell-Parts of a window-Saving, Closing, Opening of a Work Book – Editing – Advantages – Formulas- Types of Function- Templates – Macros – Sorting- Charts – Filtering – Consolidation – Grouping- Pivot Table.

UNIT IV:

MS Power point: Introduction – Starting – Parts-Creating of Tables- Create Presentation – Templates-Auto Content Wizard-Slide Show-Editing of Presentation-Inserting Objects and charts.

UNIT V:

MS Access: Orientation to Microsoft Access - Create a Simple Access Database - Working with Table Data - Modify Table Data - Sort and Filter Records - Querying a Database - Create Basic Queries - Sort and Filter Data in a Query - Perform Calculations in a Query - Create Basic Access Forms - Work with Data on Access Forms - Create a Report - Add Controls to a Report - Format Reports.

ONLINE RESOURCES:

https://support.office.com/en-us/office-training-center
https://www.skillshare.com/browse/microsoft-office
https://www.tutorialspoint.com/computer_fundamentals/index.htm
https://www.javatpoint.com/computer-fundamentalstutorial
https://edu.gcfglobal.org/en/subjects/office/
https://www.microsoft.com/en-us/learning/training.aspx

PRACTICAL COMPONENT: @ 2 HOURS/WEEK/BATCH .

- MS word creation of documents letters invitations etc, tables, mail merge, animations in word, formatting text.
- MS Excel performing different formulas, creating charts, macros.
- MS power point slide creation, creation of animation.
- MS Access creation of database, forms and reports

RECOMMENDED CO-CURRICULAR ACTIVITIES:

(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

Measurable

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging).
2. Student seminars (on topics of the syllabus and related aspects (individual activity).
3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams)).
4. Field studies (individual observations and recordings as per syllabus content and related areas (Individual or team activity).
5. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity)).

General.

1. Group Discussion.
2. Visit to Software Technology parks / industries

RECOMMENDED CONTINUOUS ASSESSMENT METHODS:

Some of the following suggested assessment methodologies could be adopted:

1. The oral and written examinations (Scheduled and surprise tests).
2. Closed-book and open-book tests.
3. Coding exercises.
4. Practical assignments and laboratory reports.
5. Observation of practical skills.
6. Individual and group project reports.
7. Efficient delivery using seminar presentations.
8. Viva voce interviews.
9. Computerized adaptive testing, literature surveys and evaluations.
10. Peers and self-assessment, outputs form individual and collaborative work.

MODEL QUESTION COURSE – THEORY

B.Com. DEGREE EXAMINATIONS
Semester: I(Computer Applications)
Course(1C): Information Technology

Time: 3 Hours. Max Marks: 75

Section-A

Answer any **FIVE** of the following questions. **5X5=25M**

1. What are the Applications of Computer?
2. Write about the parts of Word-Window.
3. What are the features of MS-Excel?
4. What are the features of MS-Power Point?
5. What are the basic queries in MS-Access?
6. What are the Basic Components of PC?
7. Write Types of Functions in MS-Excel.
8. What are the types of effects in Custom Animation?

Section-B

Answer **FIVE** questions. **5X10=50M**

9. a) Explain about Computer Architecture.

(OR)

b) Explain about functions of Operating System and types of Operating Systems.

10. a) What are the Features, Advantages and Applications MS-Word

(OR)

b) Write the process how to prepare Progress Report of Students using Mail Merge.

11. a) How to Prepare Students Results Table with Total, Percentage and Pass/Fail using Formulas.

(OR)

b) Write the process for Sorting, Filtering, Consolidation and Grouping in MS-Excell.

12. a) Write the process of how to prepare a power point presentation and slideshow.

(OR)

b) Write about different types of animations in MS-Power Point.

13. a) Write the process how to Create a Report, Add Controls to a Report and Format Reports in MS Access.

(OR)

b) Write the process how to create a Simple Access Database, Working with Table Data and Modify Table Data.

B Com	Semester: II	Credits: 4
Course: 2A	FINANCIAL ACCOUNTING	Hrs/Wk: 5

Learning Outcomes:

At the end of the course the student will able to:

- Understand the concept of consignment and learn the accounting treatment of the various aspects of consignment.
- Analyze the accounting process and preparation of accounts in consignment and joint venture.
- Distinguish Joint Venture and Partnership and to learn the methods of maintaining records under Joint Venture.
- Determine the useful life and value of the depreciable assets and maintenance of Reserves in business entities.
- Design an accounting system for different models of businesses at his own using the principles of existing accounting system.

UNIT I:

Depreciation: Meaning and Causes of Depreciation - Methods of Depreciation: Straight Line – Written Down Value –Annuity and Depletion Method (including Problems).

UNIT II:

Provisions and Reserves: Meaning – Provision vs. Reserve – Preparation of Bad Debts Account – Provision for Bad and Doubtful Debts – Provision for Discount on Debtors– Provision for Discount on Creditors - Repairs and Renewals Reserve A/c (including Problems).

UNIT III:

Bills of Exchange: Meaning of Bill – Features of Bill – Parties in the Bill – Discounting of Bill – Renewal of Bill – Entries in the Books of Drawer and Drawee (including Problems).

UNIT IV:

Consignment Accounts: Consignment - Features - Proforma Invoice - Account Sales – Del-credere Commission - Accounting Treatment in the Books of Consigner and Consignee - Valuation of Closing Stock - Normal and Abnormal Losses (including Problems).

UNIT V:

Joint Venture Accounts: JointVenture - Features - Difference between Joint- Venture and Consignment – Accounting Procedure – Methods of Keeping Records–One Vendor Keeps the Accounts and Separate Set off Books Methods (including Problems).

REFERENCE BOOKS:

1. Ranganatham G and Venkataramanaiah, **Financial Accounting-II,** S Chand Publications, New Delhi.
2. T. S. Reddy and A. Murthy - **Financial Accounting**, Margham Publications.
3. R.L. Gupta & V.K. Gupta, **Principles and Practice of Accounting**, Sultan Chand.
4. SN Maheswari and SK Maheswari – **Financial Accounting**, Vikas Publications.
5. S.P. Jain & K.L Narang,**Accountancy-I**, Kalyani Publishers.
6. Tulsan, **Accountancy-I**, Tata McGraw Hill Co.
7. V.K. Goyal, **Financial Accounting**, Excel Books.
8. T.S. Grewal, **Introduction to Accountancy**, Sultan Chand & Co.
9. Haneef and Mukherjee, **Accountancy-I**, Tata McGraw Hill.
10. Arulanandam and Ramana, **Advanced Accountancy**, Himalaya Publishers.
11. S.N.Maheshwari&V.L.Maheswari, **Advanced Accountancy-I**, Vikas Publishers.
12. Prof E Chandraiah, **Financial Accounting**, Seven Hills International Publishers.

Suggested Co-Curricular Activities:

- Quiz Programs.
- Problem Solving Exercises.
- Co-operative learning.
- Seminar.
- Group Discussions on problems relating to topics covered by syllabus.
- Reports on Proforma invoice and account sales.
- Visit a consignment and joint venture firms(Individual and Group).
- Collection of proforma of bills and promissory notes.
- Examinations (Scheduled and surprise tests).
- Any similar activities with imaginative thinking beyond the prescribed syllabus

MODEL QUESTION COURSE – THEORY
B.Com. DEGREE EXAMINATIONS
Semester: II
Course(2A): Financial Accounting

Time: 3 Hours. Max Marks: 75

SECTION-A

Answer any **FIVE** of the following questions. **5X5=25M**

1. Depletion Method of Depreciation
2. Computer applications Reserve
3. Drawer
4. Normal Loss
5. Vendor
6. Bad debts
7. Del-credere commission
8. Consignor

SECTION- B

Answer **FIVE** questions. **5X10=50M**

9. a) Define Depreciation. What are the causes for Depreciation?

(OR)

b) A company whose accounting year is the calendar year purchased on 1.1.2018 a machine for Rs.40,000. It purchased further machinery on 1st October 2018 for Rs. 20,000 and on 1st July for Rs. 10,000. On 1.7.2020, 1/4th of the machinery installed on 1.1.2018 became obsolete and was sold for Rs. 6,800. Show how the machinery account would appear in the books of the company for all the 3 years under diminishing balance method. Depreciation is to be provided at 10% p.a.

10. a) Define Provision and Reserve with examples and difference between provision and reserve.

(OR)

b) What are the provisions? How are they created? Give accounting treatment in case of provision for doubtful debts.

11. a) B owes C a sum of Rs 6,000. On 1st April, 2011 he gives a promissory note for the amount for 3 months to C who gets it discounted with his bankers for Rs 5,760. On the due date the bill is dishonoured, the bank paying Rs 15 as noting charges. B then pays Rs 2,000 in cash and accepts a bill of exchange drawn on him for the balance together with Rs 100 as interest. This bill of exchange is for 2 months and on the due date the bill is again dishonoured, C paying Rs 15 for noting charges draft the journal entries to be passed in C's books.

(OR)

b) What is meant by renewal of a bill of exchange? Distinguish between Promissory Note and Bills of Exchange.

12. a) Define consignment account. Briefly explain the features and objectives of consignment accounts.

(OR)

b) Raja Mills Ltd. of Ahmedabad sent 100 pieces shirting to Fancy Stores, Delhi, on consignment basis. The consignees are entitled to receive 5 per cent commission plus expenses. The cost to Raja Mills Ltd. is Rs 600 per piece.
Fancy Stores, Delhi, pay the following expenses: Railway Freight, etc. Rs 1,000 Godown Rent and Insurance Rs 1,500 Raja Mills Ltd., draw on the consignees a draft for Rs 30,000 which is duly accepted. It is discounted for Rs 28,650. Later Fancy Stores, Delhi, report that the entire consignment has been sold for Rs 78,000. Show journal entries and the important ledger accounts in the books of the consignor.

13 a) A and B were partners in a joint venture sharing profits and losses in the proportion of four-fifth and one-fifth respectively. A supplies goods to the value of Rs.5,000 and inures expenses amounting to Rs.400. B supplies goods to the value of Rs.4,000 and his expenses amounting to Rs.300. B sells goods on behalf of the joint venture and realizes Rs.12,000. B is entitled to a commission of 5 percent on sales. B settles his accounts by bank draft. Give journal entries and necessary ledger accounts in the books of both the parties.

(OR)

b) Difference between consignment and joint venture.

B Com	Semester: II	Credits: 4
Course: 2B	BUSINESS ECONOMICS	Hrs/Wk: 5

Learning Outcomes:

At the end of the course, the student will able to:

- Describe the nature of economics in dealing with the issues of scarcity of resources.
- Analyze supply and demand analysis and its impact on consumer behaviour.
- Evaluate the factors, such as production and costs affecting firms behaviour.
- Recognize market failure and the role of government in dealing with those failures.
- Use economic analysis to evaluate controversial issues and policies.
- Apply economic models for managerial problems, identify their relationships, and formulate the decision making tools to be applied for business.

UNIT I:

Introduction: Meaning and Definitions of Business Economics - Nature and Scope of Business Economics - Micro and Macro Economics and their Interface.

UNIT II:

Demand Analysis: Meaning and Definition of Demand – Determinants to Demand –Demand Function -Law of Demand – Demand Curve – Exceptions to Law of Demand - Elasticity of Demand – Measurements of Price Elasticity of Demand.

UNIT III:

Production, **Cost and Revenue Analysis**: Concept of Production Function – Law of Variable Proportion - Law of Returns to Scale - Classification of Costs -Break Even Analysis – Advantages.

UNIT IV:

Market Structure: Concept of Market – Classification of Markets -Perfect Competition – Characteristics – Equilibrium Price -Monopoly – Characteristics – Equilibrium Under Monopoly.

UNIT V:

National Income: Meaning – Definition – Measurements of National Income - Concepts of National Income - Components of National Income-Problems in Measuring National Income.

REFERENCES:

1. Business Economics -S.Sankaran, Margham Publications, Chennai.
2. Business Economics - Kalyani Publications.
3. Business Economics - Himalaya Publishing House.
4. Business Economics - Aryasri and Murthy, Tata McGraw Hill.
5. Business Economics -H.L Ahuja, Sultan Chand & Sons
6. Principles of Economics -Mankiw, Cengage Publications
7. Fundamentals of Business Economics -Mithani, Himalaya Publishing House
8. Business Economics -A.V. R. Chary, Kalyani Publishers, Hyderabad.
9. Business Economics -Dr K Srinivasulu, Seven Hills International Publishers.

Suggested Co-Curricular Activities:

- Assignments.
- Student Seminars.
- Quiz , JAM.
- Study Projects.
- Group Discussion.
- Graphs on Demand function and demand curves.
- Learning about markets.
- The oral and written examinations (Scheduled and surprise tests).
- Market Studies.
- Individual and Group project reports.
- Annual talk on union and state budget.
- Any similar activities with imaginative thinking beyond the prescribed syllabus.

MODEL QUESTION COURSE – THEORY
B.Com. DEGREE EXAMINATIONS
Semester: II
Course(2B): Business Economics

Time: 3 Hours. Max Marks: 75

SECTION-A

Answer any **FIVE** of the following questions. **5X5=25M**

1. Micro Economics.
2. Law of Demand.
3. Cost Analysis.
4. Monopoly.
5. National Income.
6. Demand Curve.
7. BEP.
8. Forecasting.

SECTION- B

Answer **FIVE** questions. **5X10=50M**

9. a) Define Business Economics. Explain the nature and scope of Business Economics.

(OR)

b) Distinguish between Micro and Macro economics.

10. a) What is meant by Demand? What are the exceptions to Law of Demand?

(OR)

b) What do you understand by elasticity of demand ? Explain the factors which determine the elasticity of demand.

11. a) Discuss the various concepts of cost curves. Why is long cost curve flatter than the short-run cost curve?

(OR)

b) What are the advantages and limitations of Break Even Analysis?

12. a) Define Market. Briefly explain the classification of markets.

(OR)

b) Write an essay on Monopoly.

13. a) Describe the different concepts and components in National Income.

(OR)

b) Briefly explain problems in measuring National Income.

B Com	Semester: II(Computer Applications)	Credits: 4
Course: 2C	E-COMMERCE AND WEB DESIGNING	Hrs/Wk: 5

Learning Outcomes:

At the end of the course, the students is expected to DEMONSTRATE the following cognitive abilities (thinking skill) and psychomotor skills.

A. Remembers and states in a systematic way (Knowledge).

1. Understand the foundations and importance of E-commerce.
2. Define Internet trading relationships including Business to Consumer, Business- to-Business, Intra-organizational.
3. Describe the infrastructure for E-commerce.
4. Discuss legal issues and privacy in E-Commerce.
5. Understand the principles of creating an effective web page, including an in-depth consideration of information architecture

B. Explains (Understanding).

6. Recognize and discuss global E-commerce issues.
7. Learn the language of the web: HTML and CSS.

C. Critically examines, using data and figures (Analysis and Evaluation).

8. Analyze the impact of E-commerce on business models and strategy.
9. Assess electronic payment systems.
10. Exploring a web development framework as an implementation example and create dynamically generated web site complete with user accounts, page level security, modular design using css

D. Working in 'Outside Syllabus ***Area' under a Co-curricular Activity*(**Creativity) Use the Systems Design Approach to implement websites with the following steps:

- Define purpose of the site and subsections.
- Identify the audience.
- Design and/or collect site content.
- Design the website theme and navigational structure.
- Design & develop web pages including: CSS Style Rules, Typography, Hyperlinks, Lists, Tables, Frames, Forms, Images, Behaviours, CSS Layouts

E. Build a site based on the design decisions and progressively incorporate tools and techniques covered.

UNIT I:

Introduction: Meaning, Nature, Concepts, Advantages, Disadvantages and reasons for Transacting Online, Types of E-Commerce, e-commerce Business Models (Introduction , Key Elements of a Business Model And Categorizing Major E-Commerce Business Models), Forces Behind e-commerce.

Technology used in E-commerce: The dynamics of World Wide Web and Internet (Meaning, EvolutionAnd Features); Designing, Building and Launching e-commerce website (A systematic approach involving decisions regarding selection of hardware, software, outsourcing Vs. in-house development of a website).

UNIT II:

E-payment System: Models and methods of e–payments (Debit Card, Credit Card, Smart Cards, e-money), Digital Signatures (Procedure, Working And Legal Position), Payment Gateways, Online Banking (Meaning, Concepts, Importance, Electronic Fund Transfer, Automated Clearing House, Automated Ledger Posting), Risks Involved in e-payments.

UNIT III:

On-line Business Transactions: Meaning, Purpose, Advantages and Disadvantages of Transacting Online, E- Commerce Applications in Various Industries Like {Banking, Insurance, Payment of Utility Bills, Online Marketing, E-Tailing (Popularity, Benefits, Problems and Features), Online Services

(Financial, Travel and Career), Auctions, Online Portal, Online Learning, Publishing and Entertainment} Online Shopping (Amazon, Snap Deal, Alibaba, Flipkart, etc.).

UNIT IV:

Website designing: Designing a home page, HTML document, Anchor tag Hyperlinks, Head and body section, Header Section, Title, Prologue, Links, Colorful Pages, Comment, Body Section, Heading Horizontal Ruler, Paragraph, Tabs, Images And Pictures, Lists and Their Types, Nested Lists, Table Handling. **Frames:** Frameset Definition, Frame Definition, Nested Framesets, Forms and Form Elements. DHTML and Style Sheets: Defining Styles, elements of Styles, linking a style sheet to a HTML Document, Inline Styles, External Style Sheets, Internal Style Sheets & Multiple Style Sheets.

UNIT V:

Security and Encryption: Need and Concepts, E-Commerce Security Environment: (Dimension, Definition and Scope Of E-Security), Security Threats in The E-Commerce Environment (Security Intrusions And Breaches, Attacking Methods Like Hacking, Sniffing, Cyber- Vandalism Etc.), Technology Solutions (Encryption, Security Channels Of Communication, Protecting Networks And Protecting Servers And Clients).

Learning Resources (Course 2C: E-commerce & Web Designing) References:

1. E-commerce and E-business Himalaya publishers.
2. E-Commerce by Kenneth C Laudon, PEARSON INDIA.
3. Web Design: Introductory with Mind Tap Jennifer T Campbell, Cengage India.
4. HTML & WEB DESIGN:TIPS& TECHNIQUES JAMSA, KRIS, McGraw Hill.
5. Fundamentals Of Web Development by Randy Connolly, Ricardo Hoar, Pearson.
6. HTML & CSS: COMPLETE REFERENCE POWELL,THOMAS, McGrawHill

Online Resources:

http://www.kartrocket.com http://www.e-commerceceo.com http://www.fastspring.com
https://teamtreehouse.com/tracks/web-design

PRACTICAL COMPONENT:@ 2 HOURS/WEEK/BATCH

1. Creation of simple web page using formatting tags
2. Creation of lists and tables with attributes
3. Creation of hyperlinks and including images
4. Creation of forms
5. Creation of framesets
6. Cascading style sheets – inline, internal and external

RECOMMENDED CO-CURRICULAR ACTIVITIES:

(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

Measurable .

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging).
2. Student seminars (on topics of the syllabus and related aspects (individual activity).
3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams).
4. Field studies (individual observations and recordings as per syllabus content and related areas (Individual or team activity).
5. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity)

General.

1. Group Discussion.
2. Visit to Software Technology parks / industries

RECOMMENDED CONTINUOUS ASSESSMENT METHODS:

Some of the following suggested assessment methodologies could be adopted;

1. The oral and written examinations (Scheduled and surprise tests),
2. Closed-book and open-book tests,
3. Coding exercises,
4. Practical assignments and laboratory reports,
5. Observation of practical skills,
6. Individual and group project reports,
7. Efficient delivery using seminar presentations,
8. Viva voce interviews.
9. Computerized adaptive testing, literature surveys and evaluations,
10. Peers and self-assessment, outputs form individual and collaborative work.

MODEL QUESTION COURSE – THEORY
B.Com. DEGREE EXAMINATIONS
Semester: II(Computer Applications)
Course(2C): E-Commerce And Web Designing

Time: 3 Hours. Max Marks: 75

Section-A

Answer any **FIVE** of the following questions. **5X5=25M**

1. Write about Types of E-Commerce.
2. What are the Risks Involved in e-payments?
3. What are the Advantages and Disadvantages of Transacting Online?
4. Write examples for Lists and their types.
5. Write the Definition and Scope of E-Security.
6. What are the features of WWW and Internet?
7. Write how to link a style sheet to a HTML Document.
8. What are the methods of e-Payments?

Section-B

Answer **FIVE** questions. **5X10=50M**

9. a) Write about e-commerce Business Models.

(OR)

b) Explain about Designing, Building and Launching e-commerce website.

10. a) Explain about Digital Signatures.

(OR)

b) Explain about Online Banking.

11. a) Write about E-Tailing (Popularity, Benefits, Problems and Features).

(OR)

b) Write about Online Learning, Publishing and Entertainment.

12. a) Write the code to design a web page with Form and form elements

(OR)

b) Write about Inline, External, Internal and Multiple Style Sheets.

13. a) Write about Security Threats in the E-Commerce Environment.

(OR)

b) Write about Technology Solutions for Security.

B Com	Semester: III	Credits: 4
Course: 3A	ADVANCED ACCOUNTING	Hrs/Wk: 5

Learning Outcomes:

At the end of the course, the student will able to:

- Understand the concept of Non-profit organisations and its accounting process.
- Comprehend the concept of single-entry system and preparation of statement of affairs.
- Familiarize with the legal formalities at the time of dissolution of the firm .
- Prepare financial statements for partnership firm on dissolution of the firm.
- Employ critical thinking skills to understand the difference between the dissolution of the firm and dissolution of partnership.

UNIT I:

Accounting for Non Profit Organizations: Non Profit Entities- Meaning - Features of Non-Profit Entities –Provisions as per Sec 8 - Accounting Process- Preparation of Accounting Records - Receipts and Payments Account- Income and Expenditure Account - Preparation of Balance Sheet (including problems).

UNIT II:

Single Entry System: Features – Differences between Single Entry and Double Entry – Disadvantages of Single Entry- Ascertainment of Profit and Preparation of Statement of Affairs (including Problems).

UNIT III:

Hire Purchase System: Features –Difference between Hire Purchase and Instalment Purchase Systems - Accounting Treatment in the Books of Hire Purchaser and Hire Vendor - Default and Repossession (including Problems).

UNIT IV:

Partnership Accounts-I: Meaning – Partnership Deed - Fixed and Fluctuating Capitals-Accounting Treatment of Goodwill - Admission and Retirement of a Partner(including problems).

UNIT V:

Partnership Accounts-II: Dissolution of a Partnership Firm – Application of Garner v/s Murray Rule in India – Insolvency of one or more Partners (including problems).

REFERENCES BOOKS:

1. Advanced Accountancy: T S Reddy and A Murthy by Margham Publications.
2. Financial Accounting: SN Maheswari& SK Maheswari by Vikas Publications.
3. Principles and Practice of Accounting: R.L. Gupta & V.K. Gupta, Sultan Chand & Sons.
4. Advanced Accountancy: R.L.Gupta&Radhaswamy, Sultan Chand &Sons..
5. Advanced Accountancy (Vol-II): S.N.Maheshwari&V.L.Maheswari, Vikas publishers.
6. Advanced Accountancy: Dr. G. Yogeshwaran, Julia Allen - PBP Publications.
7. Accountancy–III: Tulasian, Tata McGraw Hill Co.
8. Accountancy–III: S.P. Jain & K.L Narang, Kalyani Publishers.
9. Advanced Accounting (IPCC): D. G. Sharma, Tax Mann Publications.
10. Advanced Accounting: Prof B Amarnadh, Seven Hills International Publishers.
11. Advanced Accountancy: M Shrinivas& K Sreelatha Reddy, Himalaya Publishers.

Suggested Co-Curricular Activities:

- Quiz Programs and Problem Solving exercises.
- Co-operative learning.
- Seminar and Visit a single-entry firm, collect data and Creation of Trial Balance of the firm .
- Visit Non-profit organization and collect financial statements.
- Critical analysis of rate of interest on hire purchase schemes.
- Visit a partnership firm and collect partnership deed .
- Debate on Garner v/s Murray rule in India and outside India.
- Group Discussions on problems relating to topics covered by syllabus.
- Examinations (Scheduled and surprise tests) on all units.

MODEL QUESTION COURSE – THEORY
B.Com. DEGREE EXAMINATIONS
Semester: III
Course(3A): Advanced Accounting

Time: 3 Hours. Max Marks: 75

Section-A

Answer any **FIVE** of the following questions. **5X5=25M**

1. Non-profit organizations
2. Statement of Affairs
3. Hire Vendor
4. Partnership Deed
5. Garner Vs Murrey
6. Dissolution of Partnership
7. Accounting Process
8. Double Entry System

Section- B

Answer **FIVE** questions. **5X10=50M**

9. a) Distinguish between Income and Expenditure and Receipts and Payment Accounts.

(OR)

b) What are the provisions and features of Non-profit organizations?

10. a) Briefly explain advantages and limitations of single entry system.

(OR)

b) Mr. Ramesh, who keeps his books on single entry system, tells you that his capital on 31-12-2019 is Rs.40,500 and on 1st January 2019 was Rs.25,800. He further informs you that he withdraws Rs.3,500 for personal purposes. He invested further capital of Rs.5,000. Besides this, there is no other information. You are required to prepare Statement of Profit and Loss for the year ended on 31-12-2019.

11. a) Malnad Coffee Works Ltd., bought coffee drying machine costing Rs.6,56,000 from Xavier Ltd on 1st January 2019 on hire purchase basis. Rs. 2,00,000 was paid on signing the contract and the balance in three annual instalments of Rs. 2,00,000 (each) by the end of December every year. Interest was charged at 15% per annum. Life of the machine was expected to be four years. You are required to pass the journal entries and necessary ledger accounts in the books of (i) Malnad Coffee Works Ltd., and (ii) Xavier Ltd.

(OR)

b) Briefly explain the advantages and limitations of Instalment System.

12. a) Briefly explain the classification of Partners.

(OR)

b) A and B are partners in a firm sharing profits and losses in the ratio of 3:2. A new partner C is admitted. A surrenders 1/5th of his share and B surrenders 2/5th of his share and B surrenders 2/5th of his share in favour of C. For the purpose of C's admission, goodwill of the firm is valued at Rs.75,000 and C brings in his share of goodwill in cash which is retained in the firm's books. Journalise the above transactions.

13. a) the Balance sheet of X, Y and Z as at 31 st March, 2018 was:

Liabilities		**Amount Rs.**	**Assets**	**Amount Rs.**
Bills Payable		2000	Cash at Bank	5,800
Employees' Provident Fund		5000	Bills Receivable	800
Workmen Compensation Reserve		6000	Stock	9,000
Computer applications Reserve		6000	Sundry Debtors	16,000
Loans		7100	Furniture	2,000
Capital A/cs:			Plant and Machinery	6,500
X	22,750		Building	30,000
Y	15,250		Advertising Suspense	6,000
Z	12,000	50,000		
		76,100		**76,100**

The profit-sharing ratio was 3:2:1. *Z* died on 31st July, 2018. The Partnership Deed provides that:
(i) Goodwill is to be calculated on the basis of three years' purchase of the five years' average profit. The profits were: 2017-18: Rs. 24,000; 2016-17: Rs. 16,000; 2015-16: Rs. 20,000 and 2014-15: Rs. 10,000 and 2013-14: Rs. 5,000.
(ii) The deceased partner to be given share of profits till the date of death on the basis of profits for the previous year.
(iii) The Assets have been revalued as: Stock Rs.10,000; Debtors Rs. 15,000; Furniture Rs.1,500; Plant and Machinery Rs. 5,000; Building Rs.35,000. A Bill Receivable for Rs. 600 was found worthless.
(iv) A Sum of Rs. 12,233 was paid immediately to *Z*'s Executors and the balance to be paid in two equal annual installments together with interest @ 10% p.a. on the amount outstanding.Give Journal entries and show the *Z*'s Executors' Account till it is finally settled.

(OR)

b) How would you distinguish between dissolution of partnership and dissolution of Firm?

B Com	Semester: III	Credits: 4
Course: 3B	BUSINESS STATISTICS	Hrs/Wk: 5

Learning Outcomes:

At the end of the course, the student will able to:

- Understand the importance of Statistics in real life.
- Formulate complete, concise, and correct mathematical proofs.
- Frame problems using multiple mathematical and statistical tools, measuring relationships by using standard techniques.
- Build and assess data-based models.
- Learn and apply the statistical tools in day life.
- Create quantitative models to solve real world problems in appropriate contexts.

UNIT I:

Introduction to Statistics: Definition – Importance, Characteristics and Limitations of Statistics - Classification and Tabulation – Frequency Distribution Table -Diagrams and Graphic Presentation of Data (including problems)

UNIT II:

Measures of Central Tendency: Types of Averages – Qualities of Good Average - Mean, Median, Mode, and Median based Averages-Geometric Mean – Harmonic Mean(including problems)

UNIT III:

Measures of Dispersion: Meaning and Properties of Dispersion – Absolute and Relative Measures - Types of Dispersion-Range - Quartile Deviation (Semi – Inter Quartile Range) -Mean Deviation - Standard Deviation - Coefficient of Variation. (including problems)

UNIT IV:

Skewness and Kurtosis: Measures of Skewness: Absolute and Relative Measures- Co-efficient of Skewness: Karl Pearson's, Bowley's and Kelly's - Kurtosis: Meso kurtosis, Platy kurtosis and Leptokurtosis (including problems)

UNIT V:

Measures of Relation: Meaning and use of Correlation – Types of Correlation - Karlpearson's Correlation Coefficient - Probable Error-Spearman's Rank-Correlation (including problems)

TEXT BOOKS:

1. Business Statistics, Reddy C.R., Deep Publications.
2. Statistical Methods: Gupta S.P.Sultan Chand & Sons.
3. Statistics-Problems and Solutions: Kapoor V.K, Sultan Chand &Sons.
4. Fundamentals of Statistics: Elhance. D.N
5. Business Statistics, Dr.P.R.Vittal, Margham Publications
6. Business Statistics, LS Agarwal, Kalyani Publications.
7. Statistics: Dr V Murali Krishna, Seven Hills International Publishers.
8. Fundamentals of Statistics: Gupta S.C. Sultan Chand &Sons.
9. Statistics-Theory, Methods and Applications: Sancheti, D.C. & Kapoor V.K.
10. Business Statistics: J.K. Sharma, Vikas Publishers.
11. Business Statistics: Bharat Jhunjhunwala, S Chand Publishers.
12. Business Statistics: S.L.Aggarval, S.L.Bhardwaj and K.Raghuveer, Kalyani Publishers.

Suggested Co-Curricular Activities :

- Student Seminars, Quiz. and Problem Solving Exercises.
- Observe Live Population Clocks – India and world.
- Collection of statistical data of village/town, District, State, Nation.
- Participate in Crop Cutting Experiments at villages.
- Percentiles in CET exams.
- Practice Statistical Functions in MS Excel and Draw diagrams and Graphs in MS Excel.
- Use statistical tools in real life like class/college results, local production etc.
- Prepare questionnaire and schedule.
- Application of averages in everyday life and Examinations (Scheduled and surprise tests).
- Any similar activities with imaginative thinking beyond the prescribed syllabus.

MODEL QUESTION COURSE – THEORY
B.Com. DEGREE EXAMINATIONS
Semester: III
Course(3B): Business Statistics

Time: 3 Hours. Max Marks: 75

Section-A

Answer any **FIVE** of the following questions. **5X5=25M**

1. Classification of Data
2. Harmonic Mean
3. Range
4. Skewness
5. Correlation
6. Probable Error
7. Coefficient of Variation
8. Frequency Distribution

Section- B

Answer **FIVE** questions. **5X10=50M**

9. a) Highlight the role and importance of statistics in business decision making in detail.

(OR)

b) Briefly explain the nature and scope of Business Statistics.

10. a) What are the advantages and limitations of measures of central tendency?

(OR)

b) Calculate Mean and Variance of the following Data.

Size	14	16	18	20	22	24	26
Frequency	12	13	14	15	13	12	16

11. a) Calculate quartile deviation and its coefficient from the following data :

C.I	0-10	10-20	20-30	30-40	40-50
F	5	7	10	5	8

(OR)

b) Define standard deviation. Briefly explain advantages and limitations of standard deviation.

12.a) Given the following information, find the number of items (n) where rxy = 0.8, x$\sum$y = 2.5,σxy =60, $\sum$2 = 90, where x and y are the deviations from the respective means.

(OR)

b) Briefly explain the measures of skewness.

13. a) Calculate the co-efficient of correlation from the following data:

X	12	9	8	10	11	13	07
Y	14	8	6	9	11	12	3

Through Karl Pearson's method.

(OR)

b) Explain various types of correlation.

B Com	Semester: III(Computer Applications)	Credits: 4
Course: 3C	PROGRAMMING WITH C &C++	Hrs/Wk: 5

Learning Outcomes:

At the end of the course, the students is expected to DEMONSTRATE the following cognitive abilities (thinking skill) and psychomotor skills.

A. Remembers and states in a systematic way (Knowledge).

1. Develop programming skills.
2. Declaration of variables and constants use of operators and expressions.
3. learn the syntax and semantics of programming language.
4. Be familiar with programming environment of C and C++.
5. Ability to work with textual information (characters and strings) & arrays

B. Explains (Understanding).

6. Understanding a functional hierarchical code organization.
7. Understanding a concept of object thinking within the framework of functional model.
8. Write program on a computer, edit, compile, debug, correct, recompile and run it

C. Critically examines, using data and figures (Analysis and Evaluation).

9. Choose the right data representation formats based on the requirements of the problem.
10. Analyze how C++ improves C with object-oriented features.
11. Evaluate comparisons and limitations of the various programming constructs and choose correct one for the task in hand.

D. Working in 'Outside Syllabus ***Area' under a Co-curricular Activity***(Creativity) Planning of structure and content, writing, updating and modifying computer programs for user solutions

E. Exploring C programming and Design C++ classes for code reuse (Practical skills***).

UNIT I:

Introduction and Control Structures: History of 'C' - Structure of C program – C character set, Tokens, Constants, Variables, Keywords, Identifiers – C data types - C operators - Standard I/O in C - Applying if and Switch Statements.

UNIT II:

Loops And Arrays: Use of While, Do While and For Loops - Use of Break and Continue Statements - Array Notation and Representation - Manipulating Array Elements - Using Multi Dimensional Arrays.

UNIT III:

Strings and Functions: Declaration and Initialization of String Variables - String Handling Functions - Defining Functions - Function Call - Call By Value, Call By Reference – Recursion.

UNIT IV:

Principles of Object Oriented Programming: Procedure Oriented Programming, Object Oriented Programming, Basic concepts of Object Oriented Programming, Applications of C++, A simple C++ Program, An example with Class, Structure of C++ Program, Creating source file, Compiling and Linking.

UNIT V:

Classes and Objects: Tokens, Keywords, Declaration of Variables, Dynamic initialization of variables, Specifying a Class, Defining member functions, Function overloading, Operator overloading, Constructors and Destructors, Inheritance and types of Inheritance.

REFERENCES:

1. Mastering C by K R Venugopal and Sudeep R Prasad, McGraw Hill.
2. Expert C Programming: Deep Secrets Kindle Edition Peter van der Linden.
3. Let Us C YashavantKanetkar.
4. The C++ Programming Language Bjarne Stroustrup.
5. C++ Primer Stanley B. Lippman, Josée Lajoie, Barbara E. Moo

Online Resources:

https://www.tutorialspoint.com/cprogramming/index.html
https://www.learn-c.org/
https://www.programiz.com/c-programming
https://www.w3schools.in/c-tutorial/
https://www.cprogramming.com/tutorial/c-tutorial.html
https://www.tutorialspoint.com/cplusplus/index.html
https://www.programiz.com/cpp-programminghttp://www.cplusplus.com/doc/tutorial/
https://www.learn-cpp.org/
https://www.javatpoint.com/cpp-tutorial

PRACTICAL COMPONENT: @ 2 HOURS/WEEK/BATCH.

1. Write C programs for
   a. Fibonacci Series
   b. Prime number
   c. Palindrome number
   d. Armstrong number.
2. 'C' program for multiplication of two matrices
3. 'C' program to implement string functions
4. 'C' program to swap numbers
5. 'C' program to calculate factorial using recursion.
6. 'C++' program to perform addition of two complex numbers using constructor
7. Write a program to find the largest of two given numbers in two different classes using friend function.
8. Program to add two matrices using dynamic constructor.
9. Implement a class string containing the following functions
   a. Overload + operator to carry out the concatenation of strings.
   b. Overload == operator to carry out the comparison of strings.
10. Program to implement inheritance.

RECOMMENDED CO-CURRICULAR ACTIVITIES:

(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

Measurable.

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging).
2. Student seminars (on topics of the syllabus and related aspects (individual activity).
3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams).
4. Field studies (individual observations and recordings as per syllabus content andrelated areas (Individual or team activity).
5. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation andcontribution of students shall be ensured (team activity))

General.

1. Group Discussion.
2. Visit to Software Technology parks / industries.

RECOMMENDED CONTINUOUS ASSESSMENT METHODS:

Some of the following suggested assessment methodologies could be adopted:

1. The oral and written examinations (Scheduled and surprise tests),
2. Closed-book and open-book tests,
3. Coding exercises,
4. Practical assignments and laboratory reports,
5. Observation of practical skills,
6. Individual and group project reports,
7. Efficient delivery using seminar presentations,
8. Viva voce interviews.
9. Computerized adaptive testing, literature surveys and evaluations,
10. Peers and self-assessment, outputs form individual and collaborative work

MODEL QUESTION COURSE – THEORY
B.Com. DEGREE EXAMINATIONS
Semester: III(Computer Applications)
Course(3C): Programming With C&C++

Time: 3 Hours. Max Marks: 75

Section-A

Answer any **FIVE** of the following questions. **5X5=25M**

1. Write the Structure of C program
2. Write about Break and Continue Statement.
3. What is recursion? Write an example program for recursion.
4. Write the Structure of C++ Program.
5. What is Inheritance? What are the types of Inheritance?
6. Write the Tokens and Constants in C Language.
7. Write Declaration and Initialization of String.
8. Write about operator overloading.

Section-B

Answer **FIVE** questions. **5X10=50M**

9. a) Write about Data Types and Operators in C Language.
   (OR)
   b) Write about If and Switch Statement with examples.

10. a) Write about types of Loops in C Language with Flow Charts and example syntax.
    (OR)
    b) Write about Array Declaration and Initialization and write a C program for Addition of two arrays.

11. a) Write about different types of String handling functions
    (OR)
    b) Explain Call by Value and Call by Reference with examples.

12. a) Explain about basic concepts of OOP.
    (OR)
    b) Write about Creating source file, Compiling and Linking.

13. a) Explain about types of Constructors.
    (OR)
    b) Explain about different types of Inheritances.

B Com	Semester: IV	Credits: 4
Course: 4A	CORPORATE ACCOUNTING	Hrs/Wk: 5

Learning Outcomes:

At the end of the course, the student will able to:

- Understand the Accounting treatment of Share Capital and aware of process of book building.
- Demonstrate the procedure for issue of bonus shares and buyback of shares.
- Comprehend the important provisions of Companies Act, 2013 and prepare final accounts of a company with Adjustments.
- Participate in the preparation of consolidated accounts for a corporate group.
- Understand analysis of complex issues, formulation of well-reasoned arguments and reaching better conclusions.
- Communicate accounting policy choices with reference to relevant laws and accounting standards.

UNIT I:

Accounting for Share Capital: Kinds of Shares – Types of Preference Shares – Issue of Shares at Par, Discount and Premium - Forfeiture and Reissue of Shares (including problems).

UNIT II:

Issue and Redemption of Debentures and Issue of Bonus Shares: Accounting Treatment for Debentures Issued and Repayable at Par, Discount and Premium -Issue of Bonus Shares - Buyback of Shares - (including problems).

UNIT III:

Valuation of Goodwill: Need and Methods - Average Profit Method, Super Profits Method – Capitalization Method and Annuity Method (Including problems).

UNIT IV:

Valuation Shares: Need for Valuation - Methods of Valuation - Net Assets Method, Yield Basis Method, Fair Value Method (including problems).

UNIT V:

Company Final Accounts: Provisions of the Companies Act, 2013 - Preparation of Final Accounts – Adjustments Relating to Preparation of Final Accounts – Profit and Loss Account and Balance Sheet – (including problems with simple adjustments).

REFERENCE BOOKS:

1. Corporate Accounting – T.S Reddy and Murthy, MarghamPublications, Chennai.
2. Advanced Accounts: M C Shukla, T S Grewal and S C Gupta, S Chand Publications
3. Corporate Accounting – Haneef & Mukherji, Tata McGraw Hill Publications.
4. Corporate Accounting – RL Gupta & Radha Swami,Sultan Chand & sons
5. Corporate Accounting – P.C. Tulsian, S.Chand Publishers
6. Advanced Accountancy: Jain and Narang,,Kalyani Publishers
7. Advanced Accountancy: R.L. Gupta and M.Radhaswamy, S Chand.
8. Advanced Accountancy :Chakraborthy, Vikas Publishers
9. Corporate Accounting: S.N. Maheswari, S.K. Maheswari, Vikas Publishing House.
10. Advanced Accounts: M.C. Shukla, T.S. Grewal, S.C. Gupta, S. Chand & Company
11. Corporate Accounting: Umamaheswara Rao, Kalyani Publishers
12. Corporate Accounting: Dr ChandaSrinivas, SevenHills International Publishers,
13. Advanced Accountancy: Arulanandam& Raman, Himalaya Publishing House.

Suggested Co-Curricular Activities:

- Assignments and Problem Solving Exercises.
- Collect and fill the share application form of a limited Company.
- Collect Prospectus of a company and identify its salient features.
- Collect annual report of a Company and List out its assets and Liabilities.
- Collect the annual reports of company and calculate the value of goodwill under different methods.
- Power point presentations on types of shares and share capital.
- Group Discussions on problems relating to topics covered by syllabus.

MODEL QUESTION COURSE – THEORY
B.Com. DEGREE EXAMINATIONS
Semester: IV
Course(4A): Corporate Accounting

Time: 3 Hours. Max Marks: 75

Section-A

Answer any **FIVE** of the following questions. **5X5=25M**

1. Forfeiture of Shares
2. Buyback of shares
3. Annuity Method of Goodwill
4. Fair value method
5. Companies Act, 2013
6. Equity Share Capital
7. Dividend
8. Goodwill

Section- B

Answer **FIVE** questions. **5X10=50M**

9. a) X Ltd. Forfeited 100 equity shares of Rs. 10 each held by Rooldu Ram on 15th December, 2015 for non-payment of First Call of Rs. 2 per share and the final call of Rs. 3 per share. These shares were re-issued to Mohan on 25th December 2015 at a discount of Rs. 3.50 per share. Pass journal entries.

(OR)

b) What are the advantages of Equity Share Capital and Preference Share Capital?

10. a) Explain the major sources where from the debentures can be redeemed.

(OR)

b) What is the purpose of issue of bonus shares? What are the conditions which have to be fulfilled while making such an issue?

11. a) RG and MK are the partners in the firm. Their capitals are 3, 00,000 and 2,00,000. During the year ended 31st March, 2010 the firm earned a profit of 1,50,000. Assuming that the normal rate of return is 20%. Calculate the value of goodwill of the firm:
    1. By capitalization method
    2. By super profit method if the goodwill is valued at 2 years purchase of super profit.

(OR)

b) Define goodwill. When may the need for evaluating goodwill arise in the case of a joint stock company?

12. a) Explain need for valuation and methods of valuation.

(OR)

b) From the following Balance Sheet of Sweetex Ltd. you are asked to-ascertain the value of each Equity Share of the company:

Liabilities	**Amount Rs.**		**Assets**	**Amount Rs.**
20,000 Equity Shares Rs. 10 each, fully paid		20,000	Good Will	30,000
1000, 6%Preference Shares of Rs.100 each, fully paid		1,00,000	Land And Building	1,00,000
Reserves	60,000		Plant and Machinery	1,20,000
Sundry Creditors	40,000		Investment(At Cost)	60,000
Provision for Taxation	20,000		Stock	50,000
Other Liabilities	10,000		Debtors	40,000
			Cash at Bank	24,000
			Preliminary Expenses	6,000
	4,30,000			**4,30,000**

For the purpose of valuing the shares of the company, the assets were revalued as: Goodwill Rs. 50,000; Land and Building at cost plus 50%, Plant and Machinery Rs. 1, 00,000; Investments at book values; Stock Rs. 80,000 and Debtors at book value, less 10%.

13.a) A limited company has an authorized capital of Rs.1,000,000 divided into 60,000 equity shares of Rs.10 each and 4,000, 10% preference shares of Rs.100 each out of which 50,000 equity share and 3,000 preference share were issued and fully paid up. The profit for the year 2019 being the first year of operation amounted to Rs.1,80,000 after income tax. The directors decided to declare a dividend of 22% on the equity share capital after.

i. Statutory minimum requirement transfer to computer applications reserve

ii. Provision of dividend on preference shares.

Prepare profit and loss appropriation account and show liabilities side of the balance sheet.

(OR)

b) What are the salient features and provisions of Companies Act, 2013.

B Com	Semester: IV	Credits: 4
Course: 4B	COST AND MANAGEMENT ACCOUNTING	Hrs/Wk: 5

Learning Outcomes:

At the end of the course, the student will able to:

- Understand various costing methods and management techniques.
- Apply Cost and Management accounting methods for both manufacturing and service industry.
- Prepare cost sheet, quotations, and tenders to organization for different works.
- Analyze cost-volume-profit techniques to determine optimal managerial decisions.
- Compare and contrast the financial statements of firms and interpret the results.
- Prepare analysis of various special decisions, using relevant management techniques.

UNIT I:

Introduction: Cost Accounting: Definition – Features – Objectives – Functions – Scope – Advantages and Limitations - Management Accounting: Features – Objectives – Functions –
Elements of Cost - Preparation of Cost Sheet (including problems)

UNIT II:

Material and Labour Cost: Techniques of Inventory Control – Valuation of Material Issues: FIFO - LIFO - Simple and Weighted Average Methods. Labour: Direct and Indirect Labour Cost – Methods of Payment of Wages- Incentive Schemes -Time Rate Method, Piece Rate Method, Halsey, Rowan Methods and Taylor Methods only(including problems)

UNIT III:

Job Costing and Batch Costing: Definition and Features of Job Costing – Economic Batch Quantity (EBQ) – Preparation of Job Cost Sheet – Problems on Job Cost Sheet and Batch Costing(including problems)

UNIT IV:

Financial Statement Analysis and Interpretation:Financial Statements - Features, Limitations. Need, Meaning, Objectives, and Process of Financial Statement Analysis- Comparative Analysis – Common Size Analysis and Trend Analysis (including problems)

UNIT V:

Marginal Costing: Meaning and Features of Marginal Costing – Contribution –Profit Volume Ratio- Break Even Point – Margin of Safety – Estimation of Profit and Estimation of Sales(including problems).

REFERENCES BOOKS:

1. S.P. Jain and K.L. Narang – Advanced Cost Accounting, Kalyani Publishers.
2. M.N. Arora – A test book of Cost Accounting, Vikas Publishing House Pvt. Ltd.
3. S.P. Iyengar – Cost Accounting, Sultan Chand & Sons.
4. Nigam & Sharma – Cost Accounting Principles and Applications, S.Chand& Sons.
5. S.N. Maheswari– Principles of Management Accounting, Sultan Chand & Sons.
6. I.M.Pandey – Management Accounting, Vikas Publishing House Pvt. Ltd.
7. Sharma & Shashi Gupta – Management Accounting, Kalyani Publishers.
8. Murthy & Guruswamy – Management Accounting, Tata McGraw Hill, New Delhi.
9. S.P. Gupta – Management Accounting, S. Chand Publishing, New Delhi.
10. Umamaheswara Rao and Ranganath, Cost Accounting, Kalyani Publishers.
11. Dr V Murali Krishna – Cost Accounting, Seven Hills International Publishers.

Suggested Co-Curricular Activities:

- Debate on methods of payments of wages.
- Seminars and Problem Solving Exercises .
- Seminar on need and importance of financial statement analysis.
- Graphs showing the breakeven point analysis.
- Identification of elements of cost in services sector by Visiting any service firm
- Cost estimation for the making of a proposed product.
- Listing of industries located in your area and methods of costing adopted by them.
- Collection of financial statements of any two organization for two years and prepare a common Size Statements. Collection of cost sheet and pro-forma of quotation.

MODEL QUESTION COURSE – THEORY
B.Com. DEGREE EXAMINATIONS
Semester: IV
Course(4B): Cost And Management Accounting

Time: 3 Hours. Max Marks: 75

Section-A

Answer any **FIVE** of the following questions. **5X5=25M**

1. Elements of Cost
2. Time Rate Method
3. EBQ
4. Trend Analysis
5. Profit Volume Ratio
6. Job Costing
7. Cost Sheet
8. Inventory Control

Section- B

Answer **FIVE** questions. **5X10=50M**

9. a) Define Cost Accounting. Briefly explain the objectives and functions of Cost Accounting.

(OR)

b) Distinguish between Cost Accounting and Management Accounting

10. a) From the following details write Store Ledger under simple average method:

2006			
DEC	1	Opening Balance	100Kg @ Rs. 5.00
"	5	Received	50Kg @ Rs. 5.20
"	8	Issued	120Kg
"	10	Issued	10Kg
"	15	Received	80Kg @ Rs. 5.40
"	18	Issued	50Kg
"	20	Received	100Kg @ Rs. 5.60
"	25	Issued	40Kg
"	29	Issued	60Kg

The stock verifier found a shortage of 10 kg. on 16.12.06 and another shortage of 10 kg on 26.12.06.

(OR)

b) Define 'Labour Turnover'. How is it measured? Explain.

11. a) Distinguish between Job costing and batch costing.

(OR)

b) Annual demand for a component is 30,000 units. Cost of set-up per batch is Rs.600. Inventory carrying cost per unit per annum is Rs.1. (i) Calculate the total cost assuming batch size of 4,000 units, 5,000 units, 6,000 units, 7,000 units, 8,000 units, 9,000 units and 10,000 units. Also find the economic batch quantity. (ii) Using mathematical formula calculate economic batch quantity.

12. a) Define financial statement analysis. Explain the objectives and process of financial statement analysis.

(OR)

b) Briefly explain comparative analysis and common-size analysis.

13. a) Define Marginal Costing. Explain the features and importance of marginal costing.

(OR)

b) From the following data, you are required to calculate:

(i) P/V ratio

(ii) Break-even sales with the help of P/V ratio.

(iii) Sales required to earn a profit of Rs. 4,50,000

Fixed Expenses = Rs. 90,000
Variable Cost per unit:
Direct Material = Rs. 5
Direct Labour = Rs. 2
Direct Overheads = 100% of Direct Labour
Selling Price per unit = Rs. 12.

B Com	Semester: IV	Credits: 4
Course: 4C	INCOME TAX	Hrs/Wk: 5

Learning Outcomes:

At the end of the course, the student will able to:

- Acquire the complete knowledge of the tax evasion, tax avoidance and tax planning.
- Understand the provisions and compute income tax for various sources.
- Grasp amendments made from time to time in Finance Act.
- Compute total income and define tax complicacies and structure.
- Prepare and File IT returns of individual at his own.

UNIT I:

Introduction: Income Tax Act-1961 - Basic Concepts: Income, Person, Assessee - Assessment Year, Previous Year, Rates of Tax, Agricultural Income,ResidentialStatusof Individual -Incidence of Tax – Incomes Exempt from Tax (theory only).

UNIT II:

Income from Salaries: Basis of Charge, Tax Treatment of Different Types of Salaries Allowances, Perquisites, Profits in Lieu of Salary, Deductions from Salary Income, Computation of Salary Income (including problems).

UNIT III:

Income from House Property and Profits and Gains from Business: Annual Value, Let-out/Self Occupied/Deemed to be Let-out house -Deductions from Annual Value - Computation of Income from House Property, Definition of Business and Profession – Procedure for Computation of Income from Business – Revenue and Capital Nature of Incomes and Expenses – Allowable Expenses – Expenses Expressly Disallowed – Computation (including problems).

UNIT IV:

Income from Capital Gains - Income from Other Sources: Meaning of Capital Asset – Types – Procedure for Computation of Long-term and Short-term Capital Gains/Losses
Meaning of Other Sources - Computer applications Incomes – Specific Incomes – Computation (including problems).

UNIT V: Computation of Total Income of an Individual: Deductions under Section 80 - Computation of Total Income (Simple problems).

REFERENCE BOOKS:

1. Dr. Vinod; K. Singhania; Direct Taxes – Law and Practice, Taxman Publications
2. T. S. Reddy and Dr. Y. Hari Prasad Reddy - Taxation , by Margham Publications
3. Premraj and Sreedhar, Income Tax, Hamsrala Publications
4. B.B. Lal - Direct Taxes; Konark Publications
5. Dr. Mehrotra and Dr. Goyal -Direct Taxes, Law and Practice, Sahitya Bhavan Publication.
6. Balachandran&Thothadri- Taxation Law and Practice, PHI Learning.
7. V.P. Gaur and D.B. Narang - Income Tax, Kalyani Publications
8. Dr Y Kiranmayi - Taxation, Jai Bharath Publishers
9. Income Tax, Seven Lecture Series, Himalaya Publications

Suggested Co-Curricular Activities:

- Seminar on different topics of Income tax and Quiz programs, also Problem Solving Exercises.
- Debate on Tax Evasion and Avoidance.
- Practice of provisions of Taxation.
- Talk on Finance Bill at the time of Union Budget.
- Guest lecture by Chartered Accountant.
- Presentation of tax rates and Practice of filing IT Returns online.
- Group Discussions on problems relating to topics covered by syllabus.
- Examinations (Scheduled and surprise tests)

MODEL QUESTION COURSE – THEORY
B.Com. DEGREE EXAMINATIONS
Semester: IV
Course(4C): Income Tax

Time: 3 Hours. Max Marks: 75

Section-A

Answer any **FIVE** of the following questions. **5X5=25M**

1. Assessee
2. Agriculture Income
3. Perquisites
4. Gratuity
5. Self-occupied Property
6. Capital Asset
7. Interest on Securities
8. Total Income

Section- B

Answer **FIVE** questions. **5X10=50M**

9. a) What are the different categories of assesses according to their residential status? How is this status determined?

(OR)

b) Enumerate any ten items which are exempt from charge of Income-tax U/S 10.

10. a) Balu is employed by P Ltd in Pune. During the previous year, he gets the following emoluments: Basic salary: Rs. 1,86,000; dearness allowance: Rs. 12,300 (forming part of salary); city compensatory allowance: Rs. 3,100; children's education allowance: Rs. 2,340 (for 3 children); Bonus Rs.15,000; house rent allowance: Rs. 16,200 (rent paid: Rs. 20,000). Employer's contribution towards recognized provident fund Rs.20,000; Balu's contribution towards recognized provident fund Rs.40000; Income of Balu from other sources in India 80,000; Find out the taxable income and tax liability of Balu for the assessment year 2016-2017.

(OR)

b) Discuss various deductions available under the head salary.

11. a) What are the incomes chargeable under the head "Profits and Gains of Business or Profession?

(OR)

b) A owns two houses, I & II. House I is let-out throughout the previous year. House II is self-occupied for nine months and let-out for three months on a monthly rent of Rs 5,000. Determine Taxable income, given the following details.

	House I	House I
Municipal Value	40000	50000
Fair Rent	50000	48000
Rent Received	48000	15000
Municipal Taxes paid	4000	5000
Insurance Premium (not yet paid)	2000	2500
Ground Rent	1000	1500
Maintenance Charges	3000	3500
Electricity Bill	5000	6000

12. a) Discuss the provisions of the IT Act, 1961 regarding: (i) Conversion of Capital Assets to Stock in Trade; (ii) Computation of Capital Gains in case of depreciable assets.

(OR)

b) Briefly explain computer applications income and special incomes from other sources.

13. a) Briefly explain the deductions U/S 80.

(OR)

b) What is the procedure for computation of total income with examples?

B Com	Semester: IV	Credits: 4
Course: 4D	BUSINESS LAW	Hrs/Wk: 5

Learning Outcomes:

At the end of the course, the student will able to:

- Understand the legal environment of business and laws of business.
- Highlight the security aspects in the present cyber-crime scenario.
- Apply basic legal knowledge to business transactions.
- Understand the various provisions of Company Law.
- Engage critical thinking to predict outcomes and recommend appropriate action on issues relating to business associations and legal issues.
- Integrate concept of business law with foreign trade.

UNIT I:

Contract: Meaning and Definition of Contract - Essential Elements of Valid Contract -Valid, Void and Voidable Contracts - Indian Contract Act, 1872

UNIT II:

Offer, Acceptance and Consideration: Definition of Valid Offer, Acceptance and Consideration - Essential Elements of a Valid Offer, Acceptance and Consideration.

UNIT III:

Capacity of the Parties and Contingent Contract:

Rules Regarding to Minors Contracts - Rules Relating to Contingent Contracts - Different Modes of Discharge of Contracts - Rules Relating to Remedies to Breach of Contract.

UNIT IV:

Sale of Goods Act 1930 and Consumer Protection Act 2019:

Contract of Sale - Sale and Agreement to Sell - Implied Conditions and Warranties - Rights of Unpaid Vendor- Definition of Consumer - Person - Goods - Service - Consumer Dispute - Consumer Protection Councils - Consumer Dispute Redressal Mechanism.

UNIT V:

Cyber Law: Overview and Need for Cyber Law - Contract Procedures - Digital Signature-Safety Mechanisms.

REFERENCES BOOKS:

1. J. Jaysankar, Business Laws, Margham Publication. Chennai.
2. ND Kapoor, Business Laws, S Chand Publications.
3. Balachandram V, Business law, Tata McGraw Hill.
4. Tulsian, Business Law, Tata McGraw Hill.
5. Pillai Bhagavathi, Business Law,SChand Publications.
6. Business Law, Seven Hills Publishers, Hyderabad.
7. K C Garg, Business Law, Kalyani Publishers.

Suggested Co-Curricular Activities:

- Seminar on Basics of Indian Contract Act,1872.
- Quiz programs.
- Co-operative learning.
- Seminar on Cyber Law.
- Group Discussions.
- Debate on Offer, Agreement, and Contract.
- Creation of Contract by abiding rules of Indian Contract Act,1872.
- Making a sale by abiding rules of Sale of Goods Act,1930.
- Guest lecture by a Lawyer/Police officer.
- Celebrating consumers day by creating awareness among the students.
- Examinations (Scheduled and surprise tests) .
- Any similar activities with imaginative thinking beyond the prescribed syllabus

MODEL QUESTION COURSE – THEORY
B.Com. DEGREE EXAMINATIONS
Semester: IV
Course(4D): Business Law

Time: 3 Hours. Max Marks: 75

Section-A

Answer any **FIVE** of the following questions. **5X5=25M**

1. Agreement
2. Acceptance
3. Minor
4. Unpaid Vendor
5. Digital Signature
6. Breach of Contract
7. Unsound Mind
8. Consumer

Section- B

Answer **FIVE** questions. **5X10=50M**

9. a) "All contracts are agreements but all agreements are not contract"…Explain.

(OR)

b) What are the salient features and classification of contracts under Indian Contact Act, 1872.

10. a) What are the essentials of consideration?

(OR)

b) What is offer and Invitation to offer?

11. a) Briefly explain various modes of discharge of contract.

(OR)

b) Explain the rules relating to contingent contracts.

.

12. a) What are the salient features and contents of Sale of Goods Act, 1930?

(OR)

b) Explain the rights of a consumer under Consumer Protection Act, 2019.

13. a) Explain an overview and need for Cyber Law.

(OR)

b) What is contract procedures and safety mechanism for Cyber Laws.

B Com	Semester: IV	Credits: 4
Course: 4E	AUDITING	Hrs/Wk: 5

Learning Outcomes:

At the end of the course, the student will able to:

- Understanding the meaning and necessity of audit in modern era.
- Comprehend the role of auditor in avoiding the corporate frauds.
- Identify the steps involved in performing audit process.
- Determine the appropriate audit report for a given audit situation.
- Apply auditing practices to different types of business entities.
- Plan an audit by considering concepts of evidence, risk and materiality

UNIT I:

Introduction: Meaning – Objectives – Importance of Auditing – Characteristics - Book Keeping vs Auditing - Accounting vs Auditing – Role of Auditor in Checking Corporate Frauds.

UNIT II:

Types of Audit: Based on Ownership, Time and Objective - Independent, Financial, Internal, Cost,Tax, Government, Secretarial Audits

UNIT III:

Planning of Audit: Steps to be taken at the Commencement of a New Audit – Audit Programme - Audit Note Book– Audit Working Courses - Audit Evidence - Internal Check, Internal Audit and Internal Control.

UNIT IV:

Vouching and Investigation: Definition and Importance of Vouching – Objectives of Vouching - Vouching of Cash and Trading Transactions – Investigation - Auditing vs. Investigation

UNIT V:

Company Audit and Auditors Report: Auditor's Qualifications – Appointment andReappointment – Rights, Duties, Liabilities and Disqualifications - Audit Report: Contents –Preparation - Relevant Provisions of Companies Act, 2013.

REFERENCESBOOKS:

1. S.Vengadamani, "Practical Auditing", Margham Publications, Chennai.
2. Ghatalia, "Principles of Auditing", Allied Publishers Pvt. Ltd., New Delhi.
3. Pradeesh Kumar, BaldevSachdeva&Jagwant Singh,

"Auditing Theory and Practice,Kalyani Publications
4. N.D. Kapoor, "Auditing", S Chand, New Delhi.
5. R.G. Saxena, "Principles and Practice of Auditing", Himalaya Publishing House New Delhi
6. JagadeshPrakesh, "Principles and Practices of Auditing", Kalyani Publications
7. Kamal Gupta and Ashok Gupta, "Fundamentals of Auditing", Tata McGraw Hill
8. B.N. Tondan, "Practical Auditing", S.Chand, New Delhi.
9. K J Vijaya Lakshmi & A S Roopa, Auditing, Seven Hills International Publishers, Hyderabad

Suggested Co-Curricular Activities:

- Seminars.
- Visit the audit firms.
- Visit an audit firm, write about the procedure followed by them in Auditing the books of accounts of a firm.
- Guest lecture by an auditor.
- Collect the information about types of audit conducted in any one Organization.
- Collection of audit reports and Group Discussions.
- Draft an audit program.

MODEL QUESTION COURSE – THEORY
B.Com. DEGREE EXAMINATIONS
Semester: IV
Course(4E): Auditing

Time: 3 Hours. Max Marks: 75

Section-A

Answer any **FIVE** of the following questions. **5X5=25M**

1. Book Keeping Vs Auditing
2. Government Audit
3. Audit Note Book
4. Investigation
5. Audit Report
6. Internal Check
7. Cost Audit
8. Vouching

Section- B

Answer **FIVE** questions. **5X10=50M**

9. a) What are the objectives and importance of auditing?

(OR)

b) Explain the role and responsibilities of auditor in checking corporate frauds.

10. a) Briefly explain various types of audit.

(OR)

b) Explain the merits and demerits of Financial Audit and Internal Audit.

11. a) What are the steps to be taken at the commencement of a New Audit?

(OR)

b) Define Internal Control. Why to have internal control? Explain the elements of a good system of Internal Control.

12. a) What are the basic objectives and functions of Vouching?

(OR)

b) Distinguish between Auditing and Investigation.

13. a) Briefly explain the rights and duties of Auditors.

(OR)

b) State the provisions of the Companies Act, 2013 regarding qualification, appointment and removal of auditors.

B Com	Semester: IV(Computer Applications)	Credits: 4
Course: 4F	DATA BASE MANAGEMENT SYSTEMS	Hrs/Wk: 5

Learning Outcomes for Database Management System.

At the end of the course, the students is expected to DEMONSTRATE the following cognitive abilities (thinking skill) and psychomotor skills.

A. Remembers and states in a systematic way (Knowledge.

1. Understand the role of a database management system in an organization.
2. Understand basic database concepts, including the structure and operation of the relational data model.
3. Understand and successfully apply logical database design principles, including ER diagrams and database normalization.
4. Understand Functional Dependency and Functional Decomposition

B. Explains (Understanding).

5. To design and build a simple database system and demonstrate competence with the fundamental tasks involved with modeling, designing, and implementing a DBMS.
6. Perform PL/SQL programming using concept of Cursor Management, Error Handling, Packages.

C. Critically examines, using data and figures (Analysis and Evaluation).

7. Apply various Normalization techniques.
8. Model an application's data requirements using conceptual modeling tools like ER diagrams and design database schemas based on the conceptual model

D. Working in 'Outside Syllabus ***Area' under a Co-curricular Activity***(Creativity) Design and implement a small database project

E. Construct simple and moderately advanced database queries using Structured Query Language (SQL)(Practical skills)

UNIT I:

Overview of Database Management System: Introduction, Data and Information, Database, Database Management System, Objectives of DBMS, Evolution of Database Management System, Classification of Database Management System.

UNIT II:

File-Based System: File Based System. Drawbacks of File-Based System, DBMS Approach, Advantage of DBMS, Data Models, Components of Database System, Database Architecture,DBMS Vendors and their products.

UNIT III:

Entity-Relationship Model: Introduction, The Building Blocks of an Entity-Relationship, Classification of Entity Set, Attribute Classification, Relationship Degree, Relationship Classification, Generalization and Specialization, Aggregation and Composition, CODD's Rules, Relational Data Model, Concept of Relational Integrity.

UNIT IV:

Structured Query Language: Introduction, History of SQL Standards, Commands in SQL, Data types in SQL, Data Definition Language (DDL),Selection Operation Projection Operation, Aggregate Functions, Data Manipulation Language, Table Modification, Table Truncation, Imposition of Constraints, Set Operations.

UN IT V:

PL/SQL: Introduction, Structure of PL/SQL,PL/SQL Language Elements, Data Types, Control Structure, Steps to Create a PL/SQL Program, Iterative Control Cursors, Steps to Create a Cursor, Procedure, Functions, Packages, Exceptions Handling, Database Triggers, Types of triggers.

LEARNING RESOURCES:

REFERENCES:

1. Paneerselvam:Database Management system, PHI.
2. David Kuklinski, Osborne, Data management system McGraw Hill Publication.
3. Shgirley Neal And Kenneth LC Trunik Database management system in Business-PHI.
4. Godeon C. EVEREST, Database Management-McGraw Hill Book Company.
5. MARTIN,Database Management-Prentice Hall of India, New Delhi.
6. Bipin C.Desai ,`An Introduction to Database System`,Galgotia Publications.
7. Korth, Database Management System.
8. Navathe, Database Management System.
9. S. Sumathi, S. Esakkirajan,Fundamentals of Relational Database Management System

Online resources:

http:// www.onlinegdb.com/
http:// www.tutorialspoint.com/
http://learnsql.com
https://www.codecademy.com/learn/learn-sql/
https://www.w3schools.com/sql/default.asp

PRACTICAL COMPONENT: @ 2 HOURS/WEEK/BATCH.

1. Create tables department and employee with required constraints.
2. Initially only the few columns (essential) are to be added. Add the remaining columns separately by using appropriate SQL command.
3. Basic column should not be null.
4. Add constraint that basic should not be less than 5000.
5. Calculate HRA, DA, Gross and net by using PL/SQL program.
6. The percentage of HRA and DA are to be stored separately.
7. When the DA becomes more than 100%, a message has to be generated and

with user permission has to be merged with basic.

RECOMMENDED CO-CURRICULAR ACTIVITIES:

(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

Measurable.

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging).
2. Student seminars (on topics of the syllabus and related aspects (individual activity).
3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams).
4. Field studies (individual observations and recordings as per syllabus content and related areas (Individual or team activity).
5. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity)

General

1. Group Discussion
2. Visit to Software Technology parks / industries

RECOMMENDED CONTINUOUS ASSESSMENT METHODS:

Some of the following suggested assessment methodologies could be adopted:

1. The oral and written examinations (Scheduled and surprise tests),
2. Closed-book and open-book tests,
3. Coding exercises,
4. Practical assignments and laboratory reports,
5. Observation of practical skills,
6. Individual and group project reports,
7. Efficient delivery using seminar presentations,
8. Viva voce interviews.
9. Computerized adaptive testing, literature surveys and evaluations,
10. Peers and self-assessment, outputs form individual and collaborative work

MODEL QUESTION COURSE – THEORY
B.Com. DEGREE EXAMINATIONS
Semester: IV(Computer Applications)
Course(4F): Data Base Management Systems

Time: 3 Hours. Max Marks: 75

Section-A

Answer any **FIVE** of the following questions. **5X5=25M**

1. What is the difference between Data and Information?
2. Write the advantages of DBMS.
3. Write about classification of Entity Set?
4. What are the Data Types in SQL?
5. Write the steps to create PL/SQL program.
6. What are the components of DBMS?
7. What is the Concept of Relational Integrity?
8. Write about Cursors.

Section-B

Answer **FIVE** questions. **5X10=50M**

9. a) Explain about Classification of Database Management System.
(OR)
b) Explain about Objectives of Database Management System.

10. a) Explain about Data Models.
(OR)
b) Explain about Database architecture.

11. a) Explain about Aggregation and Composition.
(OR)
b) Explain about concepts of ER Model with an example.

12. a) Explain about Data Definition Language commands with syntax.
(OR)
b) Explain the aggregate functions in SQL with syntax.

13. a) Explain about Exception Handling with example program.
(OR)
b) Explain about different types of Triggers.

Skill Enhancement Courses (SECs) for Semester -V,

From 2022-23(Syllabus-Curriculum)

Structure of SECs for Semester–V

(To choose One pair from the Four alternate pairs of SECs)

Course No.	***Series-A: Accountancy***	***Course No.***	***Series-B: Services***	***Course No.***	***Series-C: Computer Applications***
	Course Name		*Course Name*		*Course Name*
6-A	Advanced Corporate Accounting	6-B	Advertising and Media Planning	6-C	Mobile Application Development
7-A	Software Solutions to Accounting	7-B	Sales Promotion and Practice	7-C	Cyber Security and Malware Analysis
8 - A	Management Accounting and Practice	8-B	Logistics Services and Practice	8-C	E– Commerce Application Development
9-A	Cost Control Techniques	9-B	EXIM Procedure and practice	9-C	Real Time Governance System(RTGS)
10-A	Stock Markets	10- B	Life Insurance with Practice	10-C	Multimedia Tools and Applications
11-A	Stock Market Analysis	11- B	General Insurance with practice	11-C	Digital Imaging

Note-1: In Semester-V a B.Com. Computer Applications students have to study **THREE** pairs of SECs (a total of 6courses). The Pairs are, SEC numbers 6 & 7, 8 & 9 and 10 & 11. As there shall be choice to students under CBCS, a total of 9 pairs shall be offered from which B.Com. Computer Applications students have to choose a total of THREE pairs of SECs.
The 9 pairs are from 3 series namely (A) Accountancy, (B) Services and (C) Computer Applications. Students can, however, choose their **THREE** pairs from any of the **Nine** pairs but a pair shall not bebroken.

For example students can choose any three pairs like the following; 6 –A & 7-A (from Accountancy),8-B, 9-B (from Services) and 10-C, 11-C from (Computer Applications).

Or 6- A & 7- A, 8- C & 9 - C and 10 - B &11- B
Or 6 - B & 7-B, 8-A & 9-A and 10-C &11- C
Or 6 - B & 7-B, 8-C & 9-C and 10-A &11-A
Or 6-C 7-C, 8- B & 9-B and 10-A &11-A
Or 6-C &7-C, 8-A & 9-A and 10-B, 11-B

Note-2: One of the main objectives of Skill Enhancement Courses (SEC) is to inculcate skills related to the domain subject in students. The syllabus of SEC will be partially skill oriented. Hence, teachers shall also impart practical training to students on the skills embedded in syllabus citing related real field situations.

Skill Enhancement Courses(SECs) for Semester -V,

From2022-23(Syllabus-Curriculum)

Structure of SECs for Semester–V

(To choose One pair from the THREE alternate pairs of SECs)

CourseNumber	Name of Course	Hours/ Week	Credits	Marks	
				IA–25	Sem End
6-A	Advanced Corporate Accounting	5	4	25	75
7-A	Software Solutions to Accounting	5	4	25	75
OR					
8 -A	Management Accounting and Practice	5	4	25	75
9 - A	Cost Control Techniques	5	4	25	75
OR					
10 - A	Stock Markets	5	4	25	75
11 - A	Stock Market Analysis	5	4	25	75

***Note**: FIRST and SECOND PHASES (2 spells) of APPRENTICESHIP between 1st and 2nd year and between 2nd and 3rd year (two summer vacations)

***Note**: THIRD PHASE of APPRENTICESHIP Entire 6th Semester

B.Com	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course: 6-A	AdvancedCorporateAccounting	Hrs/Wk:5

Learning Outcomes

Aftercompletingthe course, thestudent shallbeableto:

1. UnderstandCorporateAccountingenvironment
2. RecordTransactionsrelatedtoPurchaseofBusiness,Amalgamationand Reconstruction
3. AnalyzethesituationsofPurchaseofBusinessandLiquidation
4. Create formulas and calculations relating to Amalgamation, Internal Reconstruction andHoldingcompanyaccounts
5. Acquire skills of Accounting Procedure of Advanced Corporate AccountingEnvironment.

Syllabus: Total75hrs(Teaching60,Training10,Others05 includingIE etc.)

Unit-I:PurchaseofBusiness

Meaning - Purchase Consideration - Methods for determining Purchase Consideration-DischargeofPurchaseConsideration-AccountingTreatment.

Unit-II:AmalgamationofCompanies

MeaningandObjectives-ProvisionsforAmalgamationofCompaniesasperAccountingStandard14-AccountingTreatment.

Unit-III:InternalReconstructionofCompanies

Meaning - Forms of Internal Reconstruction - Alteration of Share Capital and Reduction of ShareCapital-AccountingTreatment.

Unit-IV:AccountsofHoldingCompanies

Meaning of Holding Companies and Subsidiary companies- Consolidated Financial Statements-Legalrequirementson Consolidation-CalculationofMinorityInterest-AccountingTreatment.

Unit-V:Liquidation

Meaning - Modes of Winding up of a Company- - Liquidator's Final Statement of Account - Calculation of Liquidator's Remuneration - Preparation of Statement of Affairs and DeficiencyAccount-AccountingTreatment

References:

1. Goyal, Bhushan Kumar.CorporateAccounting. Taxmann,NewDelhi
2. Kumar,Alok.CorporateAccounting.KitabMahal
3. Monga,J.R.FundamentalsofCorporateAccounting.MayurPaper Backs,NewDelhi
4. Sah,RajKumar,ConceptBuildingApproachtoCorporateAccounting,Cengage
5. SehgalAshok &SehgalDeepak.CorporateAccounting
6. TulsianP.C.CorporateAccounting.SChand &Co.New Delhi
7. *https://thebookee.net/ad/advanced-corporate-accounting-and-accounting-standards*
8. WebresourcessuggestedbytheTeacher concernedandtheCollege Librarianincludingreadingmaterial

Co-CurricularActivities:

A. Mandatory(*studenttraining byteacher inrelated realtimefieldskills: total10 hours*)**:**

1. **For Teachers**: Training of students by the teacher (using actual field material) inclassroom and field for a total of not less than 10 hours on techniques in AdvancedCorporateAccounting.
   AccountsandcalculationintheeventofrecentMergers,LiquidationsandInternalReconstruction.
   a. CalculationofPurchaseConsiderationforagivenpurchaseofbusiness(ref.unit-1)
   b. Preparationof AccountsforRecentBankingCompaniesmergers(ref.unit-2)
   c. DesignReconstructionformulaforacurrentsickCompany.(Ref.unit-3)
   d. CalculateMinorityInterestfor a givenCompany(ref.unit4)
   e. PreparationofStatementofAffairsfora recentLiquidation(ref. unit.5)
2. **For Students:** Individual Fieldwork/Project work on identified real time situationswith respect to Amalgamation, Liquidation, Purchase Consideration.On practicalaspects dealt with by an Auditor. Each student has tomake observations and submitto the teacher a handwritten Fieldwork/Project work Report, not exceeding 10 pages,onhis/herobservations etc.
3. Max marksforFieldwork/Projectwork Report:05.
4. Suggested Format for Fieldwork/Project work Report: (not more than 10 pages **):** Titlepage, student details, contents, objective, step-wise work done, findings, conclusionsandacknowledgements.
5. Unittests(IE).

B. SuggestedCo-CurricularActivities

1. Trainingofstudentsbya relatedfieldexpert.
2. Assignments including technical assignments like Working with Audit Company forObservationofPurchaseConsideration andObservationofrecentAmalgamations in BankingSector andCorporateSector
3. Seminars,Conferences, discussionsbyinvitingconcernedinstitutions
4. FieldVisit
5. Invited Lecturesandpresentationsonrelatedtopics.

B.Com	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course:7-A	Software Solutions to Accounting	Hrs/Wk:5

Course LearningOutcomes

Aftercompletingthecourse, thestudent shallbeableto:

At the endofthe course,the studentwill ableto;

9. Understand the technicalenvironment ofaccounting softwares.
10. Highlight themajoraccountingsoftwares inIndia.
11. Applybasicsofaccountingsoftwaresintobusinessfirmsforaccountingtransactions.
12. Understand thevariousversionsofTallyandothersoftwares.
13. Integrate the conceptofdifferentAccounting softwaresforaccountingpurpose
14. Design newapproachesfor useofaccountingsoftwareenvironment.

Syllabus: Total75hrs (Teaching60, Training10,Others 05includingIEetc.)

Unit-1:ComputerizedAccounting

MicrosoftExcelSpreadSheet-FunctionsinExcel-PreparationofAccounts,StatementsandBudgetsusingMSExcel-Analysis andInterpretation.

Unit-II:IntroductiontoLeadingAccountingSoftwares-Busy-Marg–QuickBooks-ZohoBooks-Tally-Featuresand Accounting.

Unit-III:TallyERP-9-CompanyCreation-Tally StartupScreen-GatewayofTally-CreateaCompany-Alter & Delete company-Backup andRestore-SecurityFeatures inTally.

Unit-IV:Tally-AccountingMasters-Groups-CreateLedgers-Alter&Delete-**InventoryMasters**-CreatingStockGroups -StockItems-Unit of Measurement-Alter &Delete.

Unit-V:Tally-VoucherEntry-VouchersTypes -VouchersEntry-AlteranddeletingSettings PurchaseVouchers and Sales Vouchers includingTaxcomponent–Reports Generation.

References

1. Nadhani,AshokK,TallyERP 9TrainingGuide,BPBPublications
2. Tally9 in SimpleSteps, Kogent SolutionsInc.,John Wiley&Sons.
3. Tally9.0 (EnglishEdition), (GoogleeBook)ComputerWorld
4. Tally.ERP 9 MadeSimple BasicFinancial AccountingbyBPBPublisher.
5. TallyERP9For Real TimeAccountingbyAvichiKrishnan
6. Fundamentalsof Computers, byV. Rajaraman,PHI.
7. TallyERP 9 book advanceduser,Swayam Publication(www.tallyerp9book.com)
8. *WebresourcessuggestedbytheTeacherconcernedandtheCollegeLibrarianincludingreading material*

Co-CurricularActivities

A. Mandatory(*studenttrainingby teacherinrelated realtimefield skills:total 10hours*)**:**

1. **ForTeachers**:Trainingofstudentsbytheteacher(usingactualfieldmaterial)inclassroom and field for a total of not less than 10 hours on techniques in ComputerizedAccounting, working with Accounting Software. Train the students in ComputerizedAccountswith selectedAccountingsoftware.
   a. WorkingwithExcel-Spreadsheet calculationsandtabulationLabPractice(Ref.unit-1)
   b. Workingwith anyaccountingsoftware-analyzethe specialcharacters(ref. unit-2)
   c. CompanyCreationLabPractice-(ref.unit-3)
   d. CreatingMastersin Tallywith a given Company-Lab Work.Lab Work(ref.Unit4)
   e. Voucher Entry for Given Transactions- Generation of Reports for a given CompanyLabWork(ref.Unit.5)
2. **For Student**: Each student has to visit at least one business organization dealt withComputerized Accounting. Collect data relating to the business transactions and practiceincollegecomputerlab.EachstudenthastoprepareoneSystembasedaccountingduring the semester. They shall write their observations and submit a Fieldwork/Projectworkreport, not exceeding10pages, to theteacher inthegiven format.
3. MaxmarksforFieldwork/Project work Report:05
4. Suggested Format for Fieldwork/Project work (not more than 10 pages **):** Title page,student details,Contents, objective, step-wise work done, findings, conclusions andacknowledgements.
5. Unittests(IE**).**

B. SuggestedCo-CurricularActivities

1. Trainingofstudentsbya relatedfieldexpert.
2. Assignmentsincluding technical assignmentslikeWorkingwithExcel &Tally
3. Seminars,Conferences, Discussionsbyinvitingconcernedinstitutions
4. FieldVisit
5. Invitedlectures andpresentationsonrelatedtopics

B.Com	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course:8-A	Management Accounting and Practice	Hrs/Wk:5

LearningOutcomes

Uponsuccessfulcompletion ofthecoursethestudentwillbeable to

1. Understandthenatureandscopeofmanagementaccountingand differentiatemanagementaccounting,financial accountingandcost accounting.
2. Computeratiosanddrawinferences
3. Analyzetheperformanceoftheorganizationbypreparingfundsflowstatementandcashflow statements
4. Preparecashbudget,fixedbudgetandflexiblebudget.

Syllabus:*(Total 75hrs(Teaching60,Training10, Others05includingIEetc.)*

UNITI:Introduction Nature&ScopeofManagementAccounting– ManagementAccountingPrinciples– SignificanceofManagementAccounting-Differencebetweenmanagementaccounting,financialaccountingandCostaccounting– LimitationsofManagementAccounting–InstallationofManagement Accounting –Tools of Management Accounting.

UNIT2:RatioAnalysis

Meaning - Advantages and Limitation of Ratio Analysis – Types of Ratios –Profitability Ratios-Gross Profit Ratio (GPR) – Net Profit Ratio (NPR) – Operating Ratio–Solvency Ratios-CurrentRatio – Liquidity Ratio – Debt-Equity Ratio-Turnover Ratios-Fixed Assets Turnover Ratio –Working Capital Turnover Ratio – Debtors Turnover Ratio – Creditors Turnover Ratio - StockTurnOver Ratio -ReturnonInvestment(ROI)-Calculation and interpretation.

UNIT3:FundFlowandCashFlowAnalysisasperAS3

Meaning and Concept of Working Capital (Fund) – Fund Flow Statement –Meaning and Uses ofFunds Flow Statement – Preparation of Funds Flow Statement. Cash Flow Statement – Meaningand Uses of Cash Flow Statement – Preparation of Cash Flow Statement – Difference betweenCashFlow Statement and Funds flow Statement.

UNIT4:BudgetingandBudgetaryControl

Meaning of Budget – Forecast and Budget - Elements of Budget – Features – objectives andbudget procedure -– Classification of Budgets - Meaning of Control – Meaning of Budgetarycontrol – objectives of Budgetary control system – Advantages and Limitations of Budgetarycontrolsystem. Preparecashbudget, fixed budgetandflexiblebudget.

UNIT5:ManagementReporting:

Reports - Meaning –- Modes of Reporting – Requisites of a good report — Kinds of Reports – GeneralformatsofReports-NeedforManagementReporting-financialreportingVs.ManagementReporting-StrategiesforWritingEffective Reporting.

References

5. ManagementAccountingand financialcontrolS.N.Maheswari,SultanChandandSons.
6. Principlesof Management AccountingbyManmohan&Goyal, Publisher: PHILearning
7. Costand ManagementAccountingbySP Jain and KLNarang
8. IntroductiontoManagementAccounting– HorngreenandSundlemPublisher:PHILearning
9. Costand ManagementAccountingbyM.N. Arora, VikasPublishingHousePVTltd.,
10. Management Accounting: Text, Problems & Cases by Khan & Jain, Tata McGraw Hill(TMH)

WebSources:Websourcessuggestedbytheconcernedteacherandcollegelibrarianincludingreadingmaterial.

Co-CurricularActivities:

A Mandatory: (*student training by teacher in related real time field skills: total 10 hours)***1.Teachers:**Teachershallprovidestudentswithfinancialdatarelatingtobusinessorganizationsandtrainthem(usingactualfieldmaterial)topresentsuchdatainamoremeaningfulmannertofacilitatemanagerialdecisionmaking,preparationofvariousbudgets,forecast,analyze,interpretandpresentsuchinformationindifferentreportingforms.

2. Student: Students shall visit any local company and collect their financial data orfrom web sources. Differentiate management accounting, financial accounting and costaccounting. Extract the Financial data of any company and Compute Ratios and drawinferences, prepare Cash budgets, Fixed and flexible budgets and submit a brief reportafter analyzingsuch data.

3. Max marksforFieldwork/Projectwork Report:05.

4. Suggested Format for Fieldwork/Project work (not more than 10 pages): Title page,studentdetails,contents,objective,step-wise work done,findings,conclusionsandacknowledgements.

5. Unittests(IE).

B.SuggestedCo-CurricularActivities

1. Organize short term training on specific technical skills in collaboration withComputerDepartmentorskilltraininginstitution(GovernmentorNon-GovernmentOrganization).
2. Seminars/Conference/ Workshops on management accountant profession, skillsrequired for Management accountant Professional Development, integration oftechnicaland analyticalskillsforeffectivejobperformance,Ethicalbehaviorofmanagementaccountant.
3. OnjobworkwithICMAprofessionaldurationofworkbedecidedonthe basisoffeasibilityand opportunity.
4. InteractionwithAreaSpecificExperts.

B.Com	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course:9-A	Cost Control Techniques	Hrs/Wk:5

LearningOutcomes

Upon completionofthe coursethestudent willbeableto

1. Differentiatecostcontrol,costreductionconceptsandidentifyeffective techniques.
2. Allocateoverheadson thebasisofActivityBasedCosting.3:Evaluatetechniquesof costauditand rulesfor cost record.
4:Appraisetheapplicationofmarginalcostingtechniques toevaluateperformances,fixsellingprice, make or buydecisions.

Syllabus:(Total75hrs (Teaching60,Training10, Others05includingIEetc.)

Unit1:Introduction-NatureandScope Introduction**:**MeaningofCostControl– CostControlTechniques– RequisitesofeffectiveCostControlSystem– CostReduction –meaning–essentialsforaneffectivecostReductionProgram –Scopeofcostreduction-DifferencebetweenCostControlandCostReduction–Meaningofcostaudit – Types of Cost Audit– Auditingtechniques.

Unit2:**Activity BasedCosting**

Concept of ABC – Characteristics of ABC– Categories of ABC – Allocation of Overheadsunder ABC – Cost Reduction under ABC – advantages of implementing ABC –Application onoverheadallocation on thebasis of ABC-

Unit3:**CostVolumeProfitAnalysis(CVPAnalysis)**

Applications of Marginal Costing – profit planning – Evaluation of Performance-fixing sellingprice – Key Factor –Make or Buy decision – Accept or Reject - closing down or suspendingactivities–

Unit4:**Standard CostingandVarianceAnalysis**

Concept of Standard Cost and Standard Costing – Advantages and limitations – analysis ofvariances-importance of Variance Analysis - computation and application of variances relating tomaterialand labour.

Unit5:ApplicationofModernTechniques

Kaizen Costing – Introduction – objectives – scope –Principles – 5 S (Sort, Set in Order, Shine,Standardize, and Sustain) in Kaizen Costing– Advantages and Disadvantages of Kaizen Costing.LearningCurve Analysis-conceptand Application.

References

3. CostandManagementAccountingbySPJain andKLNarang.
4. CostAccountingbyM.C. Shukla,T.S.Grewal&DrM.P.Gupta,S.ChandandCompanyPrivateLimited, New Delhi
5. Cost Accounting:Principles & Practice Bookby M.N.Arora,VikasPublishing HousePrivate Limited.
6. AdvancedCostAccounting:JKMitra,NewAgeInternational
7. AdvancedCostAccounting:SNMaheswari,S.ChandandCompanyPrivateLimited,NewDelhi
.

Web Sources: Web sources suggested by the concerned teacher and college librarian

includingreadingmaterial**.**

Co-CurricularActivities:

A. **Mandatory(***student training byteacher in relatedreal timefieldskills: total 10 hours)*

1. **ForTeachers:**Teachershouldtrainstudents(usingactualfieldmaterial)inclassroom/field for not less than10 hours on techniques relating to determine fixedCosts,variable costs based on the data of concerned firm, to identify and analyze of costvariancesand topreparebudgetingreports ofbusiness/industryhouses.

2. **Students:** Students should develop skills by adopting techniques on differences betweencost controls and cost reduction, allocation of overheads on the basis of Activity BasedCosting.Shouldvisitany businessandlearn the methodsand techniquesof ascertainingcostsofvariousproductsusingwithsamematerial,machineandmoneyundersameman agement (For example, Dairy, Sweet, Leather products etc.) and identify the reasons forvariances in estimated and actual cost and submit a report in the given format not exceeding10pages to theteacher

3. Max marksforFieldwork/Projectwork Report:05.

4. Suggested Format for Fieldwork/Project work (not more than 10 pages): Title page,student details, contents, objective, step-wise work done, findings, conclusions andacknowledgements.

5. Unittests(IE).

B. **SuggestedCo-CurricularActivities**

1. OrganizeshorttermtrainingonspecifictechnicalskillsincollaborationwithComputerDepa rtmentorskilltraininginstitution(GovernmentorNon-GovernmentOrganization). LikeZoho, Fresh book,MSExcel….

2. Seminars/Conference/ Workshops on Cost accountant profession, skills required forcost accountant Professional Development, integration of technical and analytical skillsforeffectivejobperformance, Ethical behaviourof managementaccountant.

3. Real time workexperience withICMA professional duration of work be decided onthebasis of feasibilityand opportunity.

4. ArrangeforInteractionwithAreaSpecificExperts.

B.Com	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course:10 - A	Stock Markets	Hrs/Wk:5

LearningOutcomes:

Bythe completion of thecourse, thestudentswill beable to

1. Exposeto theoryand functionsof theShareMarket inFinancial Sectorasjob careers
2. Studythefunctioningof capital markets and createawareness amongthe public
3. Acquireknowledgeon operationsof ShareMarket andResearch skills
4. InvolveinactivitiesofMutualFundsandstockmarketfirms
5. Enhancetheir skills bypracticinginpreparation ofaccountingstatements

Syllabus:(Total 75hrs(Teaching60,Training10, Others05 includingIEetc.)

UNIT1:Introduction,Nature,Scopeandbasicsof stockmarket

Introduction of Investments-Need of Investment-Short and Long Term investment-Moneymarket Vs Capital Market-Primary Market-Secondary Market-Depositories-Buy Back Shares-Forward Contract and Future Contract- Types of Investors- Speculators, Hedgers, Arbitragers.**UNIT2:Capital Markets**

Definition-Participantsof CapitalMarket Participants-PrimaryMarketissues ofEquitySharesand Preference Shares and Debentures its types Mutual Funds –Secondary Market-/StockExchange-National Stock Exchange of India-Over the Counter Exchange of India – QualifiedIndividual/InstitutionalBuyers-Under writers.

UNIT3.-**FinancialIntermediaries**

Depositories- -Buy Back of Shares-- Forward Contract and Future Contract- differences – Participantsin FutureContract-Clearingof Mechanism.

UNIT4.**Stock Indices**

Index anditstypes-SENSEX-CalculationMethodology-TypesofClearingMembers.

UNIT5.–**RegulatoryMechanism**

Security and Exchange Board of India (SEBI)-Powers, functions,-Over The Counter Exchange(OTCE)ofIndia-Functions and Mechanism.

References:

6. I.M.Pandey.,Financial Management,VikasPublishingHouse
7. PrasannaChandra,FincialManagementTaTaMcGrawHill
8. Bhole.L.M. FinancialMarketsandInstitutions,TataMcGrawHillPublishingHouse
9. KhanMY,JainPK,FinancialManagement,TataMcGrawHill
10. KishoreRavi.M.,FinancialManagement,TaxmanPublication
11. *Web resources suggested by the Teacher concerned and the College Librarian includingreading material*

Co-CurricularActivities:

A. Mandatory*(studenttrainingbyteacherinreal timefieldskills: 10hours***):**

1. **For Teachers: Training** of students by the teacher(using actual field material) inclassroom and field for not less than 10 hours on techniques in valuation of sharesofselectedcompanies,preparationofdocuments,identificationoflocalindividuals / institutions who are involved in share markets. Listing out LocalMoneyMarketinstitutions,Identifyingtheinvestorsandtheirexperienceinoperational activities
   AnalysisofvariouscompaniesFinancialStatementsandinterpretations
2. **ForStudents:**Studentsshall**i**ndividuallystudytheworkofstockmarketprofessionals and agencies and make observations. Their observations shall bewrittenastheFieldwork/ProjectworkReportinthegivenformatnotexceeding10pages and submit to theteacher.
3. Max marksforFieldwork/Projectwork Report:05.
4. Suggested Format for Fieldwork/Project work (not more than 10 pages**):** Titlepage, student details, contents, objectives, step-wise work done, findings,conclusionsand acknowledgements.
5. Unittests(IE).

B. SuggestedCo-CurricularActivities

1. Trainingof students bya related field expert.
2. Assignments (including technical assignments like identifying the investors and theiractivitiesin sharemarkets
3. Seminars,Conferences, discussionsbyinvitingconcernedinstitutions
4. VisitstolocalInvestmentInstitutions,offices,
5. Invitedlecturesandpresentationsonrelatedtopicsbyfieldexperts.

B.Com	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course:11- A	Stock Market Analysis	Hrs/Wk:5

LearningOutcomes:

Bythe completion of thecourse, thestudents areableto

1. Exposeto theoryand functionsof themonetaryand FinancialSector asjob careers
2. Studythefunctioningoflocal Capitalmarketsand
3. Createawarenessamongthepublic bygivingreporting after analysis
4. AcquireknowledgeonoperationsofShareMarket andResearch skills
5. Enhancetheir skillsbyinvolvingactivities ofShareMarket analysis

Syllabus: Total75hrs(Teaching60,Training10,Others05includingIEetc.)

UNIT 1:Introduction, Nature, Scope and basics of stock market analysis IntroductionofInvestments-NeedofSecurityAnalysis-Typesofanalysis-FundamentalAnalysis,Technical Analysis, QuantityAnalysis.

UNIT 2:Fundamental Analysis-Based on Company's Records and Performance-EPS Ratio-Price to Sales Ration-P/Earnings Ratio, P/Equity Ratio, ROI,D/P Ratio- Intrinsic Value-

UNIT 3. –**Technical Analysis**- Based on Share Price Movement and Market Trends-BullishPattern-Bearishpattern

UNIT4-

QuantityAnalysis: Basedondataforspecial Researchpurpose(Descriptive,Correlation,Comparative andExperimental)bypreparingquestionnaire,observation,focusgroups and interviews – DowTheory

UNIT5.–**MutualFunds**

Importance and the role of Mutual Fund –Types of Mutual Funds-Various schemes in India-GrowthFund, IncomeFund,Growthand IncomeFund,Taxplanningschemes,othercategories,AssetManagement Mutual Funds-itsmethod ofanalysis's

References:

1. Khan.M.Y.FinancialManagement,VikasPublishingHouse
2. Bhole.L.M.Financial MarketsandInstitutions,TataMcGrawHillPublishingHouse
3. PrasannaChandra,InvestmentAnalysisandPortfolioManagement,TataMcGrawHill
4. DamodharanAswath, Valuation:SecurityAnalysisfor InvestmentandcorporateFinance.,Johnwiely,Newyork
5. Francis.J.C.,InvestmentAnalysisandManagement,TataMcGrawHill

6 WebresourcessuggestedbytheTeacherconcernedand theCollegeLibrarianincludingreading material

Co-CurricularActivities:

B.Mandatory:*(studenttraining byteacher inreal timefield skills:10 hours)*

1. For Teachers: Training of students by the teacher (using actual field material)inclassroomandfieldfornotlessthan10hoursonSecurityMarketsanalysis,preparationofdocumentsandAnalysisofSharesanddebentures,FundamentalAnalysis of various companies Financial Statements and interpretations, TechnicalAnalysis of Various Financial Statements, Quantity Analysis of various companiesFinancial statements and interpretations, Analysis of Mutual fund operations and theirperformances
CaseStudiesofvariouscompanies'performances
basedonanalysisoftheirsecuritiesandthe success stories ofinvestors.

2. For Students: Students shall individually study the data of selected institutionsandtheirperformancebyanalyzingthestatementslearningfrompracticalexperiences from Charted Accountants and Cost Accountants. They shall record theirobservations in a hand written Fieldwork/Project work report not exceeding 10 pagesinthegiven format and submit to the teacher.

3. Max marksforFieldwork/Projectwork Report:05**.**

4. SuggestedFormatforFieldwork/Projectwork Report**(**notmorethan10pages):Title page, student details, contents, objective, step-wise work done, findings,conclusionsand acknowledgements.

5. Unittests(IE).

B.**SuggestedCo-CurricularActivities**

1. Trainingofstudentsbya relatedfieldexpert.
2. Assignments (including technical assignments like identifying sources of local financialinstitutions,
3. Seminars,Conferences, discussionsbyinvitingconcernedinstitutions
4. Visits to local Financial Institutions like HDFC securities, ICICI Direct Securities RelianceSecuritiesetc.
5. Invitedlectures andpresentationsonrelatedtopicsbyfieldexperts.

MODEL QUESTION PAPER (Sem-end. Exam)
B.Com (CA) DEGREE EXAMINATION
SEMESTER –V
Course: Advanced Corporate Accounting

Time: 3Hrs **Max. Marks:75**

SECTION-A (Short Answer Questions)

Answer any FIVE of the following questions **5x5=25 Marks**

1. Purchase Consideration
2. Objectives for Amalgamation of Companies
3. Alteration of Share Capital
4. Subsidiary Company
5. Causes of Liquidation
6. Objectives of Holding Company
7. Statement of Affairs
8. Reduction of capital

SECTION-B (Essay Questions)

Answer anyFIVE of the following questions **5x10=50 Marks**

9. Ramesh Ltd. was registered with a share capital of Rs.10,00,000 in equity shares of Rs.10 each to acquire the business of M/s R &K. The balance sheet of M/s R & K at the time of acquisition was as follows:

Liabilities	Amount	Assets	Amount
Bills Payable	32,000	Cash at Bank	58,000
Sundry creditors	60,000	Bills Receivable	26,000
Reserve Fund	28,000	Sundry creditors	96,000
Capital Accounts		Stock	36,000
R	2,40,000	Furniture	4,000
K	2,40,000	Machinery	1,80,000
		Buildings	2,00,000
	6,00,000		**6,00,000**

The assets were subject to the following revaluation:
(i) Plant and Machinery to be depreciated by 20%.
(ii)Furniture to be depreciated by 10%.
(iii) Land and Buildings to be appreciated by 20%.
(iv)A provision to be made for bad debts @ 5%.
(v)Goodwill of the firm was valued atRs.68,000.

The Purchase Consideration was to be discharged as follows:

(i) Allotment of 20,000 equity shares of Rs.10 each at Rs.12 per share.

(ii) Allotment of 1,000 14% debenturesofRs.100 each at a discount of 10%.

(iii) Balance in cash.

The cost of acquisition of the companyamountedtoRs.10,000was borne by Ramesh Ltd. You are required to give journal entries in the books of Ramesh Ltd. and prepare the balance sheet of the

company after acquisition of M/s R & K's business.

10. You are given below the balance sheets of Ram Ltd. and Laxman Ltd. As on March31, 2021:

Liabilities	Ram Ltd.	Laxman Ltd.
Equity Share Capital (Rs.10 each)	10,000	5000
12% Preferences hare capital (Rs.100 each)	4500	3000
General Reserve	1200	1000
Export Profit Reserve	800	500
Investment Allowance	500	400
Reserve Profit and Loss a/c	2000	1600
10% Debentures (Rs.100 each)	1500	1000
Trade Creditors	1000	800
Outstanding expenses	500	200
	22,000	**13,500**

Assets	RamLtd.	Laxman Ltd.
Land and Buildings	6,000	4,000
Plant and Machinery	6,500	3,500
Furniture and Fittings	1,200	1,000
Investments	1,500	1,000
Stock	3,000	2,000
Debtors	2,000	1,000
Cash and Bank Balances	1,800	1,000
	22,000	**13,500**

Ram Ltd. Takes over Laxman Ltd. As on April1, 2021, you are also given the following additional information:

1. Ram Ltd. discharges the purchase consideration as stated below:
Issued12% Preference shares of Rs.100 each to discharge the preference shareholders of Laxman Ltd. at10% premium. Issued 5,00,000 equity shares of Rs.10 each at par. Paid cash at Rs.2.50 per equity share.
2. Laxman Ltd. Followed weighted average method for valuing inventories where as Ram Ltd. Followed FIFO basis. Laxman Ltd. Followed FIFO basis, its value of stock as on March 31, 2021would have been more by Rs. 2,00,000
3. The amalgamation is considered as amalgamation in the nature of merger.

You are required to prepare the balance sheet of Ram Ltd. after amalgamation.

11. H Ltd. Acquires 3/4th of share capital of S Ltd., on 31-12-2020, when the balance sheets of the two companies are as under:

Liabilities	**H Ltd. Rs.**	**S Ltd. Rs.**	**Assets**	**H Ltd. Rs.**	**S Ltd. Rs.**
Share Capital (10/- each)	50,000	30,000	Fixed Assets	50,000	30,000

General Reserve	15,000	8,000	Current Assets	33,000	35,000
Profit & Loss A/C	10,000	7,000	Shares in S Ltd	20,000	-
10% Debentures	15,000	8,000			
Creditors	13,000	12,000			
	1,03,000	**65,000**		**1,03,000**	**65,000**

You are required to prepare a consolidated balance sheet as on 31st December, 2020.

12. Explain various types of capital reduction. Briefly explain the accounting procedure to be followed depend upon capital reduction.

13. What are the objectives and features of Holding Companies?
14. Discuss various methods of computing Purchase Consideration.
15. What is meant by Liquidation? Explain role and responsibilities of liquidator.
16. Distinguish between internal reconstruction and external reconstruction.

MODEL QUESTION PAPER (Sem-end. Exam)

B.Com (CA) DEGREE EXAMINATION

SEMESTER –V

Course : Software Solutions to Accounting

Time:3Hrs **Max. Marks:75**

SECTION-A (Short Answer Questions)

Answer any FIVE of the following questions **5x5=25 Marks**

1. How to insert/Delete rows in Excel?
2. Explain features of ZOHO Books.
3. Explain Tally Screen in detail.
4. How to create unit of measurement in Tally?
5. How to create a Ledger in Tally?
6. Explain contra voucher in Tally.
7. Explain stock journal in Tally.
8. Explain Receipt Voucher in Tally.

SECTION-B (Essay Questions)

Answer any FIVE of the following questions **5x10=50 Marks**

9. Explain any TEN functions in MS Excel.
10. Discuss various features of Tally in Accounting.
11. How to Create/Alter/Delete a Company in Tally?
12. How to create Stock Group/Stock Category/Stock item in Tally?
13. Explain Multi Ledger creation in Tally.
14. Briefly explain Contra Voucher/Payment voucher with suitable examples in Tally.
15. Discuss Sales invoice/Purchase invoice with suitable examples in Tally.
16. Explain Debit Note/Credit Note with suitable examples in Tally.

ADIKAVI NANNAYA UNIVERSITY:: RAJMAHENDRAVARAM
B.Com. Computer Applications Syllabus (w.e.f:2020-21 A.B)

MODEL QUESTION PAPER (Sem-end. Exam)
B.Com (CA) DEGREE EXAMINATION
SEMESTER –V
Course: Management Accounting and Practice

Time:3Hrs **Max.Marks:75**

SECTION-A(Short Answer Questions)

Answer any FIVE of the following questions **5x5=25 Marks**

1. Significance of Management Accounting
2. Limitations of Management Accounting
3. Meaning of ratio analysis
4. Debtors turnover ratio
5. Uses of Funds Flow Statement
6. Elements of a budget
7. Need for management reporting
8. Financial reporting

SECTION-B (Essay Questions)

Answer any FIVE of the following questions **5x10=50 Marks**

9. Distinguish between Management Accounting, Financial accounting and Cost Accounting.

10. What are the steps involved in installation of Management Accounting system.

11. Following Balance Sheet relates to Rakesh Products Limited as on 31-03-2022

Liabilities	Rs.	Assets	Rs.
Equity Share Capital	5,00,000	Fixed Assets	9,00,000
6% Debentures	2,00,000	Cash at bank	10,000
Reserves	1,00,000	Stock	1,30,000
Creditors	3,50,000	Debtors	1,60,000
Profit and loss account	50,000		
	12,00,000		**12,00,000**

Calculate (a) Current Ratio (b) Quick Ratio and (c) Debt-equity ratio

12. From the following Balance Sheets prepare funds flow statement

Liabilities	2019 Rs.	2020 Rs.	Assets	2019 Rs.	2020 Rs.
Creditors	40,000	44,000	Cash	10,000	7,000
Bank loan	40,000	50,000	Debtors	30,000	50,000
Bills Payable	25,000	-	Stock	35,000	25,000
Capital	1,25,000	1,53,000	Machinery	80,000	55,000
			Land	40,000	50,000
			Buildings	35,000	60,000
	2,30,000	2,47,000		2,30,000	2,47,000

Additional Information: (a) During the year machinery worth Rs.10,000 was sold for Rs. 8,000 (accumulated Depreciation 3,000) (b) Depreciation provided on March, 2019 Rs.25,000 and 2020 Rs.40,000 (c) Profit during the year Rs. 45,000 (d) Dividends paid Rs. 6,000.

13. Distinguish between Funds Flow Statement and Cash Flow Statement.

14. With the following data for a 50% activity prepare a budget for production at 75% and

90% capacity.

Production at 50% capacity	1,000 units
Direct Materials	Rs. 50 per unit
Direct Wages	Rs. 25 per unit
Direct Expenses	Rs.15 per unit
Factory Overheads	Rs. 25,000 (70% variable)
Administrative Overheads	Rs. 20,000 (25% variable)

15. Define Report. Explain various kinds of reports and general formats of reports.

16. Discuss various strategies for writing effective Reporting.

MODEL QUESTION PAPER (Sem-end. Exam)
B.Com (CA) DEGREE EXAMINATION
SEMESTER –V
Course: Cost Control Techniques

Time: 3Hrs **Max.Marks:75**

SECTION-A (Short Answer Questions)

Answer any FIVE of the following questions **5x5=25 Marks**

1. Cost Audit
2. Cost Reduction
3. Concept of ABC
4. Marginal costing
5. Make or buy Decisions
6. Standard costing
7. Kaizen costing
8. Learning Curve Analysis

SECTION-B (Essay Questions)

Answer any FIVE of the following questions **5x10=50 Marks**

9. Briefly explain various types of cost control techniques.
10. Define cost control. Distinguish between cost control and cost reduction.
11. Explain various advantages of implementing ABC.
12. Describe various categories of ABC and allocation of overheads under ABC.
13. The sales and profit during two years were as follows.

Year	Sales(Rs)	Profit
2020	1,70,000	25,000
2021	1,90,000	30,000

You are required to calculate (i) P/V Ratio (ii) Fixed cost (iii) BEP (iv) The sales required to earn a profit Rs. 40,000.

14. From the following particulars calculate: (1) Material cost variance (2) Material price variance (3) Material usage variance.

Material	Standard units	Standard price	Actual units	Actual price
A	1010	1.00	1080	1.20
B	410	1.50	380	1.80
C	350	2.00	380	1.90

15. What are the objectives of Kaizen costing? Explain its principles.
16. Explain the advantages and limitations of Kaizen costing.

MODEL QUESTION PAPER (Sem-end. Exam)
B.Com (CA) DEGREE EXAMINATION
SEMESTER –V
Course: Stock Markets

Time: 3Hrs **Max.Marks:75**

SECTION-A(Short Answer Questions)

Answer any FIVE of the following questions **5x5=25 Marks**

1. Hedgers and Arbitragers
2. Types of Investors
3. Under Writers
4. National Stock Exchange
5. Buy back of Shares
6. SENSEX
7. Future Contract
8. Over the Counter Exchange

SECTION-B (Essay Questions)

Answer any FIVE of the following questions **5x10=50 Marks**

9. Explain the nature and scope of Stock Markets.
10. Distinguish between Capital Market and Money Market.
11. Define Capital Market. Explain the participants of Capital Market.
12. Write about the functions of Stock Exchange.
13. Discuss the differences between Forward Contract and Future Contract.
14. Define Index. Explain the various types of Stock Indices.
15. Briefly explain the powers and functions of SEBI.
16. Write about the functions and mechanism of Over the Counter Exchange of India (OTCE).

MODEL QUESTION PAPER (Sem-end. Exam)
B.Com (CA) DEGREE EXAMINATION
SEMESTER –V
Course: Stock Market Analysis

Time: 3Hrs **Max.Marks:75**

SECTION-A (Short Answer Questions)

Answer any FIVE of the following questions **5x5=25 Marks**

1. Investment Avenues
2. EPS
3. Intrinsic Value
4. Concept of Mutual Funds
5. SENSEX
6. Quantity Analysis
7. Questionnaire
8. Bullish Candle

SECTION-B (Essay Questions)

Answer any FIVE of the following questions **5x10=50 Marks**

9. What are the main objectives and importance of Security Analysis?
10. Explain different types of Investment Analysis.
11. Define Fundamental Analysis. What are elements of Fundamental Analysis?
12. Briefly Bullish Pattern v/s Barrish Patterns.
13. What are the principles and features of DOW Theory?
14. Discuss the different research methods using for collection of data.
15. Define Mutual Fund. Explain the growth of Mutual Funds in India.
16. Koushik Ltd. has currently an ordinary share capital of Rs. 25,00,000, consisting of 25,000 Share of Rs. 100 each. The management is planning to raise another Rs. 20,00,000 to finance a major program of expansion through one of the three possible financial plans.

(I) Entire through Ordinary Shares
(II) Rs. 10,00,000 through Ordinary Shares and Rs. 10,00,000 through long-term borrowing at 8 percent interest p.a.
(III) Rs. 5, 00,000 through ordinary shares and Rs. 15, 00,000 through long-term borrowing at 9% interest per p.a.
The company expected EBIT will be Rs. 8, 00,00, assuming a corporate tax of 46%. Determine the EPS in each alternative and comment which is best.

Skill Enhancement Courses (SECs) for Semester -V,

From2022-23(Syllabus-Curriculum)

Structure of SECs for Semester–V

(To choose One pair from the THREE alternate pairs of SECs)

Course Number	Name of Course	Hours/ Week	Credits	Marks	
				IA–25	Sem End
6- B	Advertising and Media Planning	5	4	25	75
7 - B	Sales Promotion and Practice	5	4	25	75
OR					
8 - B	Logistics Services and Practice	5	4	25	75
9 - B	EXIM Procedure and practice	5	4	25	75
OR					
10 - B	Life Insurance with Practice	5	4	25	75
11- B	General Insurance with practice	5	4	25	75

B.Com	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course: 6- B	**Advertising and Media Planning**	**Hrs/Wk:5**

LearningOutcomes:

Atthesuccessfulcompletionof thecoursestudents areableto:

- Understandthe roleofadvertisingin businessenvironment
- Understandthelegal and ethicalissues inadvertising
- Acquireskillsin creatingand developingadvertisements
- Understandup-to-dateadvancesinthecurrentmediaindustry.
- Acquirethe necessaryskillsforplanninganadvertisingmediacampaign.

SYLLABUS: Total 75hrs(Teaching60, Training10,Others 05including IE etc.)

UNIT-I: Introduction, Nature and Scope Advertising- Nature and Scope- Functions - ImpactonSocial,EthicalandEconomicalAspects- ItsSignificance– AdvertisingasaMarketingToolandProcess for Promotion ofBusinessDevelopment-Criticism on advertising

UNIT-II:StrategiesofAdvertisements

Types of Advertising Agencies and their Strategies in Creating Advertisements - Objectives - Approach - Campaigning Process - Role of Advertising Standard Council of India (ASCI) - DAGMARapproach

UNIT-III:ProcessofAdvertisement CreativenessandCommunicationofAdvertising– CreativeThinking –Process–Appeals– CopyWriting-Issuesin CreationofCopyTesting– SloganElements ofDesignand PrinciplesofDesign**UNIT-IV:MediaPlanning**

AdvertisingMedia-Role ofMedia -Typesof Media -PrintMedia-ElectronicMediaand otherMedia-Advantages andDisadvantages– Media Planning-Selection ofMedia

UNIT-V:Analysisof MarketMedia

Media Strategy – Market Analysis -Media Choices - Influencing Factors - Target,Nature,Timing,Frequency,Languages andGeographicalIssues-CaseStudies

References:

1. Bhatia.K.Tej -AdvertisingandMarketinginRuralIndia-McMillan India
2. GhosalSubhash-MakingofAdvertising-McMillanIndia
3. JethWaneyJaishri&Jain Shruti-AdvertisingManagement-OxforduniversityPress
4. AdvertisingMediaPlanning,SeventhEditionPaperback–byRoger Baron (Author),JackSissors (Author)
5. MediaPlanningandBuyingin 21stCentury–Ronald DGeskey
6. Media Planning and Buying: Principles and Practice in the Indian Context – ArpitaMenon
7. PublicationsofIndianInstituteofMassCommunications
8. AdvertisingandSalesmanship.P.Saravanavel,MarghamPublications
9. Publicationsof ASCI
10. Webresourcessuggested bytheTeacher concernedandtheCollege Librarianincludingreadingmaterial

Co-CurricularActivities:

A-Mandatory:(student trainingbyteacherintherelatedfield skills: total10 hours**):**

1. ForTeacher:

Students shall be practically trained, (using actual field material) in classroom and fieldfor 10 hours, in the skills/techniques related to advertising and media planning. Trainingshall include;

- Collectionofdataandmaterial,handlingofmaterialandsampleadvertisementpreparation.
- sloganpreparation,makingofadvertisementand advertisementstrategies
- workingwith mediaandreportpreparationon ethicalissues
- preparationofnetbasedadvertisementsandmediaplanning

2. For Student: Students shall individually choose a local or regional advertising agency, visit,study it's processes, strategies, business aspects etc. They may also make a comparative study ofmediaadvertisements.Eachstudenthastosubmithis/herobservationsasahandwrittenFieldwork/ProjectworkReport notexceeding10pagesinthegivenformatto theteacher.

3. Max marksforFieldwork/Projectwork Report:05**.**

4. Suggested Format for Fieldwork/Project work Report (not more than 10 pages**):** Title page,student details, contents, objective, step-wise work done, findings, conclusions andacknowledgements.

5. Unittests(IE).

B-SuggestedCo-CurricularActivities

- Surveyonexistingproductsadvertisements
- Creationofadvertisingon severalproducts
- InvitedLectures
- Handson experiencewith thehelp offield experts
- Debates,Seminars, Group Discussions,Quiz, etc.
- Assignments,Casestudies,Compilationofpaper cuttings,Preparationofrelatedvideos,Class exhibitions.

B.Com	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course: 7- B	Sales Promotion and Practice	Hrs/Wk:5

LearningOutcomes:

Bythe end of thecoursestudents areable to:

1. Analysevarioussalespromotionactivities
2. Getexposed tonewtrends insales Promotion
3. Understandthe conceptsof creativityinsalespromotion
4. Enhanceskillstomotivatethesalespersontoreachtheirtargets
5. Developtheskillsofdesigningofsalespromotionevents

SYLLABUS: Total 75hrs(Teaching60,Training10, Others05 includingIEetc.)

UNIT-I: Introduction to Sales Promotion: Nature and Scope of Sales Promotion-InfluencingFactors - Sales Promotion and Control - Strengths and Limitations of Sales Promotion – SalesOrganization-Setting-upof SalesOrganization- Types ofSales Organization.

UNIT-II: Sales Promotion and Product Life Cycle: Types of Sales Promotion - ConsumerOriented - Trade Oriented - Sales Oriented - Various Aspects -Sales Promotion methods indifferentProductLifeCycle–CrossPromotion-SalesExecutiveFunctions-TheoriesofPersonalSelling-Surrogate Selling.

UNIT-III:StrategiesandPromotionCampaign: ToolsofSalesPromotion-Displays,Demonstration, Fashion Shows, Conventions -Conferences,Competitions –Steps in designingof Sales Promotion Campaign – Involvement of Salesmen and Dealers – Promotional Strategies -EthicalandLegal issues in Sales Promotion.

Unit-IV: **Salesmanship and Sales Operations**: Types of Salesman - Prospecting - Pre-approachand Approach - Selling Sequence - Sales budget, Sales territories, Sales Quota's - Point of Sale –Sales Contests - Coupons and Discounts - Free Offers - Showrooms and Exhibitions - SalesManager Qualities and functions.

Unit-V: **SalesforceManagementandDesigning:**Recruitment and Selection- Training -Induction - Motivation of sales personnel - Compensation and Evaluation of Sales Personnel - DesigningofEvents forEnhancingSales Promotion

References:

1. Don.E.Schultz-SalesPromotionEssentials-McGrawhillIndia
2. S.H.HKazmi&SatishK Batra, AdvertisingandSales Promotion-ExcelBooks
3. JethWaneyJaishri&Jain Shruti-AdvertisingManagement-OxforduniversityPress
4. Dr.ShailaBootwalaDr.M.D. LawrenceandSanjayR.Mali-AdvertisingandSalesPromotion-NiraliPrakashan
5. SuccessfulSalesPromotion– PranChoudhury
6. AdvertisingandSalesPromotion Paperback–S. H.H.Kazmi&SatishBatra
7. Publicationsof ASCI
8. Kazmi&Batra,ADVERTISING&SALESPROMOTION,Excel Books, 2008
9. Web resources suggested by the Teacher concerned and the College Librarian includingreadingmaterial

Co-CurricularActivities:(LecturerParticipation:Total10Hours)

A.Mandatory: (*student training by teacher in the related field skills: total 10 hours*)**:1ForTeacher:**

Trainingofstudentsbytheteacher(usingactualfieldmaterial)for10hoursintheclassroomand field fornot less than 10hours ontechniquesinareas suchas;

- Designspecialtoolsandtechniquesforsalespromotion
- Planningofsalespromotion andstrategicplanningfor givenproduct
- ReportWritingon SuccessStoriesofSales promotionagencies
- Preparationof reportonlegal issuesinsalespromotiontechniques.

2.ForStudent:

Students have to get individually training in the field the functional aspects of salespromotion, advertisement, strategic planning, sales promotion agencies and related legalissues, Students have to involve the sales promotion activities as practical training. Takeup survey on sales promotional activities of existing products. Each student has to recordhis/herobservationsandprepareahandwrittenFieldwork/ProjectworkReport,notexceeding10 pages,andsubmit toteacher in thegiven format.

3) Max marksforFieldwork/ProjectworkReport:10
4) Suggested Format for Fieldwork/Project work Report (not more than 10 pages**):** Titlepage, student details, contents, objective, step-wise work done, findings, conclusions andacknowledgements.

5.Unittests(IE).

V:SuggestedCo-CurricularActivities

Assignments, Class seminars, Case studies, Compilation of paper cuttings, Groupdiscussions, Debates, Quiz, Class exhibitions, Preparation of related videos, Invitedlecturesetc.

B.Com	Semester – V (Skill Enhancement Course- Elective)	Credits4
Course:8-B	Logistics Services and Practice	Hrs/Wk:5

LearningOutcomes

Uponsuccessful Completionofthe coursethe student willbe ableto

1. AppraisethePrinciplesof Logisticsanditsinformatics.
2. ExaminetheFinancialIssuesin Logisticssectorperformance.
3. DescribebasicEOQmodel andABCanalysis.
4. Determine warehouse safety rules, concepts of Retail Logistics and strategies of SupplyChainManagement.

SyllabusTotal75hrs(Teaching60,Training10,Others05includingIEetc.)

UNITI: Introduction

Logistics - meaning - Principles of Logistics-Technology & Logistics - Informatics.Warehouse-Meaning - Types –Benefits of Warehousing. Transportation-Meaning - Types –Benefits.Courier/Express-Meaning-CourierGuidelines– PricinginCourier-ExpressSectorforinternationaland domesticshipping-Reverselogisticsin e-commercesector.

UNIT2:GlobalLogistics

Global SupplyChain-OrganizingforGlobalLogistics-StrategicIssuesinGlobalLogistics -Forces driving Globalization- Modes of Transportation in Global Logistics Barriers to GlobalLogistics-MarketsandCompetition-FinancialIssuesinLogistics Performance.

UNIT3:Inventory

Need of Inventory-Types of Inventories-Basic EOQ Model-Classification of material - ABCAnalysis-VED,HML,- MaterialRequirementPlanning(MRP)-meaningandAdvantagesMaterialshandlingand storagesystems-Principles of MaterialsHandling.

UNIT4:Warehousing&Distribution Operations

Need for Warehouse – Importance of warehouse- Stages involved receipt of goods- Advancedshipmentnotice(ASN)-WarehouseActivities- receiving,sorting,loading,unloading,Picking,Packingand dispatch -safetyrules andProceduresto beobserved in a Warehouse.

Unit5:RetailLogisticsandSupplyChain Management

Concepts of Retail Logistics and supply chain- Supply chain efficiency-Fundamentals of SupplyChain and Importance - SCM concepts and Definitions - Supply chain strategy- Strategic DriversofSupplyChain Performance – keydecision areas– ExternalDrivers ofChange.

References

1. VinodVSople(2009) LogisticManagement(2ndEdn.)Pearson Limited.
2. Logistics Management for International Business: Text and Cases, Sudalaimuthu&AnthonyRaj, PHILearning,First Edition, 2009.
3. FundamentalsofLogisticsManagement(TheIrwin/McGraw-HillSeriesinMarketing),Douglas Lambert,JamesRStock, LisaM.Ellram,McGraw-hill/Irwin,FirstEdition,1998.
4. Fundamentalsof LogisticsManagement,DavidGrant,DouglasM.Lambert,JamesR.Stock, Lisa M. Ellram,McGrawHill HigherEducation, 1997.
5. LogisticsManagement, IsmailReji,ExcelBook,FirstEdition,2008.

Web Sources: Web sources suggested by the concerned teacher and college librarian includingreading material.

Co-CurricularActivities:

A. **Mandatory:** *(Studenttrainingbyteacherin therelatedfieldskills:10hrs)*

1. **For Teachers**: Shall give hands-on training to students (using actual field material)inclassroom and field in operations of (specific unit/s) logistics sector with reference tomaterial handling and storage processes, warehousing design and financial issuesconfrontedin logistics sector.
2. **Students:** Visit any local logistics provider / local mart etc., observe and understand itsoperations, financial issues, material handling and storage processes, warehouse designand submit a hand written Fieldwork/Project work Report in the given format on theobservationsmade to theteacher
3. Max marksforFieldwork/Projectwork Report:05.
4. Suggested Format for Fieldwork/Project work Report (not more than 10 pages): Titlepage, student details, contents, objective, step-wise work done, findings, conclusions andacknowledgements.
5. Unittests(IE).

B. **SuggestedCo-CurricularActivities:**

1. Organize short term training on specific technical skills like Zoho, Fresh book, MSExcel….in collaboration with Computer Department or skill training institution(Governmentor Non-Government Organization).
2. Seminars/Conference/ Workshopsoncareeropportunitiesinlogisticssector,trendsinlogisticssector, Automation in the sector etc.
3. Realtimeworkexperiencewithlogisticssector.
4. ArrangeforInteractionwithAreaSpecificExperts.

B.Com	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course: 9-B	Export Import(EXIM) Procedure & Practice	Hrs/Wk:5

LearningOutcomes:

Uponsuccessfulcompletionofthecoursethe studentwillbe ableto

1. Understand the significance of Export and Import Management and its role in Economyandas job careers
2. Acquireknowledgeon Proceduresof export and import
3. InvolveinpreandpostEXIMactivities
4. Enhancetheir skills bypracticingin foreign trade

Syllabus: Total 75hrs (Teaching 60, Training10, Others 05 including IE

etc.**)UNIT1: IntroductionofEXIMpoliciesand procedures**

ObjectivesofEXIMpolicies-Roleofexporthousesinthedevelopmentofeconomy-State TradingCorporationsandSEZs-FlowofProcedurefor exportandimportprocess.

UNIT2:Productplanningandforimportandexport

Export Promotion Councils in India and Commodities Board of India- Its functions and theirrole - Registration cum Membership Certificate (RCMC) and registration of Export Credit andGuaranteeCorporation ofIndia (ECGC)

UNIT3:Documentationatthetimeof EXIMgoods

Commercial documents- Principal and Auxiliary documents - Regulatory documents (relating toGoods,Shipment, Payment,Inspection, Payment,Excisableand FERA)

UNIT4:PaymentProceduresinforeigntrade

FactorsdeterminesforPaymentandmethodsofReceivingAmount-Paymentinadvance-Documentary Bills- Documentary credit under Letter of Credit- Different types of Letters ofCredit -Open account with periodical settlement.

UNIT5:InsuranceandShipmentofGoods

Cargo Insurance (Marine)- Types of Marine insurance policies- Kinds of losses - Shipment ofgoods- Clearing andforwardingagents- itsrole andsignificance- ClassificationofservicesEssentialand Optional services-clearanceprocedures for exportofgoods.

References

1. RamaGopal.C;Exportand ImportProcedure-NewAge InternationalPublishers
2. NeelamArora,Export and Import Procedure and documentation- Himalaya PublishingHouse
3. Dr.SwapnaPilai,Exportand ImportProcedure&documentation- SahityabhawanPublications
4. Sudhirkochhar,ExportandImportProcedure-AggarwalBookhouse
5. *WebresourcessuggestedbytheTeacherconcernedandtheCollegeLibrarianincludingreading material*

Co-CurricularActivities:

A. **Mandatory***(Studenttrainingbyteacherintherelatedfieldskills:10hrs):*

1. **For Teachers:**Training of students by teacher (using actual field material)inclassroom and field for not less than 10 hours on techniques of foreign trade byinvolvingstudentsinmakingobservations,preparationofdocuments,identificationo fexportablegoodsandrecordingexperiences ofexporters.
2. **For Students:** students shall visit export import houses or related centers andobserve processes of identification of exportable goods, registration of RCMC,logistic support and insurance procedures. They shall submit their observations asan individual handwritten Fieldwork/Project work Report in the given format andsubmit to teacher.
3. Max marksforFieldwork/Projectwork Report:05
4. Suggested Format for Fieldwork/Project work (not more than 10 pages): Titlepage,studentdetails,contents,objective,step-wiseworkdone,findings,conclusionsand acknowledgements.
5. Unittests(IE).

B. **SuggestedCo-CurricularActivities**

1. Trainingof students byarelated fieldexpert.
2. Assignments(includingtechnicalassignmentslikeidentifyingsourcesofexportablean dExcisablegoods,CaseStudiesofexportproceduresandthesuccess stories and getting practical experiences by exporting Agricultural andlocalproducts includingDWACRA
3. Seminars,Conferences,discussionsbyinvitingconcernedinstitutions
4. Visitstoexportingunits. SEZsandExporthouses
5. Invitedlecturesandpresentationsonrelatedtopicsbyfieldexperts.

B.Com	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course:10-B	Life Insurance with Practice	Hrs/Wk:5

LearningOutcomes

Aftercompletingthecourse,the student shallbeable to:

1. Understandthe FeaturesofLife Insurance,schemesandpoliciesandinsurancecompaniesinIndia
2. Analyzevariousschemes andpoliciesrelatedtoLife Insurancesector
3. Choosesuitableinsurancepolicyforgiven situationand respectivepersons
4. Acquire InsuranceAgencyskills and otheradministrativeskills
5. Acquireskillofsettlementofclaimsundervariouscircumstances

Syllabus: Total75hrs(Teaching60,Training10, Others05includingIE etc.)

Unit-I:Featuresof Lifeinsurancecontract

LifeInsurance-Features- Advantages-GroupInsurance– GroupGratuity Schemes-GroupSuperannuationSchemes,Social SecuritySchemes-Life Insurance companies inIndia.

Unit-II:PlansofLifeInsurance

Types of Plans: Basic - Popular Plans – Term Plans-Whole Life-Endowment-Money Back-Savings-Retirement-Convertible - Joint Life Policies - Children's Plans - Educational AnnuityPlans-VariableInsurancePlans– Riders

Unit-III:PrinciplesofLifeInsurance

Utmost Good Faith- Insurable Interest- Medical Examination - Age proof, Special reports - Premium payment - Lapse and revival – Premium, Surrender Value, Non-Forfeiture Option - AssignmentofNomination-Loans – Surrenders –Foreclosure.

Unit-IV:PolicyClaims

Maturity claims, Survival Benefits, Death Claims, Claim concession - Procedures - Problems inclaimsettlement -ConsumerProtection Actrelatingto lifeinsuranceandinsuranceclaims.

Unit-V:RegulatoryFrameworkandMiddlemen

RoleofIRDAI&otherAgencies-RegulatoryFramework-MediatorsinLifeInsurance–Agencyservices – Development Officers and other Officials.

References:

1. G.S.Pande, Insurance –PrinciplesandPracticesofInsurance,HimalayaPublishing.
2. C.Gopalkrishna,Insurance–Principles andPractices,SterlingPublishersPrivateLtd.
3. G.R.Desai,LifeInsuranceinIndia,MacMillan India.
4. M.N.Mishra,InsurancePrinciplesandPractices,Chand&Co,NewDelhi.
5. M.N.Mishra,Modern ConceptsofInsurance,S.Chand&Co.
6. P.S.Palandi, Insurancein India,ResponseBooks–SagarPublications.
7. Taxman,InsuranceLawManual.
8. https://www.irdai.gov.in
9. https://www.policybazaar.com
10. WebresourcessuggestedbytheTeacher concernedandtheCollege Librarianincludingreadingmaterial

Co-CurricularActivities:

A. **Mandatory** *(Studenttrainingbyteacherinthe relatedfieldskills:10hrs.):*

1. **ForTeachers:**Trainingofstudentsbyteacher(usingactualfieldmaterial)inclassroom/field for not less than 10 hours on techniques/skills of life insurance sectorfromopeningof insurancepolicies to settlement of claims.
   a. Workingwithwebsites toascertainvariousLICCompaniesandtheirschemesinLife Insurancesector (Ref. unit-1)
   b. Working with websites to ascertain various policies in Life Insurance sector(Ref.unit-2)
   c. Working with websites like policy bazaar.com forCalculation of Premium forSpecifiedpolicies andascertain variousoptions under policy(ref. unit-3)
   d. Preparation of statements for claims under various policies working with specifiedLife Insurance Company for settlement of Claims under different circumstances(Ref.Unit 4)
   e. PreparethestudentstochoosetheLifeInsurancefieldandshowtheopportunities inpublicandprivateinsurance companies.(ref. Unit.5)
2. **For Students:** Students shall take up individual Fieldwork/Project work and makeobservations on the procedures followed in the life insurance activities includingidentifying customers, filling applications, calculation of premium and settlement ofinsurance claims.Working with Insurance Agents and Life Insurance companies maybe done if possible. Each student shall submit a hand-written Fieldwork/Project workReporton his/her observations inthe given format to teacher.
3. Max marksforFieldwork/ProjectworkReport:05
4. SuggestedFormatforFieldwork/Projectwork(not morethan10pages**):**Titlepage,student details, contents, objective, step-wise work done, findings, conclusions andacknowledgements.
5. Unittests(IE).

B. **SuggestedCo-CurricularActivities**

1. Trainingofstudentsbya relatedfieldexpert.
2. AssignmentsincludingtechnicalassignmentslikeWorkingwithanyinsuranceCompanyfor observation ofvarious policies,premiums,claims, loansandotheractivities.
3. Seminars,Conferences, discussionsbyinvitingconcernedinstitutions
4. FieldVisit
5. Invitedlectures andpresentationson relatedtopics

B.Com	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course:11-B	General Insurance with Practice	Hrs/Wk:5

CourseLearningOutcomes

Aftercompletingthecourse,the student shallbeable to:

1. UnderstandtheFeaturesofGeneral InsuranceandInsuranceCompaniesin India
2. Analyzevariousschemes andpoliciesrelatedtoGeneral Insurancesector
3. Choosesuitableinsurancepolicyunder Health,Fire,Motor,andMarineInsurances
4. AcquireGeneralInsuranceAgencyskillsandadministrativeskills
5. Applyskillforsettlement of claimsunder variouscircumstances

Syllabus: Total75hrs(Teaching60,Training10,Others05includingIE etc.)

Unit-I:Introduction

General Insurance Corporation Act - General InsuranceCompanies in India - Areas of GeneralInsurance- Regulatory Framework of Insurance- IRDA-Objectives -Powers and Functions -Roleof IRDA-InsuranceAdvisoryCommittee.

Unit-II:MotorInsurance

MotorVehiclesAct1988-Requirementsforcompulsorythirdpartyinsurance–PolicyDocumentation & Premium- Certificate of insurance – Liability without fault – Compensation onstructureformulabasis-Hit and Run Accidents.

Unit-III:Fire&MarineInsurance

Kinds of policies – Policy conditions –Documentation-Calculation of premium- CalculationofLoss-Payment of claims.

Unit-IV:AgricultureInsurance

Types of agricultural insurances - Crop insurance - Problems of crop insurance - Crop InsuranceVsAgriculturalrelief -Considerations inCrop insurance-LiveStockInsurance.

Unit-V:Health&MedicalInsurance

TypesofPolicies-CalculationofPremium-Riders-ComprehensivePlans-PaymentofClaims.

References:

1. M.N.Mishra,InsurancePrinciplesandPractices, Chand&Co,NewDelhi.
2. M.N.Mishra,ModernConceptsofInsurance,S.Chand&Co.
3. P.S.Palandi, Insurancein India,ResponseBooks –SagarPublications.
4. C.Gopalkrishna,Insurance–PrinciplesandPractices,SterlingPublishersPrivate Ltd.
5. G.R.Desai, LifeInsurancein India,MacMillanIndia.
7. https://www.irdai.gov.in
8. https://www.policybazaar.com
9. Webresourcessuggested bytheTeacher concernedandtheCollege Librarianincluding readingmaterial.

Co-CurricularActivities

A. **Mandatory:** *(Studenttraining byteacher intherelatedfield skills:10hrs.)*

1. **For Teachers**: Training of students by teacher (using actual field material) in classroomand field for not less than 10 hours on techniques/skills in aspects of General Insuranceareaincluding calculation of premiumandclaimsettlements.
   a. AscertaintheregulatoryframeworkandfunctionsofIRDAandInsuranceAdvisoryCommit teewithrespecttoimportantcasesin GeneralInsuranceField(Ref.unit-1)
   b. WorkingwithspecifiedGICCompanyandanalyzethedocumentationprocedureandPremi umpayment with respectto Motor &Otherinsurances(ref. unit-2)
   c. WorkingwithspecifiedGICCompanyandanalyzethedocumentationprocedureforPolicya greement andpayment of Claimsof GeneralInsurance(ref. unit-3)
   d. WorkingwithBanksandCooperativeSocieties withrespecttoCrop Insurance andClaimsSettlement(Ref.unit 4)
   e. WorkingwithspecifiedMedical InsuranceCompaniestoascertainvariouspoliciesundermedicalinsurance andsettlementofclaims (ref. Unit.5)
2. **For Students**: Students shall individually undertake Fieldwork/Project work and makeobservations on the procedures and processes of various insurance policies and claims inreal time situations. Working with Insurance Agents and General Insurance companies ispreferred. Each student shall submit a hand-written Fieldwork/Project work Report onhis/herobservations in the given format to teacher.
3. Max marksforFieldwork/Projectwork Report:10
4. Suggested Format for Fieldwork/Project work (not more than 10 pages **):** Title page,student details,Contents, objective, step-wise work done, findings, conclusions andacknowledgements.
5. Unittests(IE**)**

B. **SuggestedCo-CurricularActivities**

1. Trainingofstudentsbya relatedfieldexpert.
2. AssignmentsincludingtechnicalassignmentslikeWorkingwithGeneralInsurancecompani esforobservation ofpolicies and claimsundercertain policies.
3. Seminars,Conferences, discussionsbyinvitingconcernedinstitutions
4. FieldVisit
5. Invitedlectures andpresentationsonrelatedtopics

MODEL QUESTION PAPER (Sem-end. Exam)

B.Com (CA) DEGREE
EXAMINATIONSEMESTER –V
Course: Advertising and Media Planning

Time:3Hrs **Max. Marks:75**

SECTION-A (Short Answer Questions)

Answer any FIVE of the following questions **5x5=25 Marks**

01. Advertising
02. Criticizing of advertising
03. Role of ASCI
04. Creative thinking
05. Target marketing
06. Types of Media
07. Electronic media
08. Media strategy

SECTION-B (Essay Questions)

Answer any FIVE of the following questions **5x10=50 Marks**

09. Briefly explain the nature, scope and functions of advertising.

10. Write about ethical impacts of advertising.

11. Explain various types of advertising strategies?

12. Explain the process of advertising campaign.

13. What is copy writing? What are the elements of copy righting?

14. Briefly explain slogan elements of design and principles of design.

15. Define Media Planning. Explain its advantages and disadvantages of Media Planning.

16. Write about media concentration strategies.

MODEL QUESTION PAPER (Sem-end. Exam)

B.Com (CA) DEGREE
EXAMINATIONSEMESTER –V
Course : Sales Promotion and Practice

Time:3Hrs **Max. Marks:75**

SECTION-A (Short Answer Questions)

Answer any FIVE of the following questions **5x5=25 Marks**

1. Sales organization
2. Cross promotion
3. Promotional strategies
4. Personal selling
5. Sales budget
6. Sale contests
7. Training
8. Motivation of sales personal

SECTION-B (Essay Questions)

Answer any FIVE of the following questions **5x10=50 Marks**

09. Briefly explain the strengths and limitations of sales promotion.

10. Explain different theories of personal selling.

11. Discuss the various sales promotion methods in different Product Life Cycle.

12. What are the steps in designing of sales promotion campaign?

13. Explain in detail the terms of sales territories and sales Quota's.

14. Discuss the compensation and evaluation of sales personnel.

15. What are the role, qualities and functions of sales manager?

16. Explain the compensations and evaluation of sales personal.

MODEL QUESTION PAPER (Sem-end. Exam)

B.Com (CA) DEGREE
EXAMINATIONSEMESTER –V
Course: Logistics Services and Practice

Time:3Hrs **Max. Marks:75**

SECTION-A (Short Answer Questions)

Answer any FIVE of the following questions **5x5=25 Marks**

01. What is transportation and its benefits?

02. Define courier and explain courier guidelines.

03. Discuss various Modes of transportation in Global logistics.

04. What are the Strategic issues in Global logistics?

05. Write about EOQ.

06. Explain various types of inventory.

07. What is the need for warehouse?

08. What is retail logistics and supply chain?

SECTION-B (Essay Questions)

Answer any FIVE of the following questions **5x10=50 Marks**

09. Write the meaning of logistics and explain principles of logistics.

10. What do you know about Reverse logistics in E-Commerce Sector?

11. What are the Global logistics Barriers?

12. Write the concept and principles of material handling.

13. What is inventory? Briefly explain advantages and limitations of inventory.

14. Briefly explain the following warehouse activities - a) Receiving; b) Sorting; c) Loading; d) Unloading; e) Picking; f) Packing; and g) Dispatch

15. Explain the safety rules and procedure in the warehouse.

16. What is supply-chain? Explain its strategy.

MODEL QUESTION PAPER (Sem-end. Exam)

B.Com (CA) DEGREE
EXAMINATIONSEMESTER –V
Course : Export Import Procedures & Practice

Time: 3Hrs **Max. Marks:75**

SECTION-A (Short Answer Questions)

Answer any FIVE of the following questions **5x5=25 Marks**

1. Bill of Entry
2. Certificate of Origin
3. EXIM policy
4. Letter of credit
5. RCMC
6. Sales tax formalities for exports
7. Documentary Bill
8. Cargo Insurance

SECTION-B (Essay Questions)

Answer any FIVE of the following questions **5x10=50 Marks**

9. Explain the objectives of EXIM Policies.
10. Discuss the flow of procedure for Export and Import process.
11. Describe the formalities and registrations with the different authorities before an exporter can accept export contract.
12. Explain the Functions and their role of Export promotion councils in India and commodities board of India.
13. Describe different regulatory documents which serve the purpose of monitoring the realization of Export proceeds.
14. What is Bill of lading and explain the purposes its serves?
15. Describe the different methods of receiving payment in case of Export Contract.
16. Describe the different types of Marine Insurance policies that can be issued.

MODEL QUESTION PAPER (Sem-end. Exam)

B.Com (C) DEGREE
EXAMINATIONSEMESTER –V
Course : Life Insurance with Practice

Time: 3Hrs **Max. Marks:75**

SECTION-A (Short Answer Questions)

Answer any FIVE of the following questions **5x5=25 Marks**

01. Group Insurance
02. Joint Life Policies
03. Riders.
04. Surrender Value
05. Foreclosure of Insurance Policy
06. Claim Concession
07. Agency Services
08. IRDAI

SECTION-B (Essay Questions)

Answer any FIVE of the following questions **5x10=50 Marks**

09. What is 'Insurance'? Explain the Advantages of Insurance.

10. Write about various Children's Insurance Plans.

11. Explain about various types of Insurance Plans.

12. Elaborate the 'Principles of Insurance'.

13. How an Insurance policy is lapsed and how can it be revived? Explain.

14. Describe the Procedure of an Insurance Claim Settlement.

15. Explain the Role of IRDA in Regulation and Development of Insurance Sector in India.

16. Who is 'Insurance Agent'? Explain the functions of an Insurance Agent in detail.

ADIKAVI NANNAYA UNIVERSITY:: RAJMAHENDRAVARAM

B.Com. Computers Syllabus (w.e.f:2020-21A.B)

MODEL QUESTION PAPER (Sem-end. Exam)

B.Com (CA) DEGREE

EXAMINATIONSEMESTER –V

Course: General Insurance with Practice

Time: 3Hrs **Max. Marks :75**

SECTION-A (Short Answer Questions)

Answer any FIVE of the following questions 5x5=25 Marks

01. Difference between General insurance and Life insurance

02. Role of IRDA

03. What is certificate of insurance

04. Liability without fault

05. Documents required for Fire insurance

06. Hit and Run accidents

07. Livestock insurance

08. Payment of Claims

SECTION- B (Essay Questions)

Answer any FIVE of the following questions 5x10=50 Marks

09. Write about the powers and functions of IRDA.

10. Explain in detail about the Insurance Advisory committee.

11. Explain the requirements for compulsory third party insurance

12. What are the salient features of Motor Vehicles Act - 1988?

13. Write about the Kinds of policies in respect of Fire Insurance.

14. What are the types of Agricultural Insurance?

15. Documents required for Marine insurance policy.

16. What do you know about the comprehensive plans with reference to the Health and Medical insurances?

Skill Enhancement Courses (SECs) for Semester -V,

From 2022-23(Syllabus-Curriculum)

Structure of SECs for Semester–V

(To choose One pair from the Five alternate pairs of SECs)

Course NO.	Name of Course	Hrs. / Week	Max Marks IE	Max Marks EE	Credits
6 - C	Mobile application development	5	25	75	4
7 - C	Cyber security and malware analysis	5	25	75	4
	OR				
8 - C	E– commerce application development	5	25	75	4
9 - C	Real time governance system (RTGS)	5	25	75	4
	OR				
10 - C	Multimedia Tools and Applications	5	25	75	4
11- C	Digital Imaging	5	25	75	4

Note-1: For Semester–V, for the domain subject Computer Applications, any one of the above four pairs of SECs shall be chosen as courses 6 & 7, 8 & 9 and 10 & 11 i.e., 6C & 7C or 8C & 9 C or 10 C & 11C.The pair shall not be broken (ABC allotment is random, not on any priority basis).

Note-2: *One of the main objectives of Skill Enhancement Courses (SEC) is to inculcate practical skills related to the domain subject in students. The syllabus of SEC will be partially skill oriented. Hence, teachers shall also impart practical training to students on the skills embedded in syllabus citing related real field situations.*

Note-3: *Since, the proposed SECs are connected to Computer Programming/Software Tools and Skill enhancement, the students need to get exposure on the syllabus content by practicing on the computer even though there is no formal assignment of credits and laboratory hours for practical sessions. So, as part of the Co-curricular activities and continuous assessment, students should be engaged in practicing on computer for at least 15 hours per subject/course.*

B.A/B.Com	Semester – V (Skill Enhancement Course- Elective)	Credits: 4
Course: 6-C	Mobile Application Development	Hrs/Wk: 3

Learning Outcomes:

Upon successful completion of the course, a student will be able to:

1. Identify basic terms ,tools and software related to android systems
2. Describe components of IDE, understand features of android development tools
3. Describe the layouts and controls
4. Explain the significance of displays using the given view
5. Explain the features of services and able to publish android Application
6. Developing interesting Android applications using MIT App Inventor

Unit-1:(Total hours: 75 including Theory, Practical, Training, Unit tests etc.)

10 Hrs

Introduction to Android ,open headset alliance, Android Ecosystem
Need of Android
Features of Android
Tools and software required for developing an Application

Unit-2: **13Hrs**

operating system, java JDK, Android SDK
Android development tools
Android virtual devices
steps to install and configure Android studio and sdk
Android activities

Unit-3: **14Hrs**

control flow, directory structure
components of a screen
fundamental UI design
linear layout, absolute layout ,
table layouttext view
edit text
button, image button, radio button
radio group, check box, and progress bar
list view, grid view, image view, scroll view
time and date picker
toast

Unit-4: **10Hrs**

android platform services
Android system Architecture
Android Security model

Unit-5 **13Hrs.**

Introduction of MIT App Inventor
Application Coding
5.3Programming Basics & Dialog
Audio& Video
File

Text Books:

1. Erik Hellman, "Android Programming – Pushing the Limits", 1st Edition, Wiley India Pvt Ltd, 2014.
2. App Inventor: create your own Android apps by Wolber, David (David Wayne)

Reference Books:

1. Dawn Griffiths and David Griffiths, "Head First Android Development", 1st Edition, O'Reilly SPD Publishers, 2015.
2. J F DiMarzio, "Beginning Android Programming with Android Studio", 4th Edition, Wiley India Pvt Ltd, 2016. ISBN-13: 978-8126565580
3. Anubhav Pradhan, Anil V Deshpande, " Composing Mobile Apps" using Android, Wiley 2014, ISBN: 978-81-265-4660-2
4. Android Online Developers Guide
5. http://developer.android.com/reference/ Udacity: Developing Android
6. Apps- Fundamentals
7. https://www.udacity.com/course/developing-android-appsfundamentals--ud853-nd
8. http://www.appinventor.mit.edu/

RECOMMENDED CO-CURRICULAR ACTIVITIES:

(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

A. Measurable

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
2. Student seminars (on topics of the syllabus and related aspects (individual activity))
3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))
4. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity

General

a. Group Discussion
b. Tryto solve MCQ's available online.
c. Others

RECOMMENDED CONTINUOUS ASSESSMENT METHODS:

Some of the following suggested assessment methodologies could be adopted;

1. The oral and written examinations (Scheduled and surprise tests),
2. Closed-book and open-book tests,
3. Problem-solving exercises,
4. Practical assignments and laboratory reports.
5. Observation of practical skills,
6. Efficient delivery using seminar presentations,
7. Viva voce interviews.
8. Computerized adaptive testing, literature surveys and evaluations,
9. Peers and self-assessment, outputs form individual and collaborative work

Course-6C: Mobile Application Development: Lab (Practical) Syllabus (15 Hrs.)

(Since, the proposed SECs are connected to Computer Programming/Software Tools and Skill enhancement, the students need to get exposure on the syllabus content by practicing on the computer even though there is no formal assignment of credits and laboratory hours for practical sessions. So, as part of the Co-curricular activities and continuous assessment, students should be engaged in practicing on computer for at least 15 hours per semester.)

Outcomes:

1. Understand the android platform
2. Design and implementation of various mobile applications

Experiments:

1. Demonstrate mobile technologies and devices
2. Demonstrate Android platform and applications overview
3. Working with texts , shapes, buttons and lists
4. Develop a calculator application
5. Implement an application that creates a alarm clock

Note: The list of experiments need not be restricted to the above list. *Detailed list of Programming/software tool based exercises can be prepared by the concerned faculty members.*

B.A/B.Com	Semester – V (Skill Enhancement Course- Elective)	Credits: 4
Course: 7-C	Cyber Security and Malware Analysis	Hrs/Wk: 3

COURSE OUTCOMES:

Upon successful completion of this course, students should have the knowledge and skills to

1. Understand the computer networks, networking tools and cyber security
2. Learn about NIST Cyber Security Framework
3. Understand the OWASP Vulnerabilities
4. Implement various Malware analysis tools
5. Understand about Information Technology act 2000

Syllabus: (Total hours: 75 including Theory, Practical, Training, Unit tests etc.)

UNIT 1: Introduction to Networks & cyber security **14hrs**

- Computer Network Basics
- Computer network types
- OSI Reference model
- TCP/IP Protocol suite
- Difference between OSI and TCP/IP
- What is cyber, cyber-crime and cyber-security
- All Layer wise attacks
- Networking devices: router, bridge, switch, server, firewall
- How to configure: router
- How to create LAN

UNIT 2: NIST Cyber security framework **12hrs**

- Introduction to the components of the framework
- Cyber security Framework Tiers
- What is NIST Cyber security framework
- Features of NIST Cyber security framework
- Functions of NIST Cyber security framework
- Turn the NIST Cyber security Framework into Reality/ implementing the framework

UNIT 3: OWASP **12hrs**

- What is OWASP?
- OWASP Top 10 Vulnerabilities
  - ❖ Injection
  - ❖ Broken Authentication
  - ❖ Sensitive Data Exposure
  - ❖ XML External Entities (XXE)
  - ❖ Broken Access Control
  - ❖ Security Misconfiguration
  - ❖ Cross-Site Scripting (XSS)
  - ❖ Insecure Deserialization
  - ❖ Using Components with Known Vulnerabilities
  - ❖ Insufficient Logging and Monitoring
- Web application firewall

UNIT 4: MALWARE ANALYSIS **12hrs**

- What is malware
- Types of malware
  - ❖ Key loggers
  - ❖ Trojans
  - ❖ Ran some ware
  - ❖ Rootkits
- Antivirus
- Firewalls
- Malware analysis
  - ❖ VM ware
  - ❖ How to use sandbox
  - ❖ Process explorer
  - ❖ Process monitor

UNIT 5: CYBER SECURITY: Legal Perspectives **10hrs**

- Cybercrime and the legal landscape around the world
- Indian IT ACT 2000 --Cybercrime and Punishments
- Challenges to Indian law and cybercrime scenario in India

Textbooks:

1. Computer Networks | Fifth Edition | By Pearson (6th Edition)|Tanenbaum, Feamster & Wetherill
2. Computer Networking | A Top-Down Approach | Sixth Edition | By Pearson | Kurose James F. Ross Keith W.
3. Cyber Security by Sunit Belapure, Nina Godbole|Wiley Publications
4. TCP/IP Protocol Suite |Mcgraw-hill| Forouzan|Fourth Edition

Website References:

- https://csrc.nist.gov/Projects/cybersecurity-framework/nist-cybersecurity-framework-a-quick-start-guide
- https://owasp.org/www-project-top-ten/
- https://owasp.org/www-project-juice-shop/

Co-Curricular Activities:

(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

A. Measurable

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
2. Student seminars (on topics of the syllabus and related aspects (individual activity))
3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))
4. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity)

B. General

1. Group Discussion
2. Tryto solve MCQ's available online.

RECOMMENDED CONTINUOUS ASSESSMENT METHODS:

Some of the following suggested assessment methodologies could be adopted;

1. The oral and written examinations (Scheduled and surprise tests),
2. Closed-book and open-book tests,
3. Practical assignments and laboratory reports,
4. Observation of practical skills,
5. Individual and group project reports.
6. Efficient delivery using seminar presentations,
7. Viva-Voce interviews.
8. Computerized adaptive testing, literature surveys and evaluations,
9. Peers and self-assessment, outputs form individual and collaborative work

Course-7C: Cyber Security and Malware Analysis; Lab (Practical) Syllabus (15 Hrs.)

(Since, the proposed SECs are connected to Computer Programming/Software Tools and Skill enhancement, the students need to get exposure on the syllabus content by practicing on the computer even though there is no formal assignment of credits and laboratory hours for practical sessions. So, as part of the Co-curricular activities and continuous assessment, students should be engaged in practicing on computer for at least 15 hours per semester.)

Experiments:

1. Configure a LAN by using a switch
2. Configure a LAN by using Router
3. Perform the packet sniffing mechanism by download the "wire shark" tool and extract the packets
4. Perform an SQL Injection attack and its preventive measure to avoid Injection attack

Note: The list of experiments need not be restricted to the above list. *Detailed list of Programming/software tool based exercises can be prepared by the concerned faculty members.*

B.A/B.Com	Semester – V (Skill Enhancement Course- Elective)	Credits: 3T+2L
Course: 8-C	E– Commerce Application Development	Hrs/Wk: 3T+3L

Learning Outcomes:

Upon successful completion of the course, a student will be able to:

1. To apply in an integrative and summative fashion the students' knowledge in all fields of business studies by drafting a website presence plan.
2. To understand the factors needed in order to be a successful in ecommerce
3. To gain the skills to bring together knowledge gathered about the different components of building a web presence
4. To critically think about problems and issues that might pop up during the establishment of the web presence
5. To apply Word Press as a content management system (CMS), Plan their website by choosing colour schemes, fonts, layouts, and more

Syllabus: (Total hours: 75 including Theory, Practical, Training, Unit tests etc.)

Unit-1: **(10h)**

Introduction to E– commerce:

Meaning and concept – E– commerce

E– commerce v/s Traditional Commerce

E– Business & E– Commerce – History of E– Commerce

EDI – Importance, features & benefits of E– Commerce

Impacts, Challenges & Limitations of E– Commerce

Unit-2: **(12h)**

Business models of E – Commerce: Business to Business

2.1.2 Business to customers

2.1.3Customers to Customers

Business to Government

Business to Employee

Influencing factors of successful E– Commerce

Architectural framework of Electronic Commerce

Web based E Commerce Architecture.

Internet Commerce

Unit-3: **(12h)**

Electronic data Interchange

EDI Technology

EDl- Communications

EDI Agreements
E– Commerce payment system.
Digital Economy

Unit -4: **(13h)**

A Page on the web - HTML Basics
Client Side scripting -JAVA SCRIPT basics
Server side Scripting- PHP basics.

Unit-5: **(13h)**

Logging in to Your Word press Site
word press dash board
creating your first post
adding photos and images
creating hyper link
adding categories and tags

Textbooks:

1. Turban, Rainer, and Potter, Introduction to E-Commerce, second edition, 2003
2. H. M. Deitel, P. J. Deitel and T. R. Nieto, E-Business and E-Commerce: How to Programe, Prentice hall, 2001
3. WordPress All-in-One For Dummies -written by Lisa Sabin Wilson with contributions by Michael Torbert, Andrea Rennick, Cory Miller, and Kevin Palmer

Reference Books:

1. Elias. M. Awad, "Electronic Commerce", Prentice-Hall of India Pvt Ltd.
2. Ravi Kalakota, Andrew B. Whinston, "Electronic Commerce-A Manager's guide", Addison-Wesley
3. https://w3cschools.com
4. David Whiteley, E-Commerce: Strategy, Technologies and Applications, Tata McGraw Hill.

RECOMMENDED CO-CURRICULAR ACTIVITIES: (Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

A. Measurable

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
2. Student seminars (on topics of the syllabus and related aspects (individual activity))
3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))

B. General

1. Group Discussion
2. Others

RECOMMENDED CONTINUOUS ASSESSMENT METHODS:

Some of the following suggested assessment methodologies could be adopted;

1. The oral and written examinations (Scheduled and surprise tests),
2. Closed-book and open-book tests,
3. Efficient delivery using seminar presentations,
4. Computerized adaptive testing, literature surveys and evaluations,
5. Peers and self-assessment, outputs form individual and collaborative work

Course- 8C: E– Commerce Application Development; Lab (Practical) Syllabus (15 Hrs)

(Since, the proposed SECs are connected to Computer Programming/Software Tools and Skill enhancement, the students need to get exposure on the syllabus content by practicing on the computer even though there is no formal assignment of credits and laboratory hours for practical sessions. So, as part of the Co-curricular activities and continuous assessment, students should be engaged in practicing on computer for at least 15 hours per semester.)

Case study of e –commerce

1. Home page design of web site
2. Validation using PHP
3. Implement Catalogue design
4. Implement Access control mechanism(eg: username and password)
5. Case study on business model of online E-Commerce store

Note: The list of experiments need not be restricted to the above list. *Detailed list of Programming/software tool based exercises can be prepared by the concerned faculty members.*

B.A/B.Com	Semester – V (Skill Enhancement Course- Elective)	Credits: 4
Course: 9 - C	Real Time Governance System (RTGS)	Hrs/Wk: 3

COURSE OUTCOMES:

Upon successful completion of this course, students will have the knowledge and skills to

1. Understand the terms regarding Governance, E-Governance and RTGS
2. Learn about E-Governance Infrastructure
3. Understand the E-Governance implementation in several countries
4. Understand the E-Governance implementation in several Indian states
5. Understand the applications of RTG

Syllabus: (Total hours: 75 including Theory, Practical, Training, Unit tests etc.)

UNIT 1: Introduction to E-Governance **12hrs**

- Government, Governance and Good Governance
- What is E-Governance or Electronic Governance?
- E-Government and E-Governance: A conceptual Analysis
  - ❖ Objectives
  - ❖ Components
  - ❖ application domains
  - ❖ four phase model
  - ❖ implementing E-Governance
  - ❖ issues while implementing E-Governance
  - ❖ Opportunities and challenges
- Types of E-Governance
- What is Real-Time Governance (RTG)
- Real Time Governance Society (RTGS)

UNIT 2: E-Governance Infrastructure **14hrs**

- Data Systems infrastructure
  - ❖ Executive Information Systems
  - ❖ Management Information Systems
  - ❖ Knowledge Management Systems

- ❖ Transaction Processing Systems

- Legal Infrastructural preparedness
  - ❖ IT Act 2000
  - ❖ Challenges to Indian law and cybercrime scenario in India
  - ❖ Amendments of the Indian IT Act
- Institutional Infrastructural preparedness
  - ❖ Internet
  - ❖ intranet
  - ❖ extranet
- Human Infrastructural preparedness
  - ❖ Top-level management
  - ❖ Middle-level management
  - ❖ Low-level management
- Technological Infrastructural preparedness
  - ❖ Information and communications technology
  - ❖ Data Warehousing
  - ❖ Cloud Computing

UNIT 3: E-Governance: Country Experience **12hrs**

- INDIA
- US
- UK
- AUSTRALIA
- DUBAI

UNIT 4: E-Governance in India **12hrs**

- Andhra Pradesh
- Karnataka
- Kerala
- Uttar Pradesh
- Madhya Pradesh
- West Bengal
- Gujarat

UNIT 5: Latest Applications in Real Time Governance **10hrs**

- Agriculture
- Rural Development
- Health care
- Education
- Tourism
- Commerce and Trade

Textbooks:

1. E-Governance: concepts and case studies| CSR Prabhu| Prentice-Hall|
2. E-Governance| Niranjanpani, Sanhari Mishra | Himalaya Publishing House

Website References:

1. http://www.egov4dev.org/success/case/
2. https://vikaspedia.in/e-governance/resources-for-vles
3. https://altametrics.com/en/information-systems/information-system-types.html
4. https://core.ap.gov.in/CMDashBoard/Index.aspx

Co-Curricular Activities:

(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

A. Measurable

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
2. Student seminars (on topics of the syllabus and related aspects (individual activity))
3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))
4. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity)

B. General

1. Group Discussion
2. Tryto solve MCQ's available online.

RECOMMENDED CONTINUOUS ASSESSMENT METHODS:

Some of the following suggested assessment methodologies could be adopted;

10. The oral and written examinations (Scheduled and surprise tests),
11. Closed-book and open-book tests,
12. Practical assignments and laboratory reports,
13. Observation of practical skills,
14. Individual and group project reports.
15. Efficient delivery using seminar presentations,
16. Viva-Voce interviews.
17. Computerized adaptive testing, literature surveys and evaluations,
18. Peers and self-assessment, outputs form individual and collaborative work

Course-9-C: Real Time Governance System (RTGS); Lab (Practical) Syllabus (15 Hrs)

(Since, the proposed SECs are connected to Computer Programming/Software Tools and Skill enhancement, the students need to get exposure on the syllabus content by practicing on the computer even though there is no formal assignment of credits and laboratory hours for practical sessions. So, as part of the Co-curricular activities and continuous assessment, students should be engaged in practicing on computer for at least 15 hours per semester.)

Note: Here the students have to gather the details in computer lab by surfing several websites & Google Search Engines and submit the report to the class/lab instructor before leaving the lab.

Week 1: Write a Report on the role of Nationwide Networking in E-Governance

Week 2: Write a Report on SETU: A Citizen Facilitation Centre in India, regarding it's successful or failure journey.

Week 3: Write a Report on National Cyber Security Policy, how it is useful to Indian citizens.

Week 4: Write a Report on mee-seva/Village Secretariat/Ward secretariat, a new paradigm in citizen services.

Week 5: Write a Report on how Andhra Pradesh is implementing RTGS in Agriculture.

Week 6: Write a Report on how Andhra Pradesh is implementing RTGS in social welfare schemes

Week 7: Write a Report on how Andhra Pradesh is implementing RTGS in waste lands, agricultural lands and house properties.

Week 8: Write a Report on Electronic Birth Registration in any one state of our country.

Note: The list of experiments need not be restricted to the above list. *Detailed list of Programming/software tool based exercises can be prepared by the concerned faculty members.*

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B.A/B.Com	Semester – V (Skill Enhancement Course- Elective)	Credits: 3T+2L
Course: 10-C	Multimedia Tools and Applications	Hrs/Wk: 3T+3L

Learning Outcomes:

Upon successful completion of the course, a student will be able to:

1. Gain knowledge on the concepts related to Multimedia.
2. Understand the concepts like image data representation and colour modes.
3. Understand the different types of video signals and digital audio.
4. Know about multimedia data compression types and audio compression standards
5. Know about basic video compression techniques.

Syllabus: (Total hours: 75 including Theory, Practical, Training, Unit tests etc.)

Unit-1: Introduction to multimedia: **12Hr**

1. What is Multimedia?
2. Components of Multimedia System
3. Multimedia and Hypermedia
4. Multimedia Authoring metaphors
5. Multimedia Production
6. Multimedia Presentation
7. Some Technical Design Issues
8. Automatic Authoring

Unit-2: Image Data Representations and color models: **12Hr**

1. Color science Human vision Image data types:
2. 2.Black & white images
   1-bit images (Binary image)
   8 -bit (Gray -level images)
3. Color images
   24-bit color images
   8-bit color images
4. Color models

Unit-3: Fundamental concepts in video: **12Hr**

1. Types of Video Signals
   Analog Video
   Digital Video

Basics of Digital Audio:

2. What is Sound?
   Digitization of Sound
   Quantization and Transmission of Audio
   Pulse code modulation
   Differential coding of audio
   Predictive coding

Unit-4:

Multimedia Data Compression: **13Hr**

1. Introduction
Basics of Information Theory
Lossless Compression Algorithms
Fix-Length Coding
Run-length coding
1.2.4 Dictionary-based coding
Variable Length Coding
Huffman Coding Algorithm

Audio Compression standards:

2. Introduction
Psychoacoustics model
MPEG Audio

Unit-5: Basic Video Compression Techniques: **11Hr**

1. Introduction to Video compression
2. Video compression standard H.261
3. Video compression standard MPEG-1

Text Books:

Fundamentals of Multimedia by Ze-Nian Li & Mark S. Drew. Publisher: Prentice Hall

Reference Books:

1. An introduction to digital multimedia by Savage, T. M. and Vogel, K. E. 2008.
2. Digital Multimedia by Nigel Chapman & Jenny Chapman. 2009.

Online Resources: https://ksuit342.wordpress.com/lectuers/
https://www.tutorialspoint.com/multimedia

Recommended Co-Curricular Activities (participation: total 15 weeks):

(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

A. **Measurable**
   1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
   2. Student seminars (on topics of the syllabus and related aspects (individual activity))
   3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))

4. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity))

B. General

1. Group Discussion
2. Others

RECOMMENDED CONTINUOUS ASSESSMENT METHODS:

Some of the following suggested assessment methodologies could be adopted;

1. The oral and written examinations (Scheduled and surprise tests),
2. Closed-book and open-book tests,
3. Programming exercises,
4. Observation of practical skills,
5. Efficient delivery using seminar presentations,
6. Viva voce interviews.
7. Computerized adaptive testing, literature surveys and evaluations,
8. Peers and self-assessment, outputs form individual and collaborative work

Suggested Software

1) Image Editing – GIMP
2) Audio Editing – Audacity
3) Video Editing – video pad
4) NCH software tools.

Course-10 C: Multimedia Tools and Applications; Lab (Practical) Syllabus (15 Hrs.)

(Since, the proposed SECs are connected to Computer Programming/Software Tools and Skill enhancement, the students need to get exposure on the syllabus content by practicing on the computer even though there is no formal assignment of credits and laboratory hours for practical sessions. So, as part of the Co-curricular activities and continuous assessment, students should be engaged in practicing on computer for at least 15 hours per semester.)

1. Editing images using GIMP
2. Improve the Quality of your Image in GIMP
3. Create an impressive background in GIMP
4. Applying Shadow & Highlight effects in images
5. Black& white and color photo conversion.

Note: The list of experiments need not be restricted to the above list. *Detailed list of Programming/software tool based exercises can be prepared by the concerned faculty members.*

B.A/B.Com	Semester – V (Skill Enhancement Course- Elective)	Credits: 4
Course: 11-C	Digital Imaging	Hrs/Wk: 3

Learning Outcomes:

Upon successful completion of the course, a student will be able to:

1. Gain knowledge about Types of Graphics, Types of Objects and Types of video editing tools
2. Show their skills in editing and altering photographs for through a basic understanding of the tool box.
3. Gain knowledge in using the layers.
4. Gain knowledge in using the selection tools, repair tools.
5. Gain knowledge in using selection tools, applying filters and can show their skills.

Syllabus: (Total hours: 75 including Theory, Practical, Training, Unit tests etc.)

UNIT-I **12 Hrs**

1. Types of Graphics

Raster vs Vector Graphics

2. Types of Objects

Audio formats

Video formats

Image formats

Text document formats

3. Types of video editing
4. Different color modes.
5. Image Scanner

Types of Image Scanners

UNIT-II **12 Hrs**

1. What is GIMP?
2. GIMP tool box window
3. Layers Dialog
4. Tool Options Dialog
5. Image window
6. Image window menus

UNIT-III **12 Hrs**

Improving Digital Photos

Opening files
Rescaling saving files
Cropping
Brightening & Darkening
Rotating
Sharpening

Introduction to layers

2. What is layer?
Using layer to add text
Using move tool
Changing colors
Simple effects on layers
2.5 Performing operations on layers
2.7 Using layers to copy and paste

UNIT-IV **12 Hrs**

Drawing:

Drawing lines and curves
Changing colors and brushes
Erasing
Drawing rectangles, Circles and other shapes
Outlining and filling regions
Filling with patterns and gradients

Selection:

Working with selections
Select by color and fuzzy
Select Bezier paths
2.5 Modifying selections with selection modes

UNIT-V **12 Hrs**

Erasing and Touching Up:

1.1 Dodge and burn tool
Clone tool
Sharpening using convolve tool
Correcting Color Balance

Filters:

Filters
Blur
Enhance
Noise Filters

References:

Textbook: Beginning GIMP from Novice to professional by Akkana Peck,
Second Edition, Apress

Recommended Co-Curricular Activities (participation: total 15 weeks):
(Co-curricular activities shall not promote copying from textbook or from others work and shall encourage self/independent and group learning)

A. Measurable

1. Assignments (in writing and doing forms on the aspects of syllabus content and outside the syllabus content. Shall be individual and challenging)
2. Student seminars (on topics of the syllabus and related aspects (individual activity))
3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))
4. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity))

B. General

1. Group Discussion
2. Others

RECOMMENDED CONTINUOUS ASSESSMENT METHODS:

Some of the following suggested assessment methodologies could be adopted;

1. The oral and written examinations (Scheduled and surprise tests),
2. Closed-book and open-book tests,
3. Programming exercises,
4. Observation of practical skills,
5. Efficient delivery using seminar presentations,
6. Viva voce interviews.
7. Computerized adaptive testing, literature surveys and evaluations,
8. Peers and self-assessment, outputs form individual and collaborative work

Course-11 C: DIGITAL IMAGING; Lab (Practical) Syllabus (15 Hrs.)

(Since, the proposed SECs are connected to Computer Programming/Software Tools and Skill enhancement, the students need to get exposure on the syllabus content by practicing on the computer even though there is no formal assignment of credits and laboratory hours for practical sessions. So, as part of the Co-curricular activities and continuous assessment, students should be engaged in practicing on computer for at least 15 hours per semester.)

1. Designing a Visiting card
2. Design Cover page of a book
3. Paper add for calling tenders
4. Design a Pamphlet
5. Brochure designing
6. Titles designing
7. Custom shapes creation
8. Image size modification
9. Background changes
10. Texture and patterns designing

Note: The list of experiments need not be restricted to the above list.
Detailed list of Programming/software tool based exercises can be prepared by the concernedfaculty members.

ADIKAVI NANNAYA UNIVERSITY:: RAJAHMAHENDRAVARAM
Four Year B.A./B.Com (Hons) - Semester – V (from 2022-23)
Subject: Computer Applications for Arts/Commerce
Course-6-C: MOBILE APPLICATION DEVELOPMENT
MODEL QUESTION PAPER (Sem-end. Exam)
(Skill Enhancement Course (Elective), 4credits)

Max.Marks:75 Time : 3Hrs

Section – A

Answer any 5 Questions. 5X5=25M

1.What is the need of Android?

2.Explain open headset alliance?

3.Write about operating system.

4.Discuss Android activities?

5. Define directory structure.

6.What are date pickers?

7. Discuss about Android platform services?

8. What are files?

Section – B

Answer all the questions. 5 X 10 = 50M

9. a) Explain about need of Android.

(or)

b) Explain about Tools and software required for developing an Application.

10. a) Detailed note on Android development tools.

(or)

b) Write about the looping statements in python with an example?

11 a) Explain about fundamentals of UIdesign?

(or)

b). Explain about text view.

12 a) What is android system architecture?

(or)

b) Explain the concept of Android Security model.

13 a) Explain the concept of MIT App Inventor

(or)

b) Explain the concept of Audio& Video.

ADIKAVI NANNAYA UNIVERSITY:: RAJAHMAHENDRAVARAM
Four Year B.A./B.Com (Hons) - Semester – V (from 2022-23)
Subject: Computer Applications for Arts/Commerce
Course-7-C: CYBER SECURITY AND MALWARE ANALYSIS
MODEL QUESTION PAPER (Sem-end. Exam)
(Skill Enhancement Course (Elective), 4 credits)

Max.Marks:75 Time : 3Hrs

Section – A

Answer any 5 Questions. 5X5=25M

1. What is cyber, cyber-crime and cyber-security?
2. List out the types of computer networks?
3. Write about the components of the framework.
4. Discuss the functions of NIST cyber security framework?
5. Define OWASP.
6. What is Indian IT ACT 2000?
7. Discuss about Ran some ware.
8. Discuss about VM ware.

Section – B

Answer all the questions. 5 X 10 = 50M

9. a) Explain the concept of OSI Reference model.

(or)

b) Discuss about Networking devices and all layer wise attacks.

10. a) What is NIST Cyber security framework? Explain the features of NIST Cyber security framework

(or)

b) Write about the looping statements in python with an example?

11 a) Explain about vulnerabilities of OWASP?

(or)

b). Explain about web application firewall.

12 a) What is Malware analysis? Explain the types of malware.

(or)

b) Explain the concept of Antivirus and firewalls.

13 a) Explain the concept of Cybercrime and the legal landscape around the world

(or)

b) Explain the concept of Challenges to Indian law and cybercrime scenario in India.

ADIKAVI NANNAYA UNIVERSITY:: RAJAHMAHENDRAVARAM
Four Year B.A./B.Com (Hons) - Semester – V (from 2022-23)
Subject: Computer Applications for Arts/Commerce
Course-8-C: E-COMMERCE APPLICATION DEVELOPMENT
MODEL QUESTION PAPER (Sem-end. Exam)
(Skill Enhancement Course (Elective), 4 credits)

Max.Marks:75 Time : 3Hrs

Section – A

Answer any 5 Questions. 5X5=25M

1. Distinguish between E-Business and E-Commerce.
2. Write about the history of Ecommerce.
3. Write about E-Commerce Strategy.
4. What are the influencing factors of Successful E-Commerce?
5. Write about Digital Economy.
6. Write about the design structure of HTML page.
7. Write about variables in PHP.
8. Write about Word press dash board.

Section – B

Answer all the questions. 5 X 10 = 50M

9. a) Explain about EDI importance, features & benefits of E-Commerce.

(or)

b) Write about Impacts, Challenges and Limitations of E-Commerce.

10. a) Explain about the Business models of E-Commerce.

(or)

b) Explain about Architectural framework of Electronic Commerce.

11 a) Write about EDI Communication, Implementation and Agreements.

(or)

b) Explain about E-Commerce payment system.

12 a) Explain about validation in java script with example.

(or)

b) Explain about A web site evaluation model.

13 a) Explain about adding photos, editing an existing post in word press..

(or)

b) Explain the usage of E-Commerce plug-in with example.

ADIKAVI NANNAYA UNIVERSITY:: RAJAHMAHENDRAVARAM
Four Year B.A./B.Com (Hons) - Semester – V (from 2022-23)
Subject: Computer Applications for Arts/Commerce
Course-9-C: REAL TIME GOVERNANCE SYSTEM (RTGS)
MODEL QUESTION PAPER (Sem-end. Exam)
(Skill Enhancement Course (Elective), 4 credits)

Max.Marks:75 Time : 3Hrs

Section-A

Answer Any Five Questions **5*5=25M**

1. Define RTGS
2. Explain about Good Governance
3. Short note on Knowledge Management Systems ϖ
4. Define Transaction Processing Systems
5. Define E-Governance in India.
6. What is Cloud Computing
7. Define Data Warehouse
8. Note on Commerce and Trade

Section-B

Answer ALL Questions **5*10=50M**

9.a. What is E-Governance? Objectives, Components, application domains?

OR

b. Write about the types of Real-Time Governance (RTG).

10.a. Write Note on Data Systems Infrastructure, Executive Information Systems and Management Information Systems.

OR

b.Explain Legal Infrastructural preparedness and Cyber Crime scenario in India.

11.a. Explain E-Governance, Country Experience of US.

OR

b. Explain E-Governance: Country Experience of INDIA.

12a. Explain case study E-Governance in India of state Andhra Pradesh.

OR

b.Explain case study E-Governance in India of Gujarat state.

13.a.Write Applications in Real Time Governance in Agriculture sector?

OR

b.Write Applications in Real Time Governance inEducation Sector.

ADIKAVI NANNAYA UNIVERSITY:: RAJAHMAHENDRAVARAM
Four Year B.A./B.Com (Hons) - Semester – V (from 2022-23)
Subject: Computer Applications for Arts/Commerce
Course-10-C: MULTIMEDIA TOOLS AND APPLICATIONS
MODEL QUESTION PAPER (Sem-end. Exam)
(Skill Enhancement Course (Elective), 4 credits)

Max.Marks:75 Time : 3Hrs

Section-A

Answer any Five Questions 5x5=25M

1. What is Multimedia?
2. What is Hypermedia?
3. Explain about Automatic Authoring.
4. Write note on Black & white images.
5. Explain Analog Video &Digital Video.
6. Define Digitization of Sound.
7. What is Lossless Compression Algorithms?
8. What is Video Compression?

Section-B

Answer All the Questions **5x10=50M**

9a.What is Multimedia?Components of Multimedia System explain in detail.

(OR)

9b.What is Multimedia and Hypermedia Explain Multimedia Authoring metaphors and Multimedia Production.

10a. Explain Black & white images in 1-bit images (Binary image) and 8 -bit (Gray -level images)

(OR)

10b. Explain about Colour images in 24-bit colour images and 8-bit colour images.

11a. Explain about Types of Video Signals.

(OR)

11b. Define Sound. What is Digitization of Sound Quantization and Transmission of Audio.

12a. Explain Lossless Compression Algorithms and Fix-Length Coding & Run-length coding?

(OR)

12b. Explain about Variable Length Coding 1.3.1 Shannon-Fano Algorithm 1.3.2 Huffman Coding Algorithm.

13a. Explain the procedure of Video compression standard H.261.

(OR)

13b. Explain the procedure of Video compression standard MPEG-1.

ADIKAVI NANNAYA UNIVERSITY:: RAJAHMAHENDRAVARAM
Four Year B.A./B.Com (Hons) - Semester – V (from 2022-23)
Subject: Computer Applications for Arts/Commerce
Course-11-C: DIGITAL IMAGING
MODEL QUESTION PAPER (Sem-end. Exam)
(Skill Enhancement Course (Elective), 4 credits)

Max.Marks:75 Time : 3Hrs

Section – A

Answer any 5 Questions 5X5=25M

1. List Different Types of Objects and Explain any Two.
2. Define GIMP.
3. List Different Layers of Dialog.
4. Explain the steps for Rescaling saved files.
5. Explain Red eye And Steps to remove Red Eye.
6. Define fuzzy.
7. List different Erasing and Touching tools.
8. List different Noise Filters.

Section – B

Answer All The Questions. 5 X 10 = 50M

9. a) Define Graphic ? Explain different types of Graphics in detail?

(OR)

Explain different Types of Objects in detail?

10. a) Explain about Image Window and , Image window menus?

(OR)

What is GIMP? Explain GIMP Tool Box Window in brief.

11 a) Explain about Cropping functionality, Brightening and Darkening of an image with neat Diagrams?

(OR)

Explain the Procedure of Fixing Red eye in detail for an Image?

12 a) Explain about Drawing lines and Curves Drawing Rectangles, Circles and other shapes?

(OR)

Explain the Working Procedure with selections Select by Colour and Fuzzy, and Bezier Paths?

13 a) Explain about Dodge and Burn tool , Smudging tool , Clone tool?

(OR)

Explain about Filters in detail.

UG PROGRAM (4 Years Honors)
CBCS - 2020-21

SUBJECT
BOTANY

Syllabus and Model Question Papers

UG Program (4 years Honors) Structure (CBCS)

2020-21 A. Y., onwards

BACHLOR OF SCIENCE

(3rd and 4th year detailed design will be followed as per APSCHE GUIDELINES)

Subjects/ Semesters		I		II		III		IV		V		VI		
		H/W	C	H/W	C	H/W	C	H/W	C	H/W	C	H/W	C	
Languages												THIRD PHASE of APPRENTICESHIP Entire 5th / 6th Semester		FIRST and SECOND PHASES (2 spells) of APPRENTICESHIP between 1st and 2nd year and between 2nd and 3rd year (two summer vacations).
English		4	3	4	3	4	3							
Language (H/T/S)		4	3	4	3	4	3							
Life Skill Courses		2	2	2	2	2+2	2+2							
Skill Development Courses		2	2	2+2	2+2	2	2							
Core Papers														
M-1	C1 to C5	4+2	4+1	4+2	4+1	4+2	4+1	4+2 4+2	4+1 4+1					
M-2	C1 to C5	4+2	4+1	4+2	4+1	4+2	4+1	4+2 4+2	4+1 4+1					
M-3	C1 to C5	4+2	4+1	4+2	4+1	4+2	4+1	4+2 4+2	4+1 4+1					
M-1	SEC (C6,C7)									4+2 4+2	4+1 4+1			
M-2	SEC (C6,C7)									4+2 4+2	4+1 4+1			
M-3	SEC (C6,C7)									4+2 4+2	4+1 4+1			
Hrs/ W (Academic Credits)		30	25	32	27	32	27	36	30	36	30	0	12	4	4
Project Work														
Extension Activities (Non Academic Credits)														
NCC/NSS/Sports/Extra Curricular									2					
Yoga							1		1					
Extra Credits														
Hrs/W (Total Credits)		30	25	32	27	32	28	36	33	36	30	0	12	4	4

M= Major; C= Core; SEC: Skill Enhancement Courses

Marks & Credits distribution: UG-Sciences

Sl. No	Course type	No. of courses	Each course teaching Hrs/wk	Credit for each course	Total credits	Each course evaluation			Total marks
						Conti-Assess	Univ-exam	Total	
1	English	3	4	3	9	25	75	100	300
2	S.Lang	3	4	3	9	25	75	100	300
3	LS	4	2	2	8	0	50	50	200
4	SD	4	2	2	8	0	50	50	200
5	Core/SE -I	5+2	4+2	4+1	35	25	75+50	150	1050
	Core/SE -II	5+2	4+2	4+1	35	25	75+50	150	1050
	Core/SE -III	5+2	4+2	4+1	35	25	75+50	150	1050
6	Summer-Intern	2		4	8		100	200	200
7	Internship/ Apprentice/ on the job training	1		12	12		200	200	200
		38			**159**				**4550**
8	**Extension Activities (Non Academic Credits)**								
	NCC/NSS/Sports/ Extra Curricular			2	2				
	Yoga	2		1	2				
	Extra Credits								
	Total	**40**			**142**				

DETAILS OF COURSE TITLES & CREDITS

Sem	Course No	Course Name	Course Type (T/P/L)	Hrs/Week	Credits	Max. Marks	Max. Marks
				Science: 4+2	Science: 4+2	Count/Internal/ Mid Assessment	Sem- End Exam
I	1	Fundamentals of Microbes and Non-vascular Plants	T	4	4	25	75
		Fundamentals of Microbes and Non-vascular Plants	L	2	1	-	50
II	2	Basics of Vascular plants and Phytogeography	T	4	4	25	75
		Basics of Vascular plants and Phytogeography	L	2	1	-	50
III	3	Anatomy and Embryology of Angiosperms, Plant Ecology and Biodiversity	T	4	4	25	75
		Anatomy and Embryology of Angiosperms, Plant Ecology and Biodiversity	L	2	1	-	50
IV	4	Plant Physiology and Metabolism	T	4	4	25	75
		Plant Physiology and Metabolism	L	2	1	-	50
	5	Cell Biology, Genetics and Plant Breeding	T	4	4	25	75
		Cell Biology, Genetics and Plant Breeding	L	2	1	-	50
V	6A	Plant Propagation	T	4	4	25	75
		Plant Propagation Lab	L	2	1	-	50
	7A	Seed Technology	T	4	4	25	75
		Seed Technology Lab	L	2	1	-	50
	OR						
	6B	Vegetable Crops – Cultivation Practices	T	4	4	25	75
		Vegetable Crops – Cultivation Practices Lab	L	2	1	-	50
	7B	Vegetable Crops – Post Harvest Practices	T	4	4	25	75
		Vegetable Crops – Post harvest Practices Lab	L	2	1	-	50
	OR						
	6C	Plant Tissue Culture	T	4	4	25	75
		Plant Tissue Culture Lab	L	2	1	-	50
	7C	Mushroom Cultivation	T	4	4	25	75
		Mushroom Cultivation Lab	L	2	1	-	50
	OR						
	6D	Gardening and Landscaping	T	4	4	25	75
		Gardening and Landscaping Lab	L	2	1	-	50
	7D	Agro forestry	T	4	4	25	75
		Agro forestry Lab	L	2	1	-	50

Note: *Course type code: T: Theory, L: Lab, P: Problem solving

Note 1: For Semester–V, for the domain subject **BOTANY**, any one of the three pairs of SECs shall be chosen as courses 6 and 7, i.e., 6A & 7A or 6B & 7B or 6C & 7C or 6D &7D. The pair shall not be broken (ABCD allotment is random, not on any priority basis).

Note 2: One of the main objectives of Skill Enhancement Courses (SEC) is to inculcate field skills related to the domain subject in students. The syllabus of SEC will be partially skill oriented. Hence, teachers shall also impart practical training to students on the field skills embedded in the syllabus citing related real field situations.

Note 3: To insert assessment methodology for Internship/ on the Job Training/Apprenticeship under the revised CBCS as per APSCHE Guidelines.

- **First internship (After 1st Year Examinations):** Community Service Project. To inculcate social responsibility and compassionate commitment among the students, the summer vacation in the intervening 1st and 2nd years of study shall be for Community Service Project (the detailed guidelines are enclosed).
- **Credit For Course: 04**

- **Second Internship (After 2nd Year Examinations):** Apprenticeship / Internship / on the job training / In-house Project / Off-site Project. To make the students employable, this shall be undertaken by the students in the intervening summer vacation between the 2nd and 3rd years (the detailed guidelines are enclosed).
- **Credit For Course: 04**

- **Third internship/Project work (6th Semester Period):**
  During the entire 6th Semester, the student shall undergo Apprenticeship / Internship / On the Job Training. This is to ensure that the students develop hands on technical skills which will be of great help in facing the world of work (the detailed guidelines are enclosed).
- **Credit For Course:12**

Annexure

Objectives and General Outcomes of Programme and Domain Subject

Programme(B.Sc.) Objectives: The objectives of bachelor's degree programmewith Botany are:

1. To provide a comprehensive knowledge on various aspects related to microbes and plants.
2. To deliver knowledge on latest developments in the field of Plant sciences with a practical approach.
3. To produce a student who thinks independently, critically and discuss various aspects of plant life.
4. To enable the graduate to prepare and pass through national and international examinations related to Botany.
5. To empower the student to become an employee or an entrepreneur in the field of Botany /Biology and to serve the nation.

Programme Outcomes :

1. Understand the basic concepts of Botany in relation to its allied core courses.
2. Perceive the significance of microbes and plants for human welfare, and structural and functional aspects of plants.
3. Demonstrate simple experiments related to plant sciences, analyze data, and interpret them with the theoretical knowledge.
4. Work in teams with enhanced inter-personal skills.
5. Develop the critical thinking with scientific temper.
6. Effectively communicate scientific ideas both orally and in writing.

Domain Subject(Botany) Objectives :

1. To impart knowledge on origin, evolution, structure, reproduction and interrelationships of microbes and early plant groups.
2. To provide knowledge on biology and taxonomy of true land plants within a phylogenetic framework.
3. To teach aspects related to anatomy, embryology and ecology of plants, and importance of Biodiversity.
4. To explain the structural and functional aspects of plants with respect to the cell organelles, chromosomes and genes, and methods of plant breeding.
5. To develop a critical understanding on SPAC, metabolism and growth and development in plants.
6. To enable the students proficient in experimental techniques and methods of analysis appropriate for various sub-courses in Botany.

Domain Subject(Botany) Outcomes:

1. Students will be able to identify, compare and distinguish various groups of microbes and primitive plants based on their characteristics.
2. Students will be able to explain the evolution of trachaeophytes and also distribution of plants on globe.
3. Students will be able to discuss on internal structure, embryology and ecological adaptations of plants, and want of conserving Biodiversity.
4. Students will be able to interpret life processes in plants in relation to physiology and metabolism.
5. Students will be able to describe ultrastructure of plant cells, inheritance and crop improvement methods.
6. Students will independently design and conduct simple experiments based on the knowledge acquired in theory and practicals of the different sub-courses in Botany.

B.Sc.	Semester - I	Credits: 4
Course: 1	Fundamentals of Microbes and Non-vascular Plants	Hrs/Wk: 4

Learning Outcomes: On successful completion of this course, the students will be able to:

- Explain origin of life on the earth.
- Illustrate diversity among the viruses and prokaryotic organisms and can categorize them.
- Classify fungi, lichens, algae and bryophytes based on their structure, reproduction and life cycles.
- Analyze and ascertain the plant disease symptoms due to viruses, bacteria and fungi.
- Recall and explain the evolutionary trends among amphibians of plant kingdom for their shift to land habitat.
- Evaluate the ecological and economic value of microbes, thallophytes and bryophytes

UNIT I: Origin of life and Viruses: 12Hrs.

1. Origin of life, concept of primary Abiogenesis; Miller and Urey experiment. Five kingdom classification of R.H. Whittaker
2. Discovery of microorganisms, Pasteur experiments, germ theory of diseases.
3. Shape and symmetry of viruses; structure of TMV and Gemini virus; multiplication of TMV; A brief account of Prions and Viroids.
4. A general account on symptoms of plant diseases caused by Viruses. Transmission of plant viruses and their control.
5. Significance of viruses in vaccine production, bio-pesticides and as cloning vectors.

UNIT II: Special groups of Bacteria and Eubacteria 12Hrs.

1. Brief account of Archaebacteria, Actinomycetes and Cyanobacteria.
2. Cell structure and nutrition of Eubacteria.
3. Reproduction- Asexual (Binary fission and end oospores) and bacterial recombination (Conjugation, Transformation, Transduction).
4. Economic importance of Bacteria with reference to their role in Agriculture and industry (fermentation and medicine).
5. A general account on symptoms of plant diseases caused by Bacteria; Citrus canker.

UNIT III: Fungi & Lichens 12 Hrs.

1. General characteristics of fungi and Ainsworth classification (upto classes).
2. Structure, reproductionand life history of(a)*Rhizopus*(Zygomycota)and (b)*Puccinia* (Basidiomycota).
3. Economic uses of fungi in food industry, pharmacy and agriculture.
4. A general account on symptoms of plant diseases caused by Fungi; Blast of Rice.
5. Lichens- structure and reproduction; ecological and economic importance.

UNIT IV: Algae 12 Hrs.

1. General characteristics of Algae (pigments, flagella and reserve food material);Fritsch classification (upto classes).
2. Thallus organization and life cycles in Algae.
3. Occurrence, structure, reproduction and life cycle of (a) *Spirogyra* (Chlorophyceae) and (b) *Polysiphonia*(Rhodophyceae).
4. Economic importance of Algae.

UNIT V: Bryophytes **12 Hrs.**

1. General characteristics of Bryophytes; classification upto classes.
2. Occurrence, morphology, anatomy, reproduction (developmental details are not needed) and life cycle of (a) *Marchantia* (Hepaticopsida) and (b) *Funaria*(Bryopsida).
3. General account on evolution of sporophytes in Bryophyta.

TEXT BOOKS :

1. Botany – I (Vrukshasastram-I) : Telugu Akademi, Hyderabad
2. Pandey, B.P. (2013) *College Botany, Volume-I*, S. Chand Publishing, New Delhi
3. Hait,G., K.Bhattacharya&A.K.Ghosh (2011) *A Text Book of Botany, Volume-I,* New Central Book Agency Pvt. Ltd., Kolkata .
4. Bhattacharjee, R.N., (2017) *Introduction to Microbiology and Microbial Diversity*, Kalyani Publishers, New Delhi.

REFERENCE BOOKS:

1. Dubey, R.C. &D.K.Maheswari (2013) *A Text Book of Microbiology*,S.Chand& Company Ltd., New Delhi
2. Pelczar Jr., M.J., E.C.N. Chan &N.R.Krieg (2001)*Microbiology*, Tata McGraw- Hill Co, New Delhi.
3. Presscott, L. Harley, J. and Klein, D. (2005)*Microbiology, 6th edition*, Tata McGraw –Hill Co. New Delhi.
4. Alexopoulos, C.J., C.W.Mims&M.Blackwell (2007) *Introductory Mycology*,Wiley& Sons, Inc., New York
5. Mehrotra, R.S. & K. R. Aneja (1990)*An Introduction to Mycology*. New Age International Publishers, New Delhi
6. Kevin Kavanagh (2005) *Fungi ; Biology and Applications* John Wiley & Sons, Ltd.,West Sussex, England
7. John Webster & R. W. S. Weber (2007) *Introduction to Fungi*,Cambridge University Press, New York
8. Fritsch, F.E. (1945)*The Structure & Reproduction of Algae (Vol. I & Vol. II)*Cambridge UniversityPress Cambridge, U.K.
9. Bold, H.C. & M. J. Wynne (1984)*Introduction to the Algae,* Prentice-Hall Inc., New Jersey
10. Robert Edward Lee (2008)*Phycology.* Cambridge University Press, New York
11. Van Den Hoek, C., D.G.Mann&H.M.Jahns (1996)*Algae : An Introduction to Phycology*. Cambridge University Press, New York
12. Shaw, A.J.&B.Goffinet (2000)*Bryophyte Biology.*Cambridge University Press, New York.

B.Sc.	Semester - I	Credits: 1
Course: 1(L)	Fundamentals of Microbes and Non-vascular Plants Lab	Hrs/Wk: 2

Course Outcomes: On successful completion of this practical course, student shall be able to;

1. Demonstrate the techniques of use of lab equipment, preparing slides and identify the material and draw diagrams exactly as it appears.
2. Observe and identify microbes and lower groups of plants on their own.
3. Demonstrate the techniques of inoculation, preparation of media etc.
4. Identify the material in the permanent slides etc.

Practical Syllabus:

1. Knowledge of Microbiology laboratory practices and safety rules.
2. Knowledge of different equipment for Microbiology laboratory (Spirit lamp, Inoculation loop, Hot-air oven, Autoclave/Pressure cooker, Laminar air flow chamber and Incubator) and their working principles. (In case of the non- availability of the laboratory equipment the students can be taken to the local college/clinical lab. with required infrastructural facilities or they can enter a linkage with the college/lab for future developments and it will fetch creditsduring the accreditation by NAAC).
3. Demonstration of Gram's staining technique for Bacteria.
4. Study of Viruses (Corona, Gemini and TMV) using electron micrographs/ models.
5. Study of Archaebacteriaand Actinomycetes using permanent slides/ electron micrographs/diagrams.
6. Study of *Anabaena* and *Oscillatoria*using permanent/temporary slides.
7. Study of different bacteria (Cocci, Bacillus, Vibrio and Spirillum) using permanent or temporary slides/ electron micrographs/ diagrams.
8. Study/ microscopic observation of vegetative, sectional/anatomical and reproductive structures of the following using temporary or permanent slides/ specimens/ mounts :
   a. Fungi : *Rhizopus*,*Penicillium*and*Puccinia*
   b. Lichens: Crustose, foliose and fruiticose
   c. Algae :*Volvox, Spirogyra, Ectocarpus*and *Polysiphonia*
   d. Bryophyta : *Marchantia*and *Funaria*
9. Study of specimens of Tobacco mosaic disease, Citrus canker and Blast of Rice.

Model Question Paper for Practical Examination
Semester – I/ Botany Core Course – 1
Fundamentals of Microbes and Non-vascular Plants Lab
(Viruses, Bacteria, Fungi, Lichens, Algae and Bryophytes)

Max. Time : 3 Hrs. **Max. Marks : 50**

1. Take the T.S. of material 'A' (Fungi), make a temporary mount and make comments about identification. 10 M
2. Identify any 2 algae from the mixture (material 'B') given with specific comments about identification. 10 M
3. Take the T.S. of material 'C' (Bryophyta), make a temporary mount and make comments about identification. 10 M
4. Identify the following with specific reasons. 4x 3 = 12 M
   D. A laboratory equipment of Microbiology
   E. Virus
   F. Archaebacteria /Ascomycete /Cyanobacteria/ Eu-Bacteria
   G. Lichen
5. Record + Viva-voce 5+3 = 8 M

Suggested co-curricular activities for Botany Core Course-1 in Semester-I :

A. Measurable :

a. Student seminars :

1. Baltimore classification of Viruses.
2. Lytic and lysogenic cycle of T- even Bacteriophages.
3. Viral diseases of humans and animals.
4. Retroviruses
5. Bacterial diseases of humans and animals.
6. Significance of Bacteria in Biotechnology and Genetic engineering.
7. Fungi responsible for major famines in the world.
8. Poisonous mushrooms (Toad stools).
9. Algae as Single Cell Proteins (SCPs)
10. Parasitic algae
11. Origin of Bryophytes through : Algae vsPteridophytes
12. Fossil Bryophytes
13. Evolution of gametophytes in Bryophyta.
14. Ecological and economic importance of Bryophytes.

b. Student Study Projects :

1. Isolation and identification of microbes from soil, water and air.
2. Collection and identification of algae from fresh /estuarine /marine water.
3. Collection and identification of fruiting bodies of Basidiomycetes and Ascomycetes.
4. Collection and identification of Lichens from their native localities.
5. Collection of diseased plants/parts and identification of symptoms.
6. Collection and identification of Bryophytes from their native localities.

c. Assignments: Written assignment at home / during '0' hour at college; preparation of charts with drawings, making models etc., on topics included in syllabus.

B. General :

1. Visit to Agriculture and/or Horticulture University/College/Research station to learn about microbial diseases of plants.
2. Visit to industries working on microbial, fungal and algal products.
3. Group Discussion (GD)/ Quiz/ Just A Minute (JAM) on different modules in syllabus of the course.

B.Sc.	Semester - II	Credits: 4
Course: 2	Basics of Vascular plants and Phytogeography	Hrs/Wk: 4

Learning Outcomes: On successful completion of this course, the students will be able to:

- Classify and compare Pteridophytes and Gymnosperms based on their morphology, anatomy, reproduction and life cycles.
- Justify evolutionary trends in tracheophytes to adapt for land habitat.
- Explain the process of fossilization and compare the characteristics of extinct and extant plants.
- Critically understand various taxonomical aids for identification of Angiosperms.
- Analyze the morphology of the most common Angiosperm plants of their localities and recognize their families.
- Evaluate the ecological, ethnic and economic value of different tracheophytes and summarize their goods and services for human welfare.
- Locate different phytogeographical regions of the world and India and can analyze their floristic wealth.

UNIT I: Pteridophytes **12 Hrs.**

1. General characteristics of Pteridophyta; classification of Smith (1955)up to divisions.
2. Occurrence, morphology, anatomy, reproduction (developmental details are not needed) and life historyof (a) *Lycopodium* (Lycopsida) and (b) *Marsilea* (Filicopsida).
3. Stelar evolution in Pteridophytes;
4. Heterospory and seed habit.

UNIT II: Gymnosperms **14 Hrs.**

1. General characteristics of Gymnosperms; Sporne classification up to classes.
2. Occurrence, morphology, anatomy, reproduction (developmental details are not needed) and life history of (a) *Cycas*(Cycadopsida) and (b) *Gnetum* (Gnetopsida).
3. Outlines of geological time scale.
4. A brief account on *Cycadeoidea.*

UNIT III: Basic aspects of Taxonomy **13Hrs.**

1. Aim and scope of taxonomy; Species concept: Taxonomic hierarchy, species, genus and family.
2. Plant nomenclature : Binomial system, ICBN- rules for nomenclature.
3. Herbarium and its techniques, BSI herbarium and Kew herbarium; concept of digital herbaria.
4. Bentham and Hooker system of classification;
5. Systematic description and economic importance of the following families:
   (a) Annonaceae (b) Curcurbitaceae

UNIT IV: Systematic Taxonomy **13 Hrs.**

1. Systematic description and economic importance of the following families:
   (a) Asteraceae (b) Asclepiadaceae (c)Amaranthaceae (d) Euphorbiaceae
   (e) Arecaceae and (f) Poaceae
2. Outlines of Angiosperm Phylogeny Group (APG IV).

UNIT V: Phytogeography **08 Hrs.**

1. Principles of Phytogeography, Distribution (wides, endemic, discontinuous species)
2. Endemism – types and causes.
3. Phytogeographic regions of World.
4. Phytogeographic regions of India.
5. Vegetation types in Andhra Pradesh.

TEXT BOOKS :

1. Botany – I (Vrukshasastram-I) : Telugu Akademi, Hyderabad
2. Botany – II (Vrukshasastram-II) : Telugu Akademi, Hyderabad
3. Acharya, B.C., (2019) *Archchegoniates,* Kalyani Publishers, New Delhi
4. Bhattacharya, K., G. Hait&Ghosh, A. K., (2011) *A Text Book of Botany, Volume- II,* New Central Book Agency Pvt. Ltd., Kolkata
5. Hait,G., K.Bhattacharya&A.K.Ghosh (2011) *A Text Book of Botany, Volume-I,* New Central Book Agency Pvt. Ltd., Kolkata
6. Pandey, B.P. (2013)*College Botany, Volume-I,* S. Chand Publishing, New Delhi
7. Pandey, B.P. (2013)*College Botany, Volume-II,* S. Chand Publishing, New Delhi

REFERENCE BOOKS:

1. Smith, G.M. (1971)*CryptogamicBotanyVol. II*., Tata McGraw Hill, New Delhi
2. Sharma,O.P.(2012)Pteridophyta. Tata McGraw-Hill, New Delhi
3. Kramer, K.U.&P. S. Green (1990) *The Families and Genera of Vascular Plants, Volume–I*: *Pteridophytes and Gymnosperms*(Ed.K.Kubitzki) Springe-Verlag, New York
4. Bhatnagar, S.P. &AlokMoitra (1996)*Gymnosperms*. New Age International, New Delhi
5. Coulter, J.M. &C.J.Chamberlain(1910) *Morphology of Gymnosperms,*The University of Chicago Press, Chicago, Illinois
6. Govil, C.M. (2007)*Gymnosperms : Extinct and Extant*. KRISHNA Prakashan Media (P) Ltd.Meerut& Delhi
7. Sporne, K.R.(1971)*The Morphology of Gymnosperms.*Hutchinsons Co. Ltd., London
8. Arnold, C.A., (1947) *An introduction to Paleobotany*McGraw –Hill Book Company,INC, New York
9. Stewart,W.N., and G.W.Rothwell (2005) *Paleobotany and the evolution of plants*Cambridge University Press, New York
10. Lawrence, George H.M. (1951) *Taxonomy of Vascular Plants.* The McMillan Co., New York
11. Heywood, V. H. and D. M. Moore (1984)*Current Concepts in Plant Taxonomy.* Academic Press, London.
12. Jeffrey, C. (1982)*An Introduction to Plant Taxonomy.* Cambridge University Press, Cambridge. London.
13. Sambamurty, A.V.S.S. (2005)*Taxonomy of Angiosperms* I. K .International Pvt. Ltd., New Delhi
14. Singh, G. (2012*). Plant Systematics: Theory and Practice.*Oxford & IBH Pvt. Ltd., NewDelhi.
15. Simpson, M.G. (2006). *Plant Systematics.* Elsevier Academic Press, San Diego, CA,U.S.A.
16. Cain, S.A . (1944)*Foundations of Plant Geography*Harper & Brothers, N.Y.
17. Good, R. (1997)*The Geography of flowering Plants (2nd Edn.)*Longmans, Green & Co., Inc., London & Allied Science Publishers, New Delhi
18. Mani, M.S (1974)*Ecology & Biogeography of India*Dr. W. Junk Publishers, The Haque

B.Sc.	Semester - II	Credits: 1
Course: 2(L)	Basics of Vascular plants and Phytogeography Lab	Hrs/Wk: 2

Course Outcomes : On successful completion ofthiscourse students shall be able to :

- Demonstrate the techniques of section cutting, preparing slides, identifying of the materialand drawing exact figures.
- Compare and contrast the morphological, anatomical and reproductive features of vascular plants.
- Identify the local angiosperms of the families prescribed to their genus and species level and prepare herbarium.
- Exhibit skills of preparing slides, identifying the given twigs in the lab and drawing figures of plant twigs, flowers and floral diagrams as they are.
- Prepare and preserve specimens of local wild plants using herbarium techniques.

Practical Syllabus:

1. Study/ microscopic observation of vegetative, sectional/anatomical and reproductive structures of the following using temporary or permanent slides/ specimens/ mounts :
   a. Pteridophyta : *Lycopodium* and *Marselia*

   b. Gymnosperms : *Cycas*and *Gnetum*
2. Study of fossil specimens of *Cycadeoidea* and *Pentoxylon*(photographs /diagrams can be shown if specimens are not available).
3. Demonstration of herbarium techniques.
4. Systematic / taxonomicstudy of locally available plants belonging to the families prescribed in theory syllabus. (Submission of 30 number of Herbarium sheets of wild plants with the standard system is mandatory).
5. Mapping of phytogeographical regions of the globe and India.

Model Question Paper for Practical Examination

Semester – II/ Botany Core Course – 2

Basics of Vascular plants and Phytogeography

(Pteridophytes, Gymnosperms,Taxonomy of Angiosperms and Phytogeography)

Time : 3 Hrs. **Max. Marks : 50**

1. Take T.S. of the material 'A' (Pteridophyta), make a temporary slide and justify the identification with apt points. 10 M
2. Take T.S. of the material 'B' (Gymnosperms), make a temporary slide and justify the identification with apt points. 10 M
3. Describe the vegetative and floral characters of the material 'C' (Taxonomy of Angiosperms) and derive its systematic position. 10 M
4. Identify the specimen 'D' (Fossil Gymnosperm) and give specific reasons. 5 M
5. Locate the specified phytogeographical regions (2x2M) in the world / India (E) map supplied to you. 4 M
6. Record + Herbarium & Field note book + Viva-voce 5 +4+3 = 12 M

Suggested co-curricular activities for Botany Core Course-2 in Semester-II :

A. Measurable :

a. Student seminars :

1. Fossil Pteridophytes.
2. Aquatic ferns and tree ferns
3. Ecological and economic importance of Pteridophytes
4. Evolution of male and female gametophytes in Gymnosperms.
5. Endemic and endangered Gymnosperms.
6. Ecological and economic importance of Gymnosperms.
7. Floras and their importance :Flora of British India and Flora of Madras Presidency.
8. Botanical gardens and their importance :National Botanic garden and Royal Botanic garden.
9. Artificial, Natural and Phylogenetic classification systems.
10. Molecular markers used in APG system of classification.
11. Vessel less angiosperms.
12. Insectivorous plants.
13. Parasitic angiosperms.
14. Continental drift theory and species isolation.

b. Student Study Projects :

1. Collection and identification of Pteridophytes from their native locality/ making an album by collecting photographs of Pteridophytes.
2. Collection and identification of Gymnospermsfrom their native locality/ making an album by collecting photographs of Gymnosperms.
3. Collection of information on famous herbaria in the world and preparation of a report.
4. Collection of information on famous botanic gardens in the world and preparation of a report.
5. Collection of data on vegetables (leafy and fruity) plants in the market and and preparation of a report on their taxonomy.
6. Collection and identification of fresh and dry fruits plants in the market and and preparation of a report on their taxonomy.
7. Collection of data on plants of ethnic and ethnobotanical importance from theirnative locality.
8. Preparation of a local flora by enlisting the plants of their native place.

c. Assignments: Written assignment at home / during '0' hour at college; preparation of charts with drawings, making models etc., on topics included in syllabus.

B. General :

1. Visit to Botanic garden in a Research institute/University to see the live plants.
2. Virtual tour in websites for digital herbaria and botanic gardens.
3. Acquaint with standard floras like – Flora of Madras Presidency, Flora of their respective district in Andhra Pradesh.
4. Looking into vegetation of different phytogeographical regions using web resources.
5. Group Discussion (GD)/ Quiz/ Just A Minute (JAM) on different modules in syllabus of the course.

B.Sc.	Semester - III	Credits: 4
Course: 3	Anatomy and Embryology of Angiosperms, Plant Ecology and Biodiversity	Hrs/Wk: 4

Learning outcomes: On successful completion of this course, the students will be able to;

1. Understand on the organization of tissues and tissue systems in plants.
2. Illustrate and interpret various aspects of embryology.
3. Discuss the basic concepts of plant ecology, and evaluate the effects of environmental and biotic factors on plant communities.
4. Appraise various qualitative and quantitative parameters to study the population and community ecology.
5. Correlate the importance of biodiversity and consequences due to its loss.
6. Enlist the endemic/endangered flora and fauna from two biodiversity hot spots in India and assess strategies for their conservation

UNIT I: Anatomy of Angiosperms **12 Hrs.**

1. Organization of apical meristems: Tunica-carpus theory and Histogen theory.
2. Tissue systems–Epidermal, ground and vascular.
3. Anomalous secondary growth in *Boerhaavia* and *Dracaena.*
4. Study of timbers of economic importance - Teak, Red sanders and Rosewood.

UNIT II: Embryology of Angiosperms **12 Hrs.**

1. Structure of anther, anther wall, types of tapetum. Microsporogenesis and development of male gametophyte.
2. Structure of ovule, megasporogenesis; monosporic (*Polygonum*), bisporic (*Allium*) and tetrasporic (*Peperomia*) types of embryo sacs.
3. Outlines of pollination, pollen – pistil interaction and fertilization.
4. Endosperm - Types and biological importance - Free nuclear, cellular,helobialand ruminate.
5. Development of Dicot (*Capsella bursa-pastoris*) embryo.

UNIT III: Basics of Ecology **12 Hrs.**

1. Ecology: definition, branches and significance of ecology.
2. Ecosystem: Concept and components, energy flow, food chain, food web, ecologicalpyramids.
3. Plants and environment: Climatic (light and temperature), edaphic and biotic factors.
4. Ecological succession:Hydrosere and Xerosere.

UNIT IV: Population, Community and Production Ecology **12 Hrs.**

1. Population ecology: Natality, mortality, growth curves, ecotypes, ecads
2. Community ecology: Frequency, density, cover, life forms, biological spectrum
3. Concepts of productivity: GPP, NPP and Community Respiration
4. Secondary production, P/R ratio and Ecosystems.

UNIT V: Basics of Biodiversity **12 Hrs.**

1. Biodiversity: Basic concepts, Convention on Biodiversity - Earth Summit.
2. Value of Biodiversity; types and levels of biodiversity and Threats to biodiversity
3. Biodiversity Hot spots in India.Biodiversity in North Eastern Himalayas and Western Ghats.
4. Principles of conservation: IUCN threat-categories, RED data book
5. Role of NBPGR and NBA in the conservation of Biodiversity.

TEXT BOOKS :

1. Botany – III (Vrukshasastram-I) : Telugu Akademi, Hyderabad
2. Botany – IV (Vrukshasastram-II) : Telugu Akademi, Hyderabad
3. Pandey, B.P. (2013) *College Botany, Volume-II,* S. Chand Publishing, New Delhi
4. Pandey, B.P. (2013) *College Botany, Volume-III,* S. Chand Publishing, New Delhi
5. Bhattacharya, K., G. Hait&Ghosh, A. K., (2011) *A Text Book of Botany, Volume- II,* New Central Book Agency Pvt. Ltd., Kolkata

REFERENCE BOOKS:

1. Esau, K. (1971)*Anatomy of Seed Plants.* John Wiley and Son, USA.
2. Fahn, A. (1990)*Plant Anatomy,* Pergamon Press, Oxford.
3. Cutler, D.F., T. Botha & D. Wm. Stevenson (2008)*Plant Anatomy : An Applied Approach*, Wiley, USA.
4. Paula Rudall (1987)*Anatomy of Flowering Plants : An Introduction to Structure and Development.* Cambridge University Press, London
5. Bhojwani, S. S. and S. P. Bhatnagar (2000)*The Embryology of Angiosperms (4thEd.),*Vikas Publishing House, Delhi.
6. Pandey, A. K. (2000) *Introduction to Embryology of Angiosperms*. CBS Publishers & Distributors Pvt. Ltd. , New Delhi
7. Maheswari, P. (1971)*An Introduction to Embryology of Angiosperms*. McGraw Hill Book Co., London.
8. Johri, B.M. (2011)*Embryology of Angiosperms.* Springer-Verlag, Berlin
9. Pandey, B.P. (2013)*College Botany, Volume-III,* S. Chand Publishing, New Delhi
10. Bhattacharya, K., A. K. Ghosh, & G. Hait (2011) *A Text Book of Botany, Volume- IV,* New Central Book Agency Pvt. Ltd., Kolkata
11. Kormondy, Edward J. (1996) *Concepts of Ecology,*Prentice-Hall of India Private Limited, New Delhi
12. Begon, M., J.L. Harper & C.R. Townsend (2003) *Ecology,* Blackwell Science Ltd., U.S.A
13. Eugene P. Odum (1996)*Fundamentals of Ecology,*Natraj Publishers, Dehradun
14. Sharma, P.D. (2012) *Ecology and Environment*. Rastogi Publications, Meerut, India.
15. N.S.Subrahmanyam& A.V.S.S. Sambamurty (2008)*Ecology*Narosa Publishing House, New Delhi
16. A. K. Agrawal& P.P. Deo (2010) *Plant Ecology,*Agrobios (India), Jodhpur
17. Kumar, H.D. (1992) *Modern Concepts of Ecology (7th Edn.,)*Vikas Publishing Co., New Delhi.
18. Newman, E.I. (2000): *Applied Ecology*Blackwell Scientific Publisher, U.K.
19. Chapman, J.L&M.J. Reiss (1992): *Ecology - Principles & Applications.*Cambridge University Press, U.K.
20. Kumar H.D. (2000)*Biodiversity & Sustainable Conservation* Oxford & IBH Publishing Co Ltd. New Delhi.
21. U. Kumar (2007) *Biodiversity : Principles & Conservation,*Agrobios (India), Jodhpur

B.Sc.	Semester - III	Credits: 1
Course: 3(L)	Anatomy and Embryology of Angiosperms, Plant Ecology and Biodiversity Lab	Hrs/Wk: 2

Course Outcomes: On successful completion of this practical course students shall be able to :

- Get familiarized with techniques of section making, staining and microscopic study of vegetative, anatomical and reproductive structure of plants.
- Observe externally and under microscope, identify and draw exact diagrams of the material in the lab.
- Demonstrate application of methods in plant ecology and conservation of bio diversity and qualitative and quantitative aspects related to populations and communities of plants.

Practical Syllabus

1. Tissue organization in root and shoot apices using permanent slides.
2. Anomalous secondary growth in stems of *Boerhavia* and *Dracaena*.
3. Study of anther and ovule using permanent slides/photographs.
4. Study of pollen germination and pollen viability.
5. Dissection and observation of Embryo sac haustoria in *Santalum* or *Argemone.*
6. Structure of endosperm (nuclear and cellular) using permanent slides / Photographs.
7. Dissection and observation of Endosperm haustoria in *Crotalaria* or *Coccinia*.
8. Developmental stages of dicot and monocot embryos using permanent slides / photographs.
9. Study of instruments used to measure microclimatic variables; soil thermometer, maximum and minimum thermometer, anemometer, rain gauze, and lux meter. (visit to the nearest/local meteorology station where the data is being collected regularly and record the field visit summary for the submission in the practical).
10. Study of morphological and anatomical adaptations of hydrophytes and xerophytes (02 each).
11. Quantitative analysis of herbaceous vegetation in the college campus for frequency, density and abundance.
12. Identification of vegetation/various plants in college campus and comparison with Raunkiaer's frequency distribution law.
13. Find out the alpha-diversity of plants in the area
14. Mapping of biodiversity hotspots of the world and India.

Model paper for Practical Examination

Semester – III/ BotanyCore Course – 3

Anatomy and Embryology of Angiosperms, Plant Ecology and Biodiversity

Max. Time : 3 Hrs. Max. Marks : 50

1. Take T.S. of the material 'A' (Anatomy), prepare a temporary slide and justify the identification with specific reasons. 10 M
2. Write the procedure for the experiment 'B' (Embryology) and demonstrate the same. 10 M
3. Take T.S. of the material 'C', prepare a temporary slide and justify the identification with specific reasons. 10 M
4. Identify the following with specific reasons. 4 x 3 = 12 M
   a. Anatomy/Embryology
   b. Ecology instrument
   c. Mapping of Biodiversity hot spot
   d. Endemic/endangered plant/animal
5. Record + Viva-voce 5 + 3 = 8 M

Suggested co-curricular activities for Botany CoreCourse-3 in Semester-III :

A. Measurable :

a. Student seminars :

1. Anatomy in relation to taxonomy of Angiosperms.
2. Nodal anatomy
3. Floral anatomy
4. Embryology in relation to taxonomy of Angiosperms.
5. Apomictics and polyembryony.
6. Biogeochemical cycles- Carbon, Nitrogen and Phosphorous.
7. Deforestation and Afforestation.
8. Green house effect and ocean acidification.
9. The Montreal protocol and the Kyoto protocol.
10. Productivity of aquatic ecosystems.
11. Mangrove ecosystems in India.
12. Kollerulake – Ramsar site.
13. Biodiversity hotspots of the world.
14. Origin of Crop plants - Vavilov centers
15. Agrobiodiversity
16. International organizations working on conservation of Biodiversity
17. Nagoya protocol – ABS system.
18. Endemic and endangered plants in Andhra Pradesh.

b. Student Study Projects :

1. Stomata structure in plants from college campus/ their native place.
2. Report on xylem elements in plants using maceration technique.
3. Collection of information on famous herbaria in the world and preparation of a report.
4. Microscopic observations on pollen morphology from plants in college campus/ their native locality.
5. Study report on germination and viability of pollen in different plants.
6. Observation of anthesis time in different plants and their pollinators.
7. A report on autecology and synecology of some plants in college campus or their native place.
8. Collection of photos of endemic/endangered plant and animal species to makean album.
9. Biodiversity of the college or their own residential/ native area.
10. Collection of seeds/vegetative organs of rare plant species from their localities and to raise/grow in college garden

c. Assignments: Written assignment at home / during '0' hour at college; preparation of charts with drawings, making models etc., on topics included in syllabus.

B. General :

1. Visit to an arboretum/silviculture station/Forest research institute to see the live timber yielding plants or to visit a local timber depot. to observe various woods.
2. Field visit to a nearby ecosystem to observe the abiotic-biotic relationships.
3. Visit to National park/Sanctuary/Biosphere reserve etc., to observe in-situ conservation of plants and animals.
4. Visit to a Botanical garden or Zoo to learn about ex-situ conservation of rare plants or animals.
5. Group Discussion (GD)/ Quiz/ Just A Minute (JAM) on different modules in syllabus of the course.

B.Sc.	Semester - IV	Credits: 4
Course: 4	Plant Physiology and Metabolism	Hrs/Wk: 4

Learning outcomes: On successful completion of this course,the students will be able to;

- Comprehend the importance of water in plant life and mechanisms for transport of water and solutes in plants.
- Evaluate the role of minerals in plant nutrition and their deficiency symptoms.
- Interpret the role of enzymes in plant metabolism.
- Critically understand the light reactions and carbon assimilation processes responsible for synthesis of foodin plants.
- Analyze the biochemical reactions in relation to Nitrogen and lipid metabolisms.
- Evaluate the physiological factors that regulategrowth and development in plants.
- Examine the role of light on flowering and explain physiology of plants under stress conditions.

UNIT I: Plant-Water relations **10 Hrs.**

1. Importance of water to plant life, physical properties of water, diffusion, imbibition, osmosis. water potential, osmotic potential, pressure potential.
2. Absorption and lateral transport of water; Ascent of sap
3. Transpiration: stomata structure and mechanism of stomatal movements (K^+ ion flux).
4. Mechanism of phloem transport; source-sink relationships.

UNIT II: **Mineral nutrition, Enzymes and Respiration** **14 Hrs.**

1. Essential macro and micro mineral nutrients and their role in plants; symptoms of mineral deficiency
2. Absorption of mineral ions; passive and active processes.
3. Characteristics, nomenclature and classification of Enzymes. Mechanism of enzyme action, enzyme kinetics.
4. Respiration: Aerobic and Anaerobic; Glycolysis, Krebs cycle; electron transport system, mechanism of oxidative phosphorylation, Pentose Phosphate Pathway (HMP shunt).

UNIT III: Photosynthesis and Photorespiration **12 Hrs.**

1. Photosynthesis: Photosynthetic pigments, absorption and action spectra; Red drop and Emerson enhancement effect.
2. Concept of two photo systems; mechanism of photosynthetic electron transport and evolution of oxygen; photophosphorylation
3. Carbon assimilation pathways (C3,C4 and CAM);
4. Photorespiration - C2 pathway

UNIT IV: Nitrogen and lipid metabolism **12 Hrs.**

1. Nitrogen metabolism: Biological nitrogen fixation – asymbiotic and symbiotic nitrogen fixing organisms. Nitrogenase enzyme system.
2. Lipid metabolism :Classification of Plant lipids, saturated and unsaturated fatty acids.
3. Anabolism of triglycerides, β-oxidation of fatty acids, Glyoxylate cycle.

UNIT V: Plant growth - development and stress physiology **12 Hrs.**

1. Growth and Development: Definition, phases and kinetics of growth.
2. Physiological effects of Plant Growth Regulators (PGRs) - auxins, gibberellins, cytokinins, ABA, ethylene and brassinosteroids.
3. Physiology of flowering :Photoperiodism, role of phytochrome in flowering.
4. Seed germination and senescence.
5. Physiological changes during water stress.

TEXT BOOKS :

1. Botany – IV (Vrukshasastram-II) : Telugu Akademi, Hyderabad
2. Pandey, B.P. (2013) *College Botany, Volume-III*, S. Chand Publishing, New Delhi
3. Ghosh, A. K., K. Bhattacharya &G. Hait (2011) *A Text Book of Botany, Volume- III*, New Central Book Agency Pvt. Ltd., Kolkata

REFERENCE BOOKS:

1. Aravind Kumar & S.S. Purohit (1998) *Plant Physiology – Fundamentals and Applications*, AgroBotanica, Bikaner
2. Datta, S.C. (2007) *Plant Physiology*,New Age International (P) Ltd., Publishers, New Delhi
3. Hans Mohr & P. Schopfer (2006)*Plant Physiology*, Springer (India) Pvt. Ltd., New Delhi
4. Hans-Walter heldt (2005) *Plant Biochemistry*,Academic Press, U.S.A.
5. Hopkins, W.G. & N.P.A. Huner (2014)*Introduction to Plant Physiology*, Wiley India Pvt. Ltd., New Delhi
6. Noggle Ray & J. Fritz (2013)*Introductory Plant Physiology*, Prentice Hall (India), New Delhi
7. Pandey, S.M. &B.K.Sinha (2006)*Plant Physiology*, Vikas Publishing House, New Delhi
8. Salisbury, Frank B. & Cleon W. Ross (2007)*Plant Physiology*, Thomsen & Wadsworth, Austalia&U.S.A
9. Sinha, R.K. (2014) *Modern Plant Physiology*, Narosa Publishing House,New Delhi
10. Taiz, L.&E. Zeiger (2003)*Plant Physiology*, Panima Publishers, New Delhi
11. Verma, V.(2007)*Text Book of Plant Physiology*,Ane Books India, New Delhi

B.Sc.	Semester - IV	Credits: 1
Course: 4(L)	Plant Physiology and Metabolism Lab	Hrs/Wk: 2

Course outcomes: On successful completion of this practical course, students shall be able to:

- Conduct lab and field experiments pertaining to Plant Physiology, that is, biophysical and biochemical processes using related glassware, equipment, chemicals and plant material.
- Estimate the quantities and qualitative expressions using experimental results and calculations
- Demonstrate the factors responsible for growth and development in plants.

Practical Syllabus

1. Determination of osmotic potential of plant cell sap by plasmolytic method using *Rhoeo*/ *Tradescantia* leaves.
2. Calculation of stomatal index and stomatal frequency of a mesophyte and a xerophyte.
3. Determination of rate of transpiration using Cobalt chloride method / Ganong's potometer (at least for a dicot and a monocot).
4. Effect of Temperature on membrane permeability by colorimetric method.
5. Study of mineral deficiency symptoms using plant material/photographs.
6. Demonstration of amylase enzyme activity and study the effect of substrate and Enzyme concentration.
7. Separation of chloroplast pigments using paper chromatography technique.
8. Demonstration of Polyphenol oxidase enzyme activity (Potato tuber or Apple fruit)
9. Anatomy of C3, C4 and CAM leaves
10. Estimation of protein by biuret method/Lowry method
11. Minor experiments – Osmosis, Arc-auxonometer, ascent of sap through xylem, cytoplasmic streaming.

Model Question Paper for Practical Examination
Semester – IV/ Botany Core Course – 4
Plant Physiology and Metabolism

Max. Time : 3 Hrs. **Max. Marks : 50**

1. Conduct the experiment 'A' (Major experiment), write aim, principle, material and apparatus/equipment, procedure, tabulate results and make conclusion. 20 M
2. Demonstrate the experiment 'B' (Minor experiment) , write the principle, procedure and give inference. 10 M
3. Identify the following with apt reasons. 3 x 4 = 12 M
   C. Plant water relations / Mineral nutrition
   D. Plant metabolism
   E. Plant growth and development
4. Record + Viva-voce 5 + 3 = 8 M

Suggested co-curricular activities for Botany Core Course-4 in Semester-IV :

A. Measurable :

a. Student seminars :

1. Antitranspirants and their significance in crop physiology and horticulture.
2. Natural chelating agents in plants.
3. Criteria of essentiality of elements and beneficial elements.
4. Hydroponics, aquaponics and aeroponics.
5. Mycorrhizal association and mineral nutrition in plants.
6. Non-proteinaceous enzymes.
7. Respiratory inhibitors.
8. Structure of ATPase and Chemiosmotic hypothesis.
9. Transpiration and photosynthesis – a compromise.
10. Amphibolic pathways and bypass pathways in plants.
11. Non-biological nitrogen fixation.
12. Role of Hydrogenase in nitrogen fixation.
13. Plant lectins – their role in plants and use in medicine and medical research.

b. Student Study Projects :

1. Stomatal densities among different groups of plants.
2. Various treatments (salt, cold, high temperature, heavy metals) and their effects on seed germination.
3. Effects of plant hormones (IAA, Gibberellin and Kinetin) on Seed Germination.
4. Diurnal variation of stomatal behavior in CAM and C3 plants found in local area.
5. Effects of nitrogen fertilizer on plant growth.
6. Enumeration of C3, C4 and CAM plants in the local area.
7. Effect of different light wavelengths (red light, green light, blue light) on apparent photosynthesis in terms of growth.
8. Light effects on leaf growth and leaf orientation.
9. Artificial Fruit Ripening Process by various treatments (carbide and ethylene).
10. Study of relative water content and water retention by leaves under different environments.
11. Study of soil nutrients in local agricultural fields.
12. Study of mineral deficiency symptoms of various crops of local area.
13. Study of local weeds in crop fields.
14. Studies on seed storage proteins, oils and starch in local millets and pulse crops.
15. Making a report on LDPs, SDPs and DNPs in their locality.

c. Assignments: Written assignment at home / during '0' hour at college; preparation of charts with drawings, making models etc., on topics included in syllabus.

B. General :

1. Group Discussion (GD)/ Quiz/ Just A Minute (JAM) on different modules in syllabus of the course.
2. Visit to a Plant Physiology laboratory in a University or Physiology division in a Agriculture/Horticulture University/Research station.

B.Sc.	Semester - IV	Credits: 4
Course: 5	Cell Biology, Genetics and Plant Breeding	Hrs/Wk: 4

Learning outcomes: On successful completion of this course,the students will be able to:

- Distinguish prokaryotic and eukaryotic cells and design the model of a cell.
- Explain the organization of a eukaryotic chromosomeand the structure of genetic material.
- Demonstrate techniques to observe the cell and its componentsunder a microscope.
- Discuss the basics of Mendelian genetics, its variations and interpret inheritance of traits in living beings.
- Elucidate the role of extra-chromosomal genetic material for inheritance of characters.
- Evaluate the structure, function and regulation of genetic material.
- Understand the application of principles and modern techniques inplant breeding.
- Explain the procedures of selection and hybridization for improvement of crops.

UNIT I: The Cell **12 Hrs.**

1. Cell theory; prokaryotic vs eukaryotic cell; animal vs plant cell; a brief account on ultra-structure of a plant cell.
2. Ultra-structure of cell wall.
3. Ultra-structure of plasma membrane and various theories on its organization.
4. Polymorphic cell organelles (Plastids); ultrastructure of chloroplast. Plastid DNA.

UNIT II: Chromosomes **12 Hrs.**

1. Prokaryotic vs eukaryotic chromosome. Morphology of a eukayotic chromosome.
2. Euchromatin and Heterochromatin; Karyotype and ideogram.
3. Brief account of chromosomal aberrations - structural and numerical changes
4. Organization of DNA in a chromosome (solenoid and nucleosome models).

UNIT III: Mendelian and Non-Mendelian genetics **14Hrs.**

1. Mendel's laws of inheritance. Incomplete dominance and co-dominance; Multiple allelism.
2. Complementary, supplementary and duplicate gene interactions (plant based examples are to be dealt).
3. A brief account of linkage and crossing over; Chromosomal mapping - 2 point and 3 point test cross.
4. Concept of maternal inheritance (Corren's experiment on *Mirabilis jalapa*); Mitochondrial DNA.

UNIT IV: Structure and functions of DNA **12 Hrs.**

1. Watson and Crick model of DNA. Brief account on DNA Replication (Semi- conservative method).
2. Brief account on Transcription, types and functions of RNA. Gene concept and genetic code and Translation.
3. Regulation of gene expression in prokaryotes - Lac Operon.

UNIT V: Plant Breeding **12 Hrs.**

1. Plant Breeding and its scope; Genetic basis for plant breeding. Plant Introduction and acclimatization.
2. Definition, procedure; applications and uses; advantages and limitations of :(a) Mass selection, (b) Pure line selection and (c) Clonal selection.
3. Hybridization – schemes, and technique; Heterosis(hybrid vigour).
4. brief account on Molecular breeding – DNA markers in plant breeding. RAPD, RFLP.

TEXT BOOKS :

1. Botany – III (Vrukshasastram-I) : Telugu Akademi, Hyderabad
2. Pandey, B.P. (2013) *College Botany, Volume-III,* S. Chand Publishing, New Delhi
3. Ghosh, A.K., K.Bhattacharya&G. Hait (2011) *A Text Book of Botany, Volume-III,* New Central Book Agency Pvt. Ltd., Kolkata
4. Chaudhary, R. C. (1996) *Introduction to Plant Breeding,* Oxford & IBH Publishing Co. Pvt. Ltd., New Delhi

REFERENCE BOOKS:

1. S. C. Rastogi (2008)*Cell Biology,*New Age International (P) Ltd. Publishers, New Delhi
2. P. K. Gupta (2002)*Cell and Molecular biology,*Rastogi Publications, New Delhi
3. B. D. Singh (2008) *Genetics,*Kalyani Publishers, Ludhiana
4. A.V.S.S. Sambamurty (2007) *Molecular Genetics,*Narosa Publishing House,New Delhi
5. Cooper, G.M. & R.E. Hausman (2009)*The Cell – A Molecular Approach,* A.S.M. Press, Washington
6. Becker, W.M., L.J. Kleinsmith& J. Hardin (2007)*The World of Cell,* Pearson Education, Inc., New York
7. De Robertis, E.D.P. & E.M.F. De Robertis Jr. (2002)*Cell and Molecular Biology,* Lippincott Williams & Wilkins Publ., Philadelphia
8. Robert H. Tamarin (2002)*Principles of Genetics,*Tata McGraw –Hill Publishing Company Limited, New Delhi.
9. Gardner, E.J., M. J. Simmons & D.P. Snustad (2004)*Principles of Genetics,* John Wiley & Sons Inc., New York
10. Micklos, D.A., G.A. Freyer& D.A. Cotty (2005) *DNA Science: A First Course,* I.K. International Pvt. Ltd., New Delhi
11. Chaudhari, H.K.(1983)*Elementary Principles of Plant Breeding,* TMHpublishers Co., New Delhi
12. Sharma, J.R. (1994)*Principles and Practice of Plant Breeding,* Tata McGraw- Hill Publishers, New Delhi
13. Singh,B.D. (2001)*Plant Breeding : Principles and Methods* ,Kalyani Publishers, Ludhiana
14. Pundhan Singh (2015) *Plant Breeding for Undergraduate Students,* Kalyani Publishers, Ludhiana
15. upta, S.K. (2010)*Plant Breeding : Theory and Techniques,*Agrobios (India), Jodhpur
16. Hayes, H.K., F.R. Immer& D.C. Smith (2009) *Methods of Plant Breeding,* Biotech Books, Delhi

B.Sc.	Semester - IV	Credits: 1
Course: 5(L)	Cell Biology, Genetics and Plant Breeding Lab	Hrs/Wk: 2

Course Outcomes: After successful completion of this practical course the student shall be able to:

- Show the understanding of techniques of demonstrating Mitosis and Meiosis in the laboratory and identify differentstages of cell division.
- Identify and explain with diagram the cellular parts of a cell from a model or picture and prepare models
- Solve the problems related to crosses and gene interactions.
- Demonstrate plant breeding techniques such as emasculation and bagging

Practical Syllabus:

1. Study of ultra structure of plant cell and its organelles using Electron microscopic Photographs /models.
2. Demonstration of Mitosis in *Allium cepa*/*Aloe vera* roots using squashtechnique; observation of various stages of mitosis in permanent slides.
3. Demonstration of Meiosis in P.M.C.s of *Allium cepa*flower buds using squash technique; observation of various stages of meiosis in permanent slides.
4. Study of structure of DNA and RNA molecules using models.
5. Solving problems monohybrid, hybrid, back and test crosses.
6. Solving problems on gene interactions (atleast one problem for each of the gene interactions in the syllabus)
7. Chromosome mapping using 3- point test cross data.
8. Demonstration of emasculation, bagging, artificial pollination techniques for hybridization.

Model paper for Practical Examination
Semester-IV / Botany Core Course – 5
Cell Biology, Genetics and Plant Breeding

Max. Time : 3 Hrs. Max. Marks : 50

1. Make a cytological preparation of given material 'A' (mitosis or meiosis in Onion) by squash technique, report any two stages, draw labeled diagrams and write the reasons. 15 M
2. Solve the given Genetic problem (Dihybrid cross/ Interaction of genes/ 3-point test cross) 'B' and write the conclusions. 15 M
3. Identify the following and justify with apt reasons. 3 x 4 = 12 M
   C. Cell Biology (Cell organelle)

   D. Genetics (DNA/RNA)

   E. Plant Breeding
4. Record + Viva-voce 5 + 3 = 8 M

Suggested co-curricular activities for Botany Core Course- 5 in Semester-IV :

A. Measurable :

a. Student seminars :

1. Light microscopy : bright field and dark field microscopy.
2. Scanning Electron Microscopy (SEM).
3. Transmission Electron Microscopy (TEM).
4. Mitosis and Meiosis
5. Cell cycle and its regulation.
6. Cell organelles bounded by single membrane.
7. Prokaryotic chromosomes
8. Special types of chromosomes :Polytene, Lampbrush and B-chromosomes.
9. Different forms of DNA.
10. Gene mutations.
11. DNA damage and repair mechanisms.
12. Reverse transcription.
13. Protein structure.
14. Modes of reproduction in plants.
15. Modes of pollination in plants

b. Student Study Projects :

1. Study of mitoticcell cycle in roots of*Aliumcepa*
2. tudy of mitoticcell cycle in roots of*Aloe vera*
3. Observation of chromosomal aberrations in *Allium cepa* root cells exposed toindustrial effluent(s).
4. Observation of chromosomal aberrations in *Allium cepa* root cells exposed toheavy metal(s).
5. Observation of polyembryony in *Citrus* spp.and *Mangiferaindica.*

c. Assignments: Written assignment at home / during '0' hour at college; preparation of charts with drawings, making models etc., on topics included in syllabus.

B. General :

- Field visit to Agriculture/Horticulture University/ Research station to observe Plant breeding methods.
- Group Discussion (GD)/ Quiz/ Just A Minute (JAM) on different modules in syllabus of the course.

RECOMMENDED ASSESSMENT OF STUDENTS:

Recommended continuous assessment methods for all courses:

Some of the following suggested assessment methodologies could be adopted. Formal assessment for awarding marks for Internal Assessment in theory.

(a) Formal:

1. The oral and written examinations (Scheduled and surprise tests),
2. Simple, medium and Critical Assignments and Problem-solving exercises,
3. Practical assignments and laboratory reports,
4. Assessment of practical skills,
5. Individual and group project reports,
6. Seminar presentations,
7. Viva voce interviews.

(b) Informal:

1. Computerized adaptive testing, literature surveys and evaluations,
2. Peers and self-assessment, outputs form individual and collaborative work
3. Closed-book and open-book tests,

MODEL QUESTION COURSE (Sem - End)

B. Sc DEGREE EXAMINATION
SEMESTER: I
Course 1: Fundamentals of Microbes and Non-vascular Plants

Time: 3Hrs. **Max. Marks: 75**

SECTION - A

Answer any FIVE questions. Each question carries 5 marks **5 x 5 =25M**

1. (a) Prions (b) Viroids
2. Archaebacteria
3. (a) Basidiocarp (b) Ascocarp
4. Economic importance of Lichens
5. Reserve food material in Algae
6. (a) Scalariform conjugation (b) Lateral conjugation
7. General characteristics of Bryophytes
8. Anatomy of thallus in *Marchantia*

SECTION - B

Answer ALL the questions. Each question carries 10 marks **5X10 =50M**

9. a) Describe the structure of TMV and Gemini virus with neat labeled diagrams.

(OR)

b)Write a general account on symptoms of plant diseases caused by Viruses.

10. a)Describe the cell structure of a eubacterium with neat labeled diagram.

(OR)

b)Discuss the economic importance of bacteria in agriculture and industrial sectors with suitable examples.

11. a)Explain the life cycle in *Puccinia* with the help of a schematic diagram.

(OR)

b) Discuss the economic uses of fungi in food industry, pharmacy and agriculture.

12. a)Write an essay on sexual reproduction in *Polysiphonia*.

(OR)

b) Discuss the economic importance of Algae with suitable examples.

13. a)Describe the sexual reproduction in *Funaria* with neat labeled diagrams.

(OR)

b)Write an essay on classification of Bryophytes upto classes.

MODEL QUESTION COURSE (Sem-End)

B. Sc DEGREE EXAMINATION
SEMESTER: II
Course2 : Basics of Vascular plants and Phytogeography

Time: 3Hrs. **Max. Marks: 75**

SECTION - A

Answer any FIVE questions. Each question carries 5 marks **5 x 5 =25M**

1. a) Eusporangium (b) Leptosporangium
2. Geological time scale.
3. Binomial system
4. (a) Synandrous condition (b) Syngenesious condition
5. Essential organs in flower of Acepiadaceae family
6. Economic importance of Arecaceae family
7. (a) Wides (b) Discontinuous species
8. Vegetation types in Andhra Pradesh

SECTION - B

Answer ALL the questions. Each question carries 10 marks **5X10 =50M**

9.a) Describe the sexual reproduction in Lycopodium with neat labeled diagrams.

(OR)

b)Explain the stellar evolution in Pteridophytes with neat labeled diagrams and suitable examples.

10. a)Write an essay on general characteristics of Gymnosperms.

(OR)

b)Discuss the structure of ovule in *Gnetum* with a neat labeled diagram.

11. a) What is a herbarium? Explain the techniques of herbarium.

(OR)

b)Discuss the vegetative and floral characters of Annonaceae family. Add a note on economic importance of that family.

12. a) Discuss the vegetative and floral characters of Asteraceae family.

(OR)

b) Discuss the vegetative and floral characters of Poaceae family. Add a note on economic importance of that family.

13. a)Explain different types Endemism and causes for it.

(OR)

b) Describe different phytogeographic regions of India with examples of flora.

MODEL QUESTION COURSE (Sem-End)

B. Sc DEGREE EXAMINATION
SEMESTER: III
Course 3: Anatomy and Embryology of Angiosperms, Plant Ecology and Biodiversity
Time: 3Hrs. Max. Marks: 75

SECTION - A

Answer any FIVE questions. Each question carries 5 marks 5 x 5 =25M

1. (a) Xylem tracheids (b) Xylem vessels
2. (a) Periplasmodial tapetum (b) Glandular tapetum
3. (a) Helobial endosperm (b) Ruminate endosperm
4. Pyramids of numbers
5. (a) Ecotypes (b) Ecads
6. P/R ratio
7. Earth Summit.
8. Role of NBPGR in conservation of Biodiversity

SECTION - B

Answer ALL the questions. Each question carries 10 marks 5X10 =50M

9. a)Write an essay on organization of apical meristems with theories proposed.

(OR)

b)Discuss the anomalous secondary growth in stem of *Boerhaavia* with the help of a neat labeled diagram.

10. a)Explain monosporic and bisporic types of embryosac development in angiosperms.

(OR)

b) Describe the embryogeny in a dicot plant with neat labeled diagrams.

11. a) Explain various effects of light factor plants and their communities?

(OR)

b) Define ecological succession. Discuss hydrosere with suitable diagrams and examples.

12. a) Describe Raunkiaer's life forms with suitable examples.

(OR)

b) Write an essay on primary productivity.

13.a)Write an essay on value of biodiversity with appropriate examples.

(OR)

b)Define biodiversity hotspot. Discuss the biodiversity in Western Ghats of India.

MODEL QUESTION COURSE (Sem-End)

B. Sc DEGREE EXAMINATION
SEMESTER: IV
Course 4: Plant Physiology and Metabolism

Time: 3Hrs. **Max. Marks: 75**

SECTION - A

Answer any FIVE questions. Each question carries 5 marks **5 x 5 =25M**

1. (a) Diffusion (b) Imbibition
2. (a) Macro nutrients (b) Micro nutrients
3. (a) Anaerobic respiration (b) Aerobic respiration
4. (a) Absorption spectrum (b) Action spectrum
5. C2 pathway
6. Fatty acids
7. Physiological effects of Brassinisteroids
8. Sigmoid growth curve

SECTION - B

Answer ALL the questions. Each question carries 10 marks **5X10 =50M**

9. a) Explain how ascent of sap occur in plants with suitable theory.

(OR)

b) Discuss the phloem transport in plants. Add a note on source-sink relationship.

10.a) Write an essay on classification of enzymes.

(OR)

b) Describe the Krebs cycle with the help of schematic diagram.

11. a) Define photophosphorylation. Explain the non-cyclic photophosphorylation with the help of a schematic diagram.

(OR)

b) Discuss the carbon assimilation in CAM plants.

12. a) Write an essay on biological nitrogen fixation.

(OR)

b) Describe the Glyoxylate cycle with the help of a schematic diagram.

13. a) Define photoperiodism. Write an essay on role of phytochrome in photoperiodic responses of plants.

(OR)

b) Discuss the physiological changes in plants during water stress.

MODEL QUESTION COURSE (Sem-End)

B. Sc DEGREE EXAMINATION
SEMESTER: IV
Course 5: Cell Biology, Genetics and Plant Breeding

Time: 3Hrs. **Max. Marks: 75**

SECTION - A

Answer any FIVE questions. Each question carries 5 marks **5 x 5 =25M**

1. Differences between prokaryotic and eukaryotic cells.
2. (a) Karyotype (b) Ideogram
3. (a) Incomplete dominance (b) Co-dominance
4. Maternal inheritance
5. Double helical structure of DNA
6. Genetic code
7. Objectives and scope of plant breeding
8. Plant introduction

SECTION - B

Answer ALL the questions. Each question carries 10 marks **5X10 =50M**

9. a) Describe the ultrastructure of cell wall.

(OR)

b) Write an essay on plastid DNA with a well labeled diagram.

10. a) Discuss the structure of a eukaryotic chromosome with a neat labeled diagram.

(OR)

b) Explain the organization of DNA in chromosomes with suitable theories.

11.a) Discuss complementary and duplicate gene interactions with suitable examples.

(OR)

b) Explain mapping of genes with the help of 3-point test cross.

12. a) Describe the semi-conservative mode of DNA replication.

(OR)

b) Define an operon. Explain the regulation of Lac-operon.

13.a) Write an essay on procedure; applications and uses; advantages and limitations mass selection.

(OR)

b) Give an account of utilization of RFLP and RAPD in molecular plant breeding.

B. Sc	**Semester-V** (Skill Enhancement Course - Elective)	**Credits: 4**
Course: 6A	**Plant Propagation**	**Hrs/Wk: 4**

Learning Outcomes:

Students at the successful completion of the course will be able to:

1. Explain various plant propagation structures and their utilization.
2. Understand advantages and disadvantages of vegetative, asexual and sexual plantpropagation methods.
3. Assess the benefits of asexual propagation of certain economically valuable plants usingapomictics and adventive polyembryony.
4. Demonstrate skills related to vegetative plant propagation techniques such as cuttings,layering, grafting and budding.
5. Apply a specific macro-propagation technique for a given plant species.

Syllabus: *(Hours: Teaching: 50, Lab: 30, Field training: 05, others incl. unit tests: 05) (Syllabi of theory, practical and lab (skills) training together shall be completed in 80 hours)*

UNIT I: Basic concepts of propagation (10h)

1. Propagation: Definition, need and potentialities for plant multiplication; asexual and sexual methods of propagation - advantages and disadvantages.
2. Propagation facilities: Mist chamber, humidifiers, greenhouses, glasshouses, cold frames,hot beds, poly-houses, phytotrons nursery - tools and implements.
3. Identification and propagation by division and separation: Bulbs, pseudobulbs, corms, tubers and rhizomes; runners, stolons, suckers and offsets.

UNIT II: Apomictics in plant propagation (10h)

1. Apomixis: Definition, facultative and obligate; types – recurrent, non-recurrent,adventitious and vegetative; advantages and disadvantages.
2. Polyembryony: Definition, classification, horticultural significance; chimera and budsport.
3. Propagation of mango, *Citrus* and *Allium* using apomictic embryos.

UNIT III: Propagation by cuttings (10h)

1. Cuttings: Definition, different methods of cuttings; root and leaf cuttings.
2. Stem cuttings: Definition of stem tip and section cuttings; plant propagation by herbaceous, soft wood, semi hard wood, hard wood and coniferous stem cuttings.
3. Physiological and bio chemical basis of rooting; factors influencing rooting of cuttings; Use of plant growth regulators in rooting of cuttings.

UNIT IV: Propagation by layering (10h)

1. Layering: Definition, principle and factors influencing layering.
2. Plant propagation by layering: Ground layering – tip layering, simple layering, trench layering, mound (stool) layering and compound (serpentine layering).
3. Air layering technique – application in woody trees.

UNIT V: Propagation by grafting and budding (10h)

1. Grafting: Definition, principle, types, graft incompatibility, collection of scion wood stick, scion-stock relationship, and their influences, bud wood certification; micrografting.
2. Propagation by veneer, whip, cleft, side and bark grafting techniques.
3. Budding: Definition; techniques of 'T', inverted 'T', patch and chip budding.

REFERENCES:

1. Sharma RR and Manish Srivastav.2004. Plant Propagation and Nursery Management International Book Distributing Co. Lucknow.
2. Hartman, HT and Kester, D.E.1976. Plant Propagation: Principles and Practices, Prentice Hall of India Pvt. Ltd. Bombay.
3. Sadhu, M.K. 1996. Plant Propagation. New Age International Publishers, New Delhi.
4. Web resources suggested by the teacher concerned and college librarian includingreading material.

B. Sc	**Semester-V** (Skill Enhancement Course - Elective)	**Credits: 1**
Course: 6A	**Plant Propagation Lab**	**Hrs/Wk: 2**

Plant Propagation - Practical syllabus

Learning Outcomes:

On successful completion of this practical course, student will beable to:

- Make use of different plant propagation structures for plant multiplication.
- Explore the specialized organs or asexual propagules in some plants for their proliferation.
- Demonstrate skills on micropropagation of plants through vegetative propagation techniques.
- Evaluate and use a suitable propagation technique for a given plant species.

Practical (Laboratory) syllabus: (30hrs):

The following experiments/practices shall beconducted by students in the lab.

1. Preparation of nursery beds – flat, raised and sunken beds.
2. Propagation through apomictic.
3. Propagation by separation and division technique
4. Propagation by cuttings.
5. Propagation by layering
6. Propagation by grafting.
7. Propagation by budding.
8. Preparation of potting mixture, potting and repotting.

LAB REFERENCES:

1. Prasad, V. M. and Balaji Vikram, 2018. Practical Manual on Fundamentals of Horticulture and Plant Propagation, Write & Print Publications, New Delhi
2. Upadhyay S. K. (Ed.) 2013. Practical Manual Basic Horticulture-I, AkashdeepPrinters, New Delhi
3. Web sources suggested by the teacher concerned.

Co-Curricular Activities:

A. **Mandatory:** (*Lab/field training of students by teacher: (Lab: 10 + field: 05 hours):*

1. **For Teacher**: Training of students by the teacher in the laboratory/field for a total of not less than 15 hours on the field techniques/skills of different plant propagation structures, containers, preparation of soil, plant propagation through separation and division, apomictics, cuttings, layering, grafting and budding.
2. **For Student**: Students shall (individually) visit horticulture nurseries in a University/, research institute /private nursery and observe propagation structures, propagation techniques etc., write their observations and submit a hand-written Fieldwork/Project work/Project work Report not exceeding 10 pages in the given format to the teacher.
3. Max marks for Fieldwork/Project work Report: 05.
4. Suggested Format for Fieldwork/Project work Report: Title page, student details, indexpage, details of place visited, observations, findings and acknowledgements.
5. Unit tests (IE).

B.Suggested Co-Curricular Activities:

1. Training of students by experts in plant vegetative propagation methods.
2. Assignments (including technical assignments like identifying propagation structures andtheir operational techniques for a specific plant species.
3. Seminars, Group discussions, Quiz, Debates etc. (suggested topics):
4. Preparation of videos on plant propagation techniques in relation to differenteconomically useful plants.
5. Collection of material/figures/photos related to plant propagation methods, writing andorganizing them in a systematic way in a file.
6. Visits to Horticulture/Agriculture/Forest nurseries, research organizations, universitiesetc.
7. Invited lectures and presentations on related topics by experts in the specified area.

MODEL QUESTION COURSE (Sem-End)

B. Sc DEGREE EXAMINATION

Semester-V (Skill Enhancement Course - Elective)

Course 6A: Plant Propagation

Time: 3Hrs. **Max. Marks: 75**

SECTION - A

Answer any FIVE questions. Each question carries 5 marks **5 x 5 =25M**

1. Mist Chamber
2. Polyhouse
3. Polyembryony
4. Stem tip Cutting
5. Serpentine Layering
6. Trench Layering
7. Bud Wood Certification
8. Micrografting

SECTION - B

Answer ALL the questions. Each question carries 10 marks **5X10 =50M**

9. (a) Define Plant Propagation? Explain the Sexual method of Plant propagation? Add a note on its advantages and disadvantages.

(OR)

(b) Write in detail about the Plant Propagation by means of Bulbs, Tubers and Rhizomes

10. (a) Define Apomixis and Explain the types of Apomixis

(OR)

(b) Describe the propagation of Mango and Citrus using Apomictic Embryos

11. (a) What are Cuttings? Write about different methods of Cuttings?

(OR)

(b) Write an account on the role of Plant Growth regulators in rooting of Cuttings

12. (a) Define Layering? Explain the Principle and Factors influencing Layering

(OR)

(b) Explain in detail about the Air Layering and its application in Woody Trees

13. (a) Write an essay on different Grafting Techniques

(OR)

(b) What is Budding. Describe the various techniques of Budding

Model Question Paper pattern for Practical Examination

Semester – V/ Botany Skill Enhancement Course

Course -6A: Plant Propagation

Max. Time: 3 Hrs. **Max. Marks: 50**

1. Demonstration plant propagation using separation and division /apomictics 'A' 10
2. Demonstration plant propagation using cuttings/layering technique 'B' 10
3. Demonstration of plant propagation using grafting/budding technique 'C' 10
4. Scientific observation and data analysis 4 x 3 = 12
   - D. Plant propagation structure model/photograph
   - E. Plant Growth Regulator
   - F. Nursery bed model /photograph
   - G. Asexual propagule/container/pot mixture for propagation
5. Record + Viva-voce 5+3 = 8

B. Sc	**Semester-V** (Skill Enhancement Course - Elective)	**Credits: 4**
Course: 7A	**Seed Technology**	**Hrs/Wk: 4**

Learning outcomes:

Students at the successful completion of the course will be able to:

1. Explain the causes for seed dormancy and methods to break dormancy.
2. Understand critical concepts of seed processing and seed storage procedures.
3. Acquire skills related to various seed testing methods.
4. Identify seed borne pathogens and prescribe methods to control them.
5. Understand the legislations on seed production and procedure of seed certification.

Syllabus: (Hours: Teaching: 50, Lab: 30, Field training: 05, others incl. unit tests: 05) (S*yllabi of theory, practical and lab (skills) training together shall be completed in 80 hours*)

UNIT I: Seed dormancy (10h)

1. Seed and grain: Definitions, importance of seed; structure of Dicot and Monocot seed.
2. Role and goals of seed technology; characteristics of quality seed material.
3. Dormancy: Definition, causes for seed dormancy; methods to break seed dormancy.

UNIT II: Seed processing and storage (10h)

1. Principles of seed processing: seed pre-cleaning, precuring, drying, seed extraction; cleaning, grading, pre-storage treatments; bagging and labelling, safety precautions during processing.
2. Seed storage; orthodox and recalcitrant seeds, natural longevity of seeds.
3. Factors affecting longevity in storage; storage conditions, methods and containers.

UNIT III: Seed testing (10h)

1. Definition of seed vigour, viability and longevity; seed sampling and equipment; physical purity analysis.
2. Seed moisture – importance – methods of moisture determination.
3. Seed germination tests using paper, sand or soil – standard germination test; TZ testto determine seed viability; seed health testing.

UNIT IV: Seed borne diseases (10h)

1. A brief account of different seed borne diseases and their transmission.
2. Different seed health testing methods for detecting microorganisms.
3. Management of seed borne diseases; seed treatment methods: spraying and dusting.

UNIT V: Seed certification (10h)

1. Objectives - Indian seed Act; seed rules and seed order; new seed policy (1988).
2. Seed Inspector: Duties and responsibilities; classes of seeds, phases of certification standards (i.e., Land requirement, isolation distance) etc.
3. Issue of certificates, tags and sealing; pre and post control check: Genetic purity verification, certification, records and reporting.

REFERENCE BOOKS:

1. Umarani R, Jerlin R, Natarajan N, Masilamani P, Ponnuswamy AS 2006. Experimental Seed Science and Technology, Agrobios, Jodhpur
2. Agrawal, 2005. Seed Technology. Oxford and IBH Publishing Co. Pvt. Ltd., NewDelhi
3. Desai B D 2004. Seeds Hand Book: Processing and Storage, CRC Press
4. Agarwal V K and J B Sinclair 1996, Principles of Seed Pathology, CRC Press
5. Tunwar NS and Singh SN. 1988. Indian Minimum Seed Certification Standards. CSCB, Ministry of Agriculture, New Delhi.
6. McDonald, M.B. and L.O. Copland. 1999. Seed Science and Technology Laboratory Manual. Scientific Publishers, Jodhpur
7. Web resources suggested by the teacher concerned and the college librarian including reading material.

B. Sc	**Semester-V** (Skill Enhancement Course - Elective)	**Credits: 1**
Course: 7A	**Seed Technology Lab**	**Hrs/Wk: 2**

Seed Technology Practical syllabus

Learning Outcomes:

On successful completion of this practical course, student willbe able to:

1. Demonstrate skills on various methods to break the seed dormancy.
2. Determine seed moisture, seed germination percentage, seed viability and vigour.
3. Identify the seed borne pathogens and prescribe methods to prevent or control them.
4. Evaluate various methods to produce healthy seeds.

Practical (Laboratory) syllabus: (30hrs)

1. Determination of physical properties of seeds of 3 select local crops (1 each from cereals, millets, pulses and oil seeds).
2. Breaking seed dormancy in 3 select local crops.
3. Measurement of seed moisture content by O S W A or moisture meter or oven drying method.
4. Seed germination tests and evaluation.
5. Seed vigour - conductivity test.
6. Accelerated ageing tests.
7. Tetrazolium test.
8. Priming and invigoration treatments for improving germination and vigour.
9. Techniques of seed health testing - visual examination of seeds, washing test, incubation methods, embryo count method, seed soak method for the detection ofcertain seed borne pathogens.
10. Using various types of tools for dusting and spraying pesticides/insecticides.

Lab References:

1. Sanjeev Kumar, 2019. Practical Manual Seed Technology of Vegetable Crops, M/s Asian Printery, Ahmedabad
2. Divakara Sastry, E.V., Dhirendra Singh and S.S.Rajput, 2013. Seed Technology: Practical Manual, Swami Keshwanand Rajasthan Agricultural University, Jobner
3. Web sources suggested by the teacher concerned.

Co-Curricular Activities:

Mandatory: (*Lab/field training of students by teacher: (Lab: 10 + field: 05 hours)*

1. **For Teacher**: Training of students by the teacher in the laboratory/field for a total of not less than15 hours on the field techniques/skills of identifying and drawing seed structure, methods of breaking seed dormancy, seed cleaning, seed storage, identification of seed borne diseases, seed certification procedure.
2. **For Student**: Students shall (individually) visit horticulture/agriculture/ forest nursery/commercial seed production firms/ seed testing laboratories in government orprivate sector, observe seed production techniques, processing and

storage, seed testing and certification procedures etc., write their observations and submit a hand- written Fieldwork/Project work Report not exceeding 10 pages in the given format tothe teacher.

3. Max marks for Fieldwork/Project work Report: 05.
4. Suggested Format for Fieldwork/Project work Report: Title page, student details, index page, details of place visited, observations, findings and acknowledgements.
5. Unit tests (IE).

a) Suggested Co-Curricular Activities:

1. Training of students by experts in seed technology.
2. Assignments (including technical assignments like seed processing and storage techniques, seed testing, seed certification, seed borne diseases- prevention and control).
3. Seminars, Group discussions, Quiz, Debates etc. (suggested topics):
4. Preparation of videos on various aspects related to seed technology.
5. Collection of material/figures/photos related to seed technology, writing and organizing them in a systematic way in a file.
6. Visits to seed production units in Industries/Horticulture/Agriculture/Forest universities/colleges; research organizations, seed testing laboratories etc.
7. Invited lectures and presentations on related topics by experts in the specified area.

MODEL QUESTION COURSE (Sem-End)

B. Sc DEGREE EXAMINATION

Semester-V (Skill Enhancement Course - Elective)

Course 7A: Seed Technology

Time: 3Hrs. **Max. Marks: 75**

SECTION - A

Answer any FIVE questions. Each question carries 5 marks **5 x 5 =25M**

1. Monocot Seed
2. Characteristics of Quality Seed Material
3. Recalcitrant Seeds
4. Seed Viability
5. TZ test
6. Seed Treatment Methods
7. Genetic Purity Verification
8. Seed Inspector

SECTION - B

Answer ALL the questions. Each question carries 10 marks **5X10 =50M**

9. (a) What is Seed? Describe the Structure of Monocot Seed.

(OR)

(b) What is Seed Dormancy? Discuss the causes of Seed Dormancy and write any two methods to break it

10. (a) Explain Various steps in Seed Processing

(OR)

(b) What are the Factors affecting the longevity in seed storage

11. (a) Write about the importance of Seed moisture and the methods to determine it

(OR)

(b) Explain the Standard Seed germination Tests

12. (a) Write a brief account of Seed Borne Diseases and their transmission

(OR)

(b) What are the different Seed health testing methods for detecting Microorganisms

13. (a) What is Seed Certification? Write its Objectives

(OR)

(b) What are different classes of Seeds. Explain the phases of certification Standards

Model Question Paper pattern for Practical Examination

Semester – V/ Botany Skill Enhancement Course

Course – 7A: Seed Technology

Max. Time: 3 Hrs. **Max. Marks: 50**

1. Demonstration of a method to break seed dormancy 'A'	10
2. Determination of seed moisture content/ seed germination test 'B'	10
3. Demonstration of test for seed viability/ seed vigour 'C'	10
4. Scientific observation and data analysis	4 x 3 = 12
D. Monocot / Dicot seed	
E. Seed sampling equipment	
F. Seed borne pathogen specimen/photograph	
G. Seed certification agency/procedure	
4. Record + Viva-voce	5+3 = 8

B. Sc	**Semester-V** (Skill Enhancement Course - Elective)	**Credits: 4**
Course: 6B	**Vegetable Crops – Cultivation Practices**	**Hrs/Wk: 4**

Learning Outcomes:

Students at the successful completion of the course will be able to:

1. Identify different vegetable plants and realize their value in human nutrition.
2. Analyse the types of soils to cultivate vegetable crops.
3. Demonstrate skills on agronomic practices for cultivation of vegetable crops.
4. Acquire knowledge on water, weed and disease managements in vegetable farming.
5. Comprehend aspects related to harvesting and storage of produce.

Syllabus: (Hours: Teaching: 50, Lab: 30, Field training: 05, others incl. unit tests: 05) (*Syllabi of theory, practical and lab (skills) training together shall be completed in 80 hours*)

UNIT I: Introduction to Olericulture (10h)

1. Vegetables and Olericulture: Definitions, nutritive value of vegetables and economic significance of vegetable farming.
2. Classification of vegetable crops (Botanical, based on climatic zones and economicparts used).
3. Types of vegetable gardens (kitchen gardening, terrace gardening, market gardening and truck gardening); implements used in vegetable gardening; vegetable forcing – a brief concept.

UNIT II: Cultivation of leafy vegetables (10h)

1. Leafy vegetables: Definition and a brief account of locally cultivated crops.
2. Study of the following leafy vegetable crops: (a) *Amaranthus* (b) Palak (c) *Hibiscus cannabinus* (d) Fenugreek: systematic position, nutritive value, origin, area, production, improved varieties.
3. General cultivation practices such as sowing, planting distance, fertilizer requirements, irrigation, weed management, harvesting.
4. Crop specific yield, storage, disease and pest control and seed production.

UNIT III: Cultivation of fruity vegetables (10h)

1. Fruity vegetables: Definition and a brief account of locally cultivated crops.
2. Study of the fruity vegetable crops: (a) Okra (b) Tomato (c) Chillies (d) Brinjal: systematic position, nutritive value, origin, area, production, improved varieties.
3. General cultivation practices such as sowing, planting distance, fertilizerrequirements, irrigation, weed management, harvesting.
4. Crop specific yield- storage, disease and pest control and seed production

UNIT IV: Cultivation of peas and beans (10h)

1. A brief account of locally cultivated peas and beans.
2. Study of the following crops: (a) *Dolichos* (b) Cluster bean (c) French bean: Systematic position, nutritive value, origin, area, production, improved Varieties.
3. General cultivation practices such as sowing, planting distance, fertilizer requirements, irrigation, weed management, harvesting.
4. Crop specific yield, storage, disease and pest control and seed production.

UNIT V: Cultivation of root and tuber crops (10h)

1. A brief account of locally cultivated root and tuber crops.
2. Study of the following crops: (a) Carrot (b) Radish (c) Sweet potato (d) Potato: Systematic position, family, nutritive value, origin, area, production, improved varieties.
3. General cultivation practices such as sowing, planting distance, fertilizerrequirements, irrigation, weed management, harvesting.
4. Crop specific yield, storage, disease and pest control and seed production.

REFERENCES:

1. Bose T K et al. (2003) Vegetable crops, Naya Udhyog Publishers, Kolkata.
2. Singh D K (2007) Modern vegetable varieties and production, IBN Publisher Technologies, International Book Distributing Co, Lucknow.
3. Premnath, Sundari Velayudhan and D P Sing (1987) Vegetables for the tropical region,ICAR, New Delhi
4. Shanmugavelu, K. G. 1989. Production Technology of Vegetable Crops. Oxford and IBHPublishing Co. Pvt. Ltd. New Delhi.
5. Rana MK. 2008. Scientific Cultivation of Vegetables. Kalyani Publ., New Delhi
6. Rubatzky VE and Yamaguchi M. (Eds.). 1997. World Vegetables: Principles, Productionand Nutritive Values. Chapman & Hall, London.
7. Web resources suggested by the teacher concerned and the college librarian includingreading material.

B. Sc	**Semester-V** (Skill Enhancement Course - Elective)	**Credits: 1**
Course: 6B	**Vegetable Crops – Cultivation Practices Lab**	**Hrs/Wk: 2**

Vegetable Crops – Cultivation Practices – Practical syllabus

Learning Outcomes:

On successful completion of this practical course, student willbe able to:

1. List out, identify and handle different garden implements.
2. Identify the important vegetable crops grown in their locality.
3. Demonstrate various skills in cultivation of vegetable crops.
4. Identify pests, diseases and their remedies that are specific to a vegetable crop.

Practical (Laboratory) Syllabus: (30 hrs)

1. Identification of seeds of important local vegetable plants and preparation of herbarium.
2. Identification of local vegetable crops and handling of garden tools.
3. Analysis of garden soil for ratios of physical characteristics by sieve separation.
4. Determination of chemical characters of garden soil (pH, EC, Organic Carbon,SAR).
5. Planning and layout of a vegetable crop farm.
6. Preparation of nursery bed (raised, sunken and flat beds) and sowing of seeds.
7. Transplanting and care of vegetable seedlings.
8. Intercultural operations in vegetable plots.
9. Estimation of Total Soluble Solids (TSS) by Refractometer in a fruit and a leafy vegetable.
10. Estimation of Vitamin - C in a fruit and a leafy vegetable by DCIP method.
11. Identification of pests and disease-causing organisms on any two vegetable plants.
12. Seed extraction in tomato and brinjal.

Lab References:

1. Akhilesh Sharma (Ed.), 2013. Practical Manual Olericulture-I, Sheel Packers, New Delhi
2. Biswajit Saha and Shri Dharampal Singh, 2013. Practical Manual Olericulture-I, Sheel Packers, New Delhi
3. Saini RS, K.D. Sharma, O.P, Dhankhar and R.A. Kaushik (Eds.). 2001. Laboratory Manual of Analytical Techniques in Horticulture. Agrobios, Jodhpur
4. Ranganna S. 1986. Handbook of Analysis and Quality Control for Fruit and Vegetable Products. Tata-McGraw Hill, New Delhi
5. Web sources suggested by the teacher concerned.

Co-Curricular Activities:

a) Mandatory: (*Lab/ field training of students by teacher: (Lab: 10 + field: 05 hours***)**

1. **For Teacher**: Training of students by the teacher in the laboratory/field for a total of not less than 15 hours on the field techniques/skills of vegetable plants identification, vegetable gardening, agronomic practices, water, weed and disease management; harvesting and storage of produce.
2. **For Student**: Students shall (individually) visit a horticulture university/ research station or vegetable crop farm in their locality, observe different vegetable crops/ varieties of a vegetable crop, intercultural operations, pests and diseases, harvesting and storage etc., write their observations and submit to the teacher a hand-written

Fieldwork/Project work Report not exceeding 10 pages in the given format.

3. Max marks for Fieldwork/Project work Report: 05.
4. Suggested Format for Fieldwork/Project work Report: Title page, student details, index page, details of place visited, observations, findings and acknowledgements.
5. Unit tests (IE).

b) Suggested Co-Curricular Activities:

1. Training of students by related industrial experts or farmers.
2. Assignments (including technical assignments like tools in vegetable gardening and their handling, agronomic practices, modern irrigation methods, organic farming practices etc.)
3. Seminars, Group discussions, Quiz, Debates etc. (on related topics).
4. Preparation of videos on cultivation practices for vegetable crops.
   Collection of material/figures/photos related to different vegetable crop species, writing and organizing them in a systematic way in a file
5. Visits to horticulture universities, research organizations, private vegetable farmingunits etc.
6. Invited lectures and presentations on related topics by field/industrial experts

MODEL QUESTION COURSE (Sem-End)

B. Sc DEGREE EXAMINATION

Semester-V (Skill Enhancement Course - Elective)

Course 6B: Vegetable Crops – Cultivation Practices

Time: 3Hrs. **Max. Marks: 75**

SECTION - A

Answer any FIVE questions. Each question carries 5 marks **5 x 5 =25M**

1. Nutritive Value of Vegetables
2. Vegetable Forcing
3. Systematic position of Amaranthus
4. Seed Production in Fenugreek
5. Nutritive Value of Okra
6. Disease and pest control in Cluster Bean
7. Nutritive value of Sweet Potato
8. Crop Specific yield of Radish

SECTION - B

Answer ALL the questions. Each question carries 10 marks **5X10 =50M**

9. (a) Define Olericulture. Write the classification of Vegetable Crops

(OR)

(b) Write about different types of Vegetable Gardens

10. (a)Write about the Nutritive Value, Production and Improved Varieties of Palak

(OR)

(b) Explain briefly general cultivation practices of Leafy Vegatables

11. (a) Explain the Cultivation practices of Tomato

(OR)

(b) Write about the Systematic position, Production and Improved Varieties of Brinjal

12. (a) Write a brief account of locally cultivated Peas and Beans

(OR)

(b) Explain the general Cultivation Practices of Dolichos

13. (a) Write about the Nutritive Value, area, Production and Improved Varieties of Carrot

(OR)

(b) Explain briefly general cultivation practices of Potato

Model Question Paper pattern for Practical Examination

Semester – V/ Botany Skill Enhancement Course

Vegetable Crops – Cultivation Practices

Max. Time: 3 Hrs. **Max. Marks: 50**

1. Demonstration of nursery bed making/transplanting of seedlings 'A' 8
2. Determination of physical or chemical characters of a given soil sample / Preparation ofslide and identification of pest/disease-causing organism in plant part given 'B' 10
3. Estimation of Total Soluble Solids/Vitamin-C in a given plant sample 'C' 12
4. Scientific observation and data analysis 4 x 3 = 12
   D. Identification of a garden tool
   E. Identification of seed/specimen of a vegetable crop species
   F. Identification of a weed/irrigation method
   G. Identification of a pest/disease causing organism
5. Record + Viva-voce 5+3 = 8

B. Sc	**Semester-V** (Skill Enhancement Course - Elective)	**Credits: 4**
Course: 7B	**Vegetable Crops – Post Harvest Practices**	**Hrs/Wk: 4**

Learning Outcomes:

Students at the successful completion of the course will be able to:

1. Understand various practices for vegetable produce from harvesting to marketing.
2. Demonstrate skills on storage, processing and preservation of vegetables.
3. Summarize causes for spoilage of vegetables before and during storage and methods to prevent and control them.
4. Make use of preservation methods to reduce the loss of vegetable produce.
5. Explain about value added products, packaging and marketing of vegetables.

Syllabus: (Hours: Teaching: 50, Lab: 30, Field training: 05, others incl. unit tests: 05) (*Syllabi of theory, practical and lab (skills) training together shall be completed in 80 hours*)

UNIT I: Introduction to Post Harvest Practices (10h)

1. Post-harvest technology: Definition; importance, scope and future status of post-harvest management of vegetables.
2. Study of maturity standards of vegetables; harvest techniques of vegetables, methods stages, signs of harvesting; harvesting and its relationship with quality, sorting and grading.
3. Careful handling of harvested vegetables; pre-harvest and post-harvest factors responsible for ripening.

UNIT II: Methods of storage (10h)

1. Climacteric and non-climacteric types of vegetables.
2. Methods of storage to prolong shelf life of harvested vegetables; on-farm storage, evaporatively cooled stores, ventilated storage, pit storage etc.
3. Refrigerated storage, refrigeration cycle, controlled and modified atmosphere, hypobaric storage.

UNIT III: Processing of vegetables (10h)

1. Causes for spoilage of vegetables and control measures during storage; post-harvest disease and pest management.
2. Techniques to prevent deterioration; vegetable processing equipment; minimal processing of vegetables.
3. Safe chemicals and microbial limits; application of growth regulators for quality assurance; grading.

UNIT IV: Preservation and value-addition (10h)

1. Importance and scope of vegetable preservation in India; principles underlying general methods of preservation.
2. Methods of preservation; food additives and food colours.
3. Fried products, process of frying; dried vegetables; sauces and chutneys, pickles and salted vegetables; by-product and waste utilization.

UNIT V: Marketing (10h)

1. Packing line operations, packaging of vegetables and their products; transportation; codex norms for export of perishables.
2. Demand supply analysis of important vegetables; market potential of various vegetables products.
3. Important marketing agencies and institutions; importance of cooperative marketing.

REFERENCES:

1. Salunkhe DK and Kadam SS. (Ed.). 1998. Hand Book of Vegetable Science and Technology: Production, Composition, Storage and Processing. Marcel Dekker, New York.
2. Arthey D and Dennis C. 1996. Vegetable Processing. Blackie/Springer-Verlag, New York
3. Verma LR and Joshi VK. 2000. Post-harvest Technology of Fruits and Vegetables: Handling, Processing, Fermentation and Waste Management. Indus Publishing Company, New Delhi
4. Srivastava RP and Kumar S. 2003. Fruit and Vegetable Preservation: Principles and Practices. International Book Distribution Company, Lucknow.
5. Giridharilal GS, Siddappa and Tandon GL. 1986. Preservation of Fruits and Vegetables. ICAR, New Delhi.
6. Web resources suggested by the teacher concerned and the college librarian including reading material.

B. Sc	**Semester-V** (Skill Enhancement Course - Elective)	**Credits: 1**
Course: 7B	**Vegetable Crops – Post Harvest Practices Lab**	**Hrs/Wk: 2**

Vegetable Crops – Post Harvest Practices – Practical syllabus

Learning Outcomes:

On successful completion of this practical course, student willbe able to:

1. Identify stages of maturity in vegetable crops.
2. Handle material for storage of vegetables.
3. Identify physical and biological causes for spoilage of vegetables.
4. Make some value-added products of vegetables.

Practical (Laboratory) Syllabus: (30 hrs)

1. Maturity selection and harvest, harvesting practices.
2. List and cost of equipment, utensils, and additives required for small scale processing industry.
3. Study of different types of spoilages in fresh as well as processed vegetables.
4. Identification and classification of spoilage organisms.
5. Estimation of total carbohydrates (Anthrone method) in a stored vegetable and un-stored vegetable.
6. Estimation of protein (Lowry method) in a stored vegetable and un-stored vegetable.
7. Sensory evaluation of fresh and processed vegetables.
8. Assessment of quality and grading, pre-packaging and protective treatments.
9. Identification of packaging materials, containers for packaging.
10. Preparation of pickle from a vegetable.
11. Preparation of tomato sauce, ketchup and chutney.

Lab References:

1. Swati Barche, Reena Nair and P. K. Jain, 2016. A Practical Manual on Post Harvest Value Addition and Processing of Horticulture Crops. Agrobios (India), Jodhpur
2. Antonio L. Acedo Jr., Md. Atiqur Rahman, Borarin Buntong and Durga Mani Gautam, 2016. Vegetable Postharvest Training Manual, AVRDC - The World Vegetable Center, Taiwan
3. Akhilesh Sharma (Ed.), 2013. Practical Manual Olericulture-I, Sheel Packers, New Delhi
4. Biswajit Saha and Shri Dharampal Singh, 2013. Practical Manual Olericulture-I, Sheel Packers, New Delhi
5. Web sources suggested by the teacher concerned.

Co-Curricular Activities:

a) Mandatory: (*Lab/ field training of students by teacher: (Lab: 10 + field: 05 hours*)

1. **For Teacher**: Training of students by teacher in the laboratory/field for a total of not less than 15 hours on the field techniques/skills of harvesting indices of vegetables, storage methods, tools and techniques for processing, causes for spoilage and methods to control, preservation methods, marketing chain and in making valueadded products.
2. **For Student**: Students shall (individually) visit any one of the places like horticulture university/ research station; vegetable storage units in public and private sector; vegetable processing industries in their locality and observe

harvesting practices, storage methods, processing and preservation; grading, value added products and marketing. Write their observations and submit to the teacher a hand-written Fieldwork/Project work Report not exceeding 10 pages in the given format.

3. Max marks for Fieldwork/Project work Report: 05.
4. Suggested Format for Fieldwork/Project work Report: Title page, student details, index page, details of place visited, observations, findings and acknowledgements.
5. Unit tests (IE).

b) Suggested Co-Curricular Activities:

1. Training of students by related industrial experts or farmers.
2. Assignments (including technical assignments like tools and techniques for storage, processing and preservation, causes for spoilage and methods to avoid losses, valueadded products of some vegetables, packaging and marketing etc.)
3. Seminars, Group discussions, Quiz, Debates etc. (on related topics).
4. Preparation of videos on cultivation practices for vegetable crops.
5. Collection of material/figures/photos related to harvesting, storage, processing and preservation of vegetable crop produce, writing and organizing them in a systematicway in a file.
6. Visits to horticulture universities, research organizations; storage, processing industries in public or private sector; industries making value added products ofvegetables etc.
7. Invited lectures and presentations on related topics by field/industrial experts.

MODEL QUESTION COURSE (Sem-End)

B. Sc DEGREE EXAMINATION

Semester-V (Skill Enhancement Course - Elective)

Course 7B: Vegetable Crops – Post Harvest Practices

Time: 3Hrs. **Max. Marks: 75**

SECTION - A

Answer any FIVE questions. Each question carries 5 marks **5 x 5 =25M**

1. Careful handling of Harvested Vegetables
2. Sorting and Grading of Vegatables
3. Ventilated Storage
4. Hypobaric Storage
5. Safe Chemicals
6. Pickles and Salted Vegetables
7. Packing of Vegetables
8. Codex norms for export of perishables

SECTION - B

Answer ALL the questions. Each question carries 10 marks **5X10 =50M**

9. (a) What is Post Harvest Technology. Write its Scope and Importance

(OR)

(b) Describe the Harvest techniques of Vegetables and add a note on methods, stages and signs of Harvesting

10. (a) What are Climacteric and Non Climacteric types of Vegetables

(OR)

(b) Explain any four methods of storage to prolong the Shelf life of Vegetables

11. (a) Discuss the causes for spoilage of Vegetables and explain the methods to control the spoilage

(OR)

(b) What are the techniques followed to prevent the deterioration of Vegetables

12. (a) Write about the importance and Scope of Vegetable preservation in India

(OR)

(b) Describe the methods of Vegetable Crop preservation

13. (a) Explain the demand supply analysis of important Vegetables

(OR)

(b) Write about important Marketing agencies and Institutions

Model Question Paper Pattern for Practical Examination

Semester – V/ Botany Skill Enhancement Course

Vegetable Crops – Post Harvest Practices

Max. Time: 3 Hrs. **Max. Marks: 50**

1. Identification of organism(s) responsible for spoilage of vegetable 'A' 8
2. Assessment of quality and grading/ technique of packaging and protective treatment. 10
3. Estimation of carbohydrates/protein content in a vegetable sample 'C' 12
4. Scientific observation and data analysis 4 x 3 = 12
   A. Identification of harvesting stage
   B. Identification of equipment for processing
   C. Identification of PGR/chemical used for PHT of vegetables.
   D. Identification of a packaging material/value added product.
5. Record + Viva-voce 5+3 = 8

B. Sc	**Semester-V** (Skill Enhancement Course - Elective)	**Credits: 4**
Course: 6C	**Plant Tissue Culture**	**Hrs/Wk: 4**

Learning Outcomes:

Students at the successful completion of the course will be able to:

1. Comprehend the basic knowledge and applications of plant tissue culture.
2. Identify various facilities required to set up a plant tissue culture laboratory.
3. Acquire a critical knowledge on sterilization techniques related to plant tissue culture.
4. Demonstrate skills of callus culture through hands on experience.
5. Understand the biotransformation technique for production of secondary metabolites.

Syllabus: (Hours: Teaching: 50, Lab: 30, Field training: 05, others incl. unit tests: 05) (*Syllabi of theory, practical and lab (skills) training together shall be completed in 80 hours*)

UNIT I: Basic concepts of plant tissue culture (10h)

1. Plant tissue culture: Definition, history, scope and significance.
2. Totipotency, differentiation, dedifferentiation, and redifferentiation; types of cultures.
3. Infrastructure and equipment required to establish a tissue culture laboratory.

UNIT II: Sterilization techniques and culture media (10h)

1. Aseptic conditions – Fumigation, wet and dry sterilization, UV sterilization, ultrafiltration.
2. Nutrient media: Composition of commonly used nutrient culture media with respectto their contents like inorganic chemicals, organic constituents, vitamins, amino acidsetc.
3. Composition and preparation of Murashige and Skoog culture medium.

UNIT III: Callus culture technique (10h)

1. Explant: Definition, different explants for tissue culture: shoot tip, axillary buds, leaf discs, cotyledons, inflorescence and floral organs, their isolation and surface sterilization; inoculation methods.
2. Callus culture: Definition, various steps in callus culture.
3. Initiation and maintenance of callus - Growth measurements and subculture; soma clonal variations.

UNIT IV: Micropropagation (10h)

1. Direct and indirect morphogenesis, organogenesis, role of PGRs; somaticembryogenesis and synthetic seeds.
2. Greenhouse hardening unit operation and management; acclimatization and hardeningof plantlets - need, process, packaging, exports.
3. Pathogen (Virus) indexing- significance, methods, advantages, applications.

UNIT V: Applications of plant tissue culture (10h)

1. Germplasm conservation: cryopreservation methods, slow growth, applications and limitations; cryoprotectants.
2. Plant transformation techniques and bioreactors; production of secondary metabolites-optimization of yield, commercial aspects, applications, limitations.
3. Transgenic plants- gene transfer methods; BT cotton.

REFERENCES:

1. Kalyan Kumar De (2001) An Introduction to Plant Tissue Culture, New Central Book Agency (P) Ltd., Calcutta
2. Razdan, M.K. (2005) Introduction to Plant Tissue Culture, Oxford & IBH Publishers, Delhi
3. Bhojwani, S.S. (1990) Plant Tissue Culture: Theory and Practical (a revised edition). Elsevier Science Publishers, New York, USA.
4. Vasil, I.K. and Thorpe, T.A. (1994) Plant Cell and Tissue Culture. Kluwer Academic Publishers, the Netherlands.
5. Web resources suggested by the teacher concerned and the college librarian including reading material.

B. Sc	**Semester-V** (Skill Enhancement Course - Elective)	**Credits: 1**
Course: 6C	**Plant Tissue Culture Lab**	**Hrs/Wk: 2**

Plant Tissue Culture – Practical syllabus

Learning Outcomes: On successful completion of this practical course, student willbe able to:

1. List out, identify and handle various equipment in plant tissue culture lab.
2. Learn the procedures of preparation of media.
3. Demonstrate skills on inoculation, establishing callus culture andMicro propagation.
4. Acquire skills in observing and measuring callus growth.
5. Perform some techniques related to plant transformation for secondary Metabolite production.

Practical (Laboratory) Syllabus: (30 hrs)

1. Principles and applications of- Autoclave, Laminar Airflow, Hot Air Oven.
2. Sterilization techniques for glass ware, tools etc.,
3. MS medium - Preparation of different stock solutions; media preparation
4. Explant preparation, inoculation and initiation of callus from carrot.
5. Callus formation, growth measurements.
6. Induction of somatic embryos, preparation of synthetic seeds.
7. Multiplication of callus and organogenesis.
8. Hardening and acclimatization in green house.

LAB REFERENCES:

1. Reinert, J. and M.M. Yeoman, 1982. Plant Cell and Tissue Culture - A Laboratory
2. Manual, Springer-Verlag Berlin Heidelberg
3. Robert N. Trigiano and Dennis J. Gray, 1999. Plant Tissue Culture Concepts and Laboratory Exercises. CRC Press, Florida
4. Ashok Kumar, 2018. Practical Manual for Biotechnology, College of Horticulture& Forestry, Jhalawar, AU, Kota
5. Chawla, H.S., 2003. Plant Biotechnology: A Practical Approach, Nova Science Publishers, New York
6. Web sources suggested by the teacher concerned.

Co-Curricular Activities:

a) Mandatory: (*Lab/field training of students by teacher: Lab: 10 + field: 05 hours*)

1. **For Teacher**: Training of students by teacher in the laboratory/field for a total of not less than 15 hours on the field techniques/skills of sterilization procedures, preparation of media, establishment of callus culture, growth measurements; morphogenesis and organogenesis; acclimatization and hardening of plantlets.
2. **For Student**: Students shall (individually) visit anyone of plant tissue culture laboratories in universities/research organizations/private facilities, write their observations on tools, techniques, methods and products of plant tissue culture; and submit a hand-written Fieldwork/Project work Report not exceeding 10 pages to the teacher in the given format.
3. Max marks for Fieldwork/Project work Report: 05
4. Suggested Format for Fieldwork/Project work Report: Title page, student

details, index page, details of place visited, observations, findings and acknowledgements.

5. Unit tests (IE).

b) Suggested Co-Curricular Activities:

1. Training of students by related industrial experts.
2. Assignments (including technical assignments like identifying tools in plant tissue culture and their handling, operational techniques with safety and security, IPR)
3. Seminars, Group discussions, Quiz, Debates etc. (on related topics).
4. Preparation of videos on tools and techniques in plant tissue culture.
5. Collection of material/figures/photos related to products of plant tissue culture,writing and organizing them in a systematic way in a file.
6. Visits to plant tissue culture/biotechnology laboratories in universities, researchorganizations, private firms, etc.
7. Invited lectures and presentations on related topics by field/industrial experts

MODEL QUESTION COURSE (Sem-End)

B. Sc DEGREE EXAMINATION

Semester-V (Skill Enhancement Course - Elective)

Course 6C: Plant Tissue Culture

Time: 3Hrs. **Max. Marks: 75**

SECTION - A

Answer any FIVE questions. Each question carries 5 marks **5 x 5 =25M**

1. Totipotency
2. Types of Cultures
3. Nutrient Media
4. Sub Culture
5. Somaclonal Variations
6. Acclimatization
7. Bioreactors
8. Secondary Metabolites

SECTION - B

Answer ALL the questions. Each question carries 10 marks **5X10 =50M**

9. (a) Define Tissue Culture? Write the Scope and Significance

(OR)

(b) Write the Infrastructure and Equipment required to establish a Tissue Culture Lab

10. (a) Write the composition and preparation of Murashige and Skoog Culture Medium.

(OR)

(b) What are the methods followed to maintain Aseptic Conditions in Tissue Culture Lab

11. (a) What is an Explant? Write the different explants used for Tissue Culture

(OR)

(b) What is Callus Culture? Explain various steps in Callus Culture

12. (a)What is Somatic Embryogenesis. Explain the production of Synthetic Seeds.

(OR)

(b)What is Pathogen Indexing. Write its methods and applications.

13. (a) Explain in detail Germplasm Conservation

(OR)

(b) What are Transgenic Plants. Explain the Gene Transfer method in BT Cotton

Model Question Paper Pattern for Practical Examination

Semester – V/ Botany Skill Enhancement Course

Plant Tissue Culture

Max. Time: 3 Hrs. **Max. Marks: 50**

1. Demonstration of a sterilization technique 'A'	8
2. Preparation of MS medium 'B'	10
3. Demonstration of callus culture technique/growth measurements 'C'	12
4. Scientific observation and data analysis	4 x 3 = 12
D. Tissue culture equipment /photograph	
E. Morphogenesis or organogenesis - photograph	
F. Bioreactor/Secondary metabolite	
G. Transgenic plant/photograph	
5. Record + Viva-voce	5+3 = 8

B. Sc	**Semester-V** (Skill Enhancement Course - Elective)	**Credits: 4**
Course: 7C	**Mushroom Cultivation**	**Hrs/Wk: 4**

Learning Outcomes:

Students at the successful completion of the course will be able to:

1. Understand the structure and life of a mushroom and discriminate edible and poisonousmushrooms.
2. Identify the basic infrastructure to establish a mushroom culture unit.
3. Demonstrate skills preparation of compost and spawn.
4. Acquire a critical knowledge on cultivation of some edible mushrooms.
5. Explain the methods of storage, preparation of value-added products and marketing.

Syllabus: (Hours: Teaching: 50, Lab: 30, Field training: 05, others incl. unit tests: 05) (*Syllabi of theory, practical and lab (skills) training together shall be completed in 80 hours*)

UNIT I: Introduction and value of mushrooms (10h)

1. Mushrooms: Definition, structure of a mushroom and a brief account of life cycle; historical account and scope of mushroom cultivation; difference between edible and poisonous mushrooms.
2. Morphological features of any four edible mushrooms, Button mushroom (*Agaric us Bosporus*), Milky mushroom (*Calocybe indica*), Oyster mushroom (*Pleurotus sajor-caju*) and Paddy straw mushroom (*Volvariella volvacea*).
3. Nutraceutical value of mushrooms; medicinal mushrooms in South India - *Ganoderma lucidum, Phellinus rimosus, Pleurotus florida and Pleurotus pulmonaris* – their therapeutic value; Poisonous mushrooms - harmful effects.

UNIT II: Basic requirements of cultivation system (10h)

1. Small village unit and larger commercial unit; layout of a mushroom farm - location of building plot, design of farm, bulk chamber, composting, equipment and facilities, pasteurization room and growing rooms.
2. Compost and composting: Definition, machinery required for compost making, materials for compost preparation.
3. Methods of composting- long method of composting and short method of composting.

UNIT III: Spawning and casing (10h)

1. Spawn and spawning: Definition, facilities required for spawn preparation; preparation of spawn substrate.

   Preparation of pure culture, media used in raising pure culture; culture maintenance,storage of spawn
2. Casing: Definition, Importance of casing mixture, Quality parameters of casing soil, different types of casing mixtures, commonly used materials.

UNIT IV: Mushroom cultivation (10h)

Raw material, compost, spawning, casing, cropping, and problems in cultivation (diseases, pests and nematodes, weed molds and their management strategies), picking and packing forany Four of the following mushrooms: (a) Button mushroom (b) Oyster mushroom (c) Milky mushroom and (d) Paddy strawmushroom

UNIT V: Post harvest technology (10h)

1. Shelf life of mushrooms; preservation of mushrooms - freezing, dry freezing, drying and canning.
2. Quality assurance and entrepreneurship - economics of different types of mushrooms;value added products of mushrooms.
3. Management of spent substrates and waste disposal of various mushrooms.

REFERENCES:

1. Tewari Pankaj Kapoor, S. C. (1988). Mushroom Cultivation. Mittal Publication, New Delhi.
2. Pandey R.K, S. K Ghosh, (1996). A Hand Book on Mushroom Cultivation. Emkey Publications
3. Nita Bhal. (2000). Handbook on Mushrooms (Vol. I and II). Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi
4. Pathak, V. N. and Yadav, N. (1998). Mushroom Production and Processing Technology. Agrobios, Jodhpur.
5. Tripathi, D.P. (2005) Mushroom Cultivation, Oxford & IBH Publishing Co. Pvt. Ltd, New Delhi.
6. Pathak V.N., Nagendra Yadav and Maneesha Gaur (2000), Mushroom Production and Processing Technology Vedams Ebooks Pvt. Ltd., New Delhi
7. Web resources suggested by the teacher concerned and the college librarian including reading material.

B. Sc	**Semester-V** (Skill Enhancement Course - Elective)	**Credits: 1**
Course: 7C	**Mushroom Cultivation Lab**	**Hrs/Wk: 2**

Mushroom Cultivation – Practical syllabus

Learning Outcomes: On successful completion of this practical course, student will beable to:

1. Identify and discriminate different mushrooms based on morphology.
2. Understand facilities required for mushroom cultivation.
3. Demonstrate skills on preparation of spawn, compost and casing material.
4. Exhibit skills on various cultivation practices for an edible mushroom.

Practical (Laboratory) Syllabus: (30 hrs)

1. Identification of different types of mushrooms.
2. Preparation of pure culture of an edible mushroom.
3. Preparation of mother spawn.
4. Production of planting spawn and storage.
5. Preparation of compost and casing mixture.
6. Demonstration of spawning and casing.
7. Hands on experience on cropping and harvesting.
8. Demonstration of storage methods.
9. Preparation of value-added products.

LAB REFERENCES:

1. Sushma Sharma Sapna Thakur Ajar Nath Yadav, 2018. Mushroom Cultivation: A Laboratory Manual, Eternal University, Sirmour, H.P.
2. Kadhila-Muandingi, N.P., F. S. Mubiana and K. L. Halueendo, 2012. Mushroom Cultivation: A Beginners Guide, The University of Namibia
3. Gajendra Jagatap and Utpal Dey, 2012. Mushroom Cultivation:Practical Manual, LAMBERT Academic Publishing, Saarbrücken, Germany
4. Deepak Som, 2021. A Practical Manual on Mushroom Cultivation, P.K.Publishers& Distributors, Delhi
5. Web sources suggested by the teacher concerned.

Co-Curricular Activities:

a) Mandatory: (*Lab/field training of students by teacher: Lab: 10 + field: 05 hours*)

1. **For Teacher**: Training of students by teacher in the laboratory/field for not less than15 hours on the field techniques/skills of identification of edible and poisonous mushrooms, basic facilities of a mushroom culture unit, preparation of compost and spawn, cultivation practices of edible mushrooms, storage and marketing of produce.
2. **For Student**: Students shall (individually) visit mushroom culture units in universities/research organizations/private sector write their observations on infrastructure, cultivation practices and products of a mushroom culture unit etc., and submit to the teacher a hand-written Fieldwork/Project work Report not exceeding 10 pages in the given format.
3. Max marks for Fieldwork/Project work Report: 05.
4. Suggested Format for Fieldwork/Project work Report: Title page, student details, index page, details of place visited, observations, findings and acknowledgements.
5. Unit tests (IE).

b) Suggested Co-Curricular Activities:

1. Training of students by related industrial experts.

2. Assignments (including technical assignments like identifying various mushrooms, tools and techniques for culture, identification and control of diseases etc.,
3. Seminars, Group discussions, Quiz, Debates etc. (on related topics).
4. Preparation of videos on tools and techniques in mushroom culture.
5. Collection of material/figures/photos related to edible and poisonous mushrooms, cultivation of mushrooms in cottage industries, writing and organizing them in a systematic way in a file.
6. Visits to mushroom culture units in universities, research organizations, private firms,etc.
7. Invited lectures and presentations on related topics by field/industrial experts

MODEL QUESTION COURSE (Sem-End)

B. Sc DEGREE EXAMINATION

Semester-V (Skill Enhancement Course - Elective)

Course 7C: Mushroom Cultivation

Time: 3Hrs. **Max. Marks: 75**

SECTION - A

Answer any FIVE questions. Each question carries 5 marks **5 x 5 =25M**

1. Poisonous Mushrooms
2. Oyester Mushrooms
3. Materials for Compost making
4. Storage of Spawn
5. Culture Maintanance
6. Paddy straw Mushroom
7. Value added products of Mushrooms
8. Waste disposal of various Mushrooms

SECTION - B

Answer ALL the questions. Each question carries 10 marks **5X10 =50M**

9. (a) Describe the structure of Mushroom and Write a brief account of its Life Cycle

(OR)

(b) Explain Nutraceutical Value of Mushrooms. Write about any two Medicinal Mushrooms used in South India

10. (a) What is Composting ? Explain the Methods of Composting?

(OR)

(b) Describe in detail the layout of a Mushroom Farm.

11. (a) Define Spawning. What are the facilities required for Spawn preparation

(OR)

(b) Describe different types of Casing mixtures and write its importance

12. (a) Explain the process of Cultivation of Milky Mushrooms.

(OR)

(b) Explain the process of Cultivation of Button Mushrooms

13. (a) What are the methods used for preservation of Mushrooms

(OR)

(b) Explain the Quality assurance and Entrepreneurships in Mushroom Cultivation

Model Question Paper Pattern for Practical Examination

Semester – V/ Botany Skill Enhancement Course

Mushroom Cultivation

Max. Time: 3 Hrs. **Max. Marks: 50**

1. Demonstration of preparing pure culture/mother spawn 'A' 8
2. Preparation method for planting spawn and storage/compost and casing material 'B' 10
3. Demonstration of spawning and casing/storage and making a value-added product 'C' 12
4. Scientific observation and data analysis 4 x 3 = 12
   - D. Edible/poisonous mushroom specimen/photograph
   - E. Infrastructure/tool used in mushroom cultivation
   - F. Material for compost/casing
   - G. Storage practice/ a value-added product
5. Record + Viva-voce 5+3 = 8

B. Sc	**Semester-V** (Skill Enhancement Course - Elective)	**Credits: 4**
Course: 6D	**Gardening and Landscaping**	**Hrs/Wk: 4**

Learning Outcomes:

Students at the successful completion of the course will be able to:

1. Acquire a critical knowledge about the aesthetic value, types and styles of gardens.
2. Perform filed operations in a garden by understanding the role of a gardener.
3. Identify various ornamental plants and explain the growth habits.
4. Propagate garden plants through various propagation techniques.
5. Demonstrate skills of designing and developing a garden.

Syllabus: (Hours: Teaching: 50, Lab: 30, Field training: 05, others incl. unit tests: 05) (*Syllabi of theory, practical and lab (skills) training together shall be completed in 80 hours*)

UNIT I: Basics of Gardening (10h)

1. Garden and gardening: Definitions, objectives and scope; types of gardens (domestic garden, flower garden, woodland garden, rock garden, water garden and herb and vegetable garden).
2. Speciality gardens (vertical garden, roof garden and scented garden); principles of gardening; garden components and adornments;
3. Styles of garden: formal, informal, free style and wild; some famous gardens of India.

UNIT II: Garden operations (10h)

1. Bio-aesthetic planning, eco-tourism, theme parks, indoor gardening, therapeuticgardening.
2. Gardening operations: soil laying, manuring, watering, management of pests and diseasesand harvesting.
3. Lawn making, methods of designing rockery and water garden.

UNIT III: Ornamental plants (10h)

1. Ornamental plants: flowering annuals and perennials; climbers and creepers; shade andornamental trees.
2. Bulbous and foliage ornamental plants; cacti and succulents; palms, ferns.
3. Bonsai: definition, types and styles, art of making bonsai.

UNIT IV: Propagation techniques (10h)

1. Propagation of ornamental plants by rhizomes, corms tubers, bulbs and bulbils.
2. Vegetative propagation techniques – a brief account of cuttings, layering and grafting.
3. Types of seed beds; sowing of seeds and raising seedlings, transplanting of seedlings;growing plants in pots, potting and repotting.

UNIT V: Landscaping (10h)

1. Landscaping: definition, landscaping of parks and public gardens.
2. Urban planning and planting avenues; Landscaping highways and educationalinstitutions; beautifying villages and colonies.
3. Computer Aided Designing (CAD) for outdoor and indoor-scaping.

REFERENCES:

1. Bose T.K. and Mukherjee, D., 1972, Gardening in India, Oxford & IBH Publishing Co., New Delhi.
2. Sandhu, M.K. 1989 Plant Propagation, Wiley Eastern Ltd., Bengaluru.
3. Nambisan, K. M. P. 1992. Design Elements of Land Scape Gardening Oxford & IBHPublishing Co. Pvt. Ltd., New Delhi.
4. Bose, T. K. Malti, R. G. Dhua, R. S and Das, P. 2004. Floriculture and Landscaping.Nayaprakash, Calcutta.
5. Arora, J.S. 2006. Introductory Ornamental Horticulture. Kalyani Publishers,Ludhiana.
6. Web resources suggested by the teacher concerned and the college librarian includingreading material.

B. Sc	**Semester-V** (Skill Enhancement Course - Elective)	**Credits: 1**
Course: 6D	**Gardening and Landscaping Lab**	**Hrs/Wk: 2**

Gardening and Landscaping – Practical syllabus

Learning Outcomes: On successful completion of this practical course, studentwill be able to:

1. Perform various skills related to gardening.
2. Identify the living and non-living components required for garden development.
3. Identify the pests and diseases of garden plants and control the same.
4. Demonstrate skills of making bonsai and developing lawn.
5. Make landscape design using CAD.

Practical (Laboratory) Syllabus: (30 hrs)

1. Preparation of beds for growing nursery of herbs, shrubs and trees.
2. Tools, implements and containers used for propagation and nursery techniques.
3. Identification of different ornamental plants.
4. Demonstration of types and styles of gardens using photos or videos.
5. Gardening operations: soil laying, manuring, watering.
6. Identification of pathogenic and non-pathogenic diseases of garden plants and grasses.
7. Propagation by cutting, layering, budding and grafting.
8. Planning and designing of gardens, functional uses of plants in the landscape.
9. Preparation of land for lawn and planting.
10. Exposure to CAD (Computer Aided Designing)
11. Demonstration of bonsai making.
12. Making of topiaries.

LAB REFERENCES:

1. Paul Wagland, 2011. Garden Landscaping Manual: A Step-by-Step Guide to Landscaping & Building Projects in Your Garden, Haynes Publishing UK
2. Misra Kaushal Kumar, 2016. Practical Manual of Horticulture, Biotech Books, Open Library.org
3. Hemla Naik, B., S.Y. Chandrashekhar and M. Jawaharlal, 2013. Principles of Landscape Gardening, TNAU, Agrimoon.Com.
4. Web sources suggested by the teacher concerned.

Co-Curricular Activities:

a) Mandatory: (*Lab/ field training of students by teacher: (Lab: 10 + field: 05 hours*)

1. **For Teacher**: Training of students by the teacher in the laboratory/field for a total of not less than 15 hours on the field techniques/skills of garden operations, lawnmaking, art of bonsai, plant propagation methods, Using CAD.
2. **For Student**: Students shall (individually) visit the parks in public and private places,study the living and non-living elements of gardening – landscaping; write their observations (on various plants, growth habit, propagation, design of garden etc.,) andsubmit a hand-written Fieldwork/Project work Report not exceeding 10

pages in the given format to the teacher.

3. Max marks for Fieldwork/Project work Report: 05
4. Suggested Format for Fieldwork/Project work Report: Title page, student details, index page, details of place(s) visited, observations, findings, and acknowledgements.
5. Unit tests (IE).

b) Suggested Co-Curricular Activities:

1. Training of students by related industrial experts.
2. Assignments (including technical assignments like identifying ornamental plants, types and styles of gardens, propagation of garden plants, landscaping)
3. Seminars, Group discussions, Quiz, Debates etc. (on related topics).
4. Preparation of videos on plant propagation, garden operations, ornamental gardening.
5. Collection of material/figures/photos related to gardening and landscaping, writingand organizing them in a systematic way in a file.
6. Visits to gardens and parks in public places and/or private firms; famous gardens in A.P. and India etc.
7. Invited lectures and presentations on related topics by field/industrial experts.

MODEL QUESTION COURSE (Sem-End)

B. Sc DEGREE EXAMINATION

Semester-V (Skill Enhancement Course - Elective)

Course 6D: Gardening and Landscaping

Time: 3Hrs. **Max. Marks: 75**

SECTION - A

Answer any FIVE questions. Each question carries 5 marks **5 x 5 =25M**

1. Famous Gardens of India
2. Formal Gardens
3. Eco-tourism
4. Therapeutic Gardening
5. Flowering Annuals
6. Ornamental Trees
7. Types of Seed beds
8. Computer Aided Designing

SECTION - B

Answer ALL the questions. Each question carries 10 marks **5X10 =50M**

9. (a) What is Gardening. Describe different types of Gardens

(OR)

(b) Write the Principles of Gardening. Describe Vertical Garden and Roof Garden

10. (a) Explain the Routine operations in Gardening

(OR)

(b) Describe the method of designing Rockery and Water Garden

11. (a) What are Bonsai Plants. Explain the art of making Bonsai

(OR)

(b) Write about the Bulbous and Foliage ornamental Plants

12. (a) What is Vegetative Propagation? Write a brief account of Layering and Grafting

(OR)

(b) Explain the Propagation of Ornamental Plants by Rhizomes, Corms and Tubers

13. (a) Define Land Scaping. Describe the Landscaping of Parks and Public Gardens

(OR)

(b) Describe the Landscaping of Highways and Educational Institutions.

Model Question Paper Pattern for Practical Examination

Semester – V/ Botany Skill Enhancement Course

Gardening and Landscaping

Max. Time: 3 Hrs. **Max. Marks: 50**

1. Demonstration a vegetative propagation technique 'A'	8
2. Demonstration of bed making/ garden operations' 'B'	10
3. Demonstration of bonsai technique/ designing a landscape 'C'	12
4. Scientific observation and data analysis	4 x 3 = 12
D. Type or style of garden	
E. Ornamental plant	
F. Garden adornments	
G. Pest or disease of garden plants	
5. Record + Viva-voce	5+3 = 8

B. Sc	**Semester-V** (Skill Enhancement Course - Elective)	**Credits: 4**
Course: 7D	**Agroforestry**	**Hrs/Wk: 4**

Learning Outcomes:

Students at the successful completion of the course will be able to:

1. Understand the concepts and economic value of agroforestry.
2. Acquire a critical knowledge on systems and design of agroforestry.
3. Explain silviculture practices in relation to agroforestry.
4. Understand the role of agroforestry to reclaim the waste lands.
5. Perform skills in relation to tree measurement techniques.

Syllabus: (Hours: Teaching: 50, Lab: 30, Field training: 05, others incl. unit tests: 05) (*Syllabi of theory, practical and lab (skills) training together shall be completed in 80 hours*)

UNIT I: Basic concepts of Agroforestry (10h)

1. Forest and Agroforestry. Definition, objectives, scope and advantages of agroforestry; classification of agroforestry; differences between social forestry and agroforestry.
2. Agroforestry practices as existing in India and Andhra Pradesh.
3. Criteria for selection and screening of tree species; design and diagnosis methodologyin relation to agroforestry.

UNIT II: Systems of Agroforestry (10h)

1. Global agroforestry system: shifting cultivation, taungya cultivation, shelter belt andwind breaks, and energy plantation and homestead gardens.
2. Multipurpose tree species and their characteristics; criteria for selection of agroforestry design, role tree architecture and management in agroforestry.
3. Alley cropping, high density short rotation plantation systems, silvicultural woodlots, energy plantations.

UNIT III: Silviculture of Agroforestry trees (10h)

1. Silviculture: Definition, objectives and scope and its place in agroforestry.
2. Choice of species, site selection, and pure verses mixed crop, planting techniques and methods, protection of seedlings/ plantations from environmental and biological adversaries, tending operations, concept of coppice etc.
3. Silviculture of agroforestry trees with special reference to: (a) *Azadirachta indica*, (b) *Tectona grandis* (c) *Emblica officinalis* and (d) *Tamarindus indica*.

UNIT IV: Waste land reclamation (10h)

1. Wasteland definition, types: ecological characteristics, landslides, soil erosion, hoods, drought, salinity, water logging and fire.
   Biological causes of deforestation, grazing, shifting cultivation and faulty agriculturalpractices.
2. Reclamation of wastelands, scientific land use practices, afforestation, soil conservation practices, improvement of water catchment areas and development ofrecreational and amenity areas.

UNIT V: Measurements in Agroforestry (10h)

1. Tree measurement techniques: Instruments and methods for measurement of tree

diameter, height, bark thickness, crown volume crown surface area.

2. Tree stem form, yield tables, volume tables, concept of sustained yield, and kind of tree rotation, increment and yield; estimation of biomass.
3. Determination of tree age and introduction of working plan.

REFERENCES:

1. Dwivedi, A.P. 1992. Agroforestry: Principles and Practices. Oxford & IBH
2. Nair, P.K.R. 1993. An Introduction to Agroforestry. Kluwer.
3. Nair P.K.R., M.R. Rai and L.E.Buck, 2004. New Vistas in Agroforestry. Kluwer
4. Rajeshwar Rao G., M. Prabhakar, G. Venkatesh, I. Srinivas and K. Sammi Reddy (2018) Agroforestry Opportunities for Enhancing Resilience to Climate Change in Rainfed Areas, ICAR-CRIDA, Hyderabad
5. Young, A. 1997. Agroforestry for Soil Management. CABI
6. Web resources suggested by the teacher concerned and the college librarian including reading material.

B. Sc	**Semester-V** (Skill Enhancement Course - Elective)	**Credits: 1**
Course: 7D	**Agroforestry Lab**	**Hrs/Wk: 2**

Agroforestry – Practical syllabus

Learning Outcomes:

On successful completion of this practical course, studentwill be able to:

1. Identify suitable tree species for agroforestry and their products.
2. Demonstrate skills on raising tree species from seeds and by vegetative propagation.
3. Perform skills on measurements related to wood-based products.
4. Estimate biomass in an energy plantation.

Practical (Laboratory) Syllabus: (30 hrs)

1. Identification of agroforestry tree-species.
2. Identification of important major and minor agroforest products.
3. Collection and maintenance of agro-forest products and herbarium
4. Nursery lay out seed sowing and pre-sowing seed treatments.
5. Vegetative propagation techniques – hard wood cuttings and air layering.
6. Diameter measurements using calipers and tape; diameter measurements offorked, buttressed, fluted and leaning trees.
7. Height measurement of standing trees by shadow method, single pole method and hypsometer.
8. Volume measurement of logs using various formulae.
9. Biomass estimation in energy plantations.

LAB REFERENCES:

1. Meena, R. N. and R.K. Singh, 2014. A Practical Manual on Agroforesty, SrijanSamiti Publication, Varanasi
2. Dadhwal, K.S., P.Panwar, R.Kaushal, H.S.Saralch and R.Chauhan, 2014.Practical Manual on Agroforestry, Jaya Publishing House, Delhi
3. Sen, N. L., R. C. Dadheech, L. K. Dashora and T. S. Rawat, 2010. Manual of Agroforestry and Social forestry, Agrotech Publishing Academy, Udaipur
4. Web sources suggested by the teacher concerned.

Co-Curricular Activities:

a) Mandatory: (*Lab/ field training of students by teacher: (Lab: 10 + field: 05 hours*)

1. **For Teacher**: Training of students by the teacher in the laboratory/field for not less than 15 hours on techniques like selection and screening of tree species, design and diagnosis methodology in agroforestry, silviculture practices for some selected tree species and measurements in agroforestry.
2. **For Student**: Students shall (individually) visit to nurseries of forest department, agroforestry division in Horticulture university/research station, agroforest/silviculture sites, write their observations on nursery practices, various species grown in an agroforest, growth habit, cultivation practices, measurements, products etc., and submit to the teacher a hand-written Fieldwork/Project work Reportnot exceeding 10 pages in the given format.

3. Max marks for Fieldwork/Project work Report: 05
4. Suggested Format for Fieldwork/Project work Report: Title page, student details, index page, details of place visited, observations, findings and acknowledgements.
5. Unit tests (IE).

a) Suggested Co-Curricular Activities:

1. Training of students by related industrial experts.
2. Assignments (including technical assignments like criteria for selection of agroforestry tree species; silviculture practices in agroforests; measurements in agroforestry; economic, social, land use and cultural services of agroforestry)
3. Seminars, Group discussions, Quiz, Debates etc. (on related topics).
4. Preparation of videos on various agroforestry methods, silviculture practices, treemeasurement techniques etc.,
5. Collection of material/figures/photos related to agroforestry, writing and organizingthem in a systematic way in a file.
6. Visits to social forest nurseries, energy plantations and forest research centres; nearbyagro-forest based industries in A.P.
7. Invited lectures and presentations on related topics by field/industrial experts

MODEL QUESTION COURSE (Sem-End)

B. Sc DEGREE EXAMINATION

Semester-V (Skill Enhancement Course - Elective)

Course 7D: Agroforestry

Time: 3Hrs. **Max. Marks: 75**

SECTION - A

Answer any FIVE questions. Each question carries 5 marks **5 x 5 =25M**

1. Criteria for selection of Tree Species
2. Scope of Agroforestry
3. Alley Cropping
4. Silvicultural Wood Lots
5. Concept of Coppice
6. Shifting Cultivation
7. Concept of sustained Yield
8. Estimation of Biomass

SECTION - B

Answer ALL the questions. Each question carries 10 marks **5X10 =50M**

9. (a) What is Agroforestry. Write the difference between Social Forestry and Agroforestry.

(OR)

(b) What are the Agroforestry practices existing in Andhra Pradesh

10. (a) Describe in brief Global Agroforestry System

(OR)

(b) Write about Multipurpose tree species and their Characteristics.

11. (a) Define Silviculture. Wite the objectives and scope of it in Agroforestry.

(OR)

(b) Describe the Silviculture of Agroforestry trees *Azadiracta indica* and *Emblica officinalis*

12. (a) What are Waste Lands. Describe the types and Ecological characteristics.

(OR)

(b) What are the methods followed for Reclamation of Waste Lands

13. (a)What are Instruments and methods followed for Measurement of Trees

(OR)

(b) Explain the method to determine the Tree age and introduction of working plan

Model Question Paper Pattern for Practical Examination

Semester – V/ Botany Skill Enhancement Course

Agroforestry

Max. Time: 3 Hrs. **Max. Marks: 50**

1. Demonstration pre-sowing seed treatments 'A' 8
2. Demonstration of hard wood cutting/air layering technique 'B' 10
3. Demonstration of technique of diameter/height measurement 'C' 12
4. Scientific observation and data analysis 4 x 3 = 12
   D. Agroforest plant
   E. Agroforest product
   F. A tool used for measurement
   G. A herbarium specimen collected by him/her for identification
5. Record + Viva-voce 5+3 = 8

UG Program (4 Years Honors)
CBCS- 2020-21

B.Sc
CHEMISTRY

Syllabus and Model Question Papers

STRUCTURE OF CHEMISTRY CORE SYLLABUS

Sem	Course No	Course Name	Course Type (T/P/L)	Hrs/Week	Credits	Max. Marks	Max. Marks
				Science: 4+2	Science: 4+1	Count/Internal/ Mid Assessment	Sem- End Exam
I	1	Inorganic and Physical Chemistry	T	4	4	25	75
	2	Practical – I Analysis of SALT MIXTURE	L	2	1	-	50
II	3	Organic and General Chemistry	T	4	4	25	75
	4	Practical – II Volumetric Analysis	L	2	1	-	50
III	5	Organic Chemistry and Spectroscopy	T	4	4	25	75
	6	Practical – III Organic preparations and IR Spectral Analysis	L	2	1	-	50
IV	7	Inorganic, Organic and Physical Chemistry	T	4	4	25	75
	8	Practical – IV Organic Qualitative analysis	L	2	1	-	50
	9	Inorganic and Physical Chemistry	T	4	4	25	75
	10	Practical-V Course Conductometric and Potentiometric Titrimetry	L	2	1	-	50

B.Sc.	Semester - I	Credits: 4
Course: 1	Inorganic and Physical Chemistry	Hrs/Wk: 4

Course outcomes:

At the end of the course, the student will be able to;

- Understand the basic concepts of p-block elements
- Explain the difference between solid, liquid and gases in terms of intermolecular interactions.
- Apply the concepts of gas equations, pH and electrolytes while studying other chemistry courses.

UNIT I:
INORGANIC CHEMISTRY :Chemistry of p-block elements

Group 13: Preparation & structure of Diborane, Borazine

Group 14: Preparation, classification and uses of silicones

Group 15: Preparation & structures of Phosphonitrilic halides $\{(PNCl_2)_n$ where n=3, 4

Group 16: Oxides and Oxoacids of Sulphur (structures only)

Group 17: Pseudohalogens, Structures of Interhalogen compounds.

UNIT II:

1. Chemistry of d-block elements:

Characteristics of d-block elements with special reference to electronic configuration, variable valence, magnetic properties, catalytic properties and ability to form complexes. Stability of various oxidation states.

2. Chemistry of f-block elements:

Chemistry of lanthanides - electronic structure, oxidation states, lanthanide contraction, consequences of lanthanide contraction, magnetic properties. Chemistry of actinides - electronic configuration, oxidation states, actinide contraction, comparison of lanthanides and actinides.

3. Theories of bonding in metals:

Valence bond theory and Free electron theory, explanation of thermal and electrical conductivity of metals based on these theories, Band theory- formation of bands, explanation of conductors, semiconductors and insulators.

UNIT III: PHYSICAL CHEMISTRY

Solid state

Symmetry in crystals. Law of constancy of interfacial angles. The law of rationality of indices. The law of symmetry. Miller indices, Definition of lattice point, space lattice, unit cell. Bravais lattices and crystal systems. X-ray diffraction and crystal structure. Bragg's law. Powder method. Defects in crystals. Stoichiometric and non-stoichiometric defects.

UNIT IV:

1. Gaseous state

van der Waal's equation of state. Andrew's isotherms of carbon dioxide, continuity of state. Critical phenomena. Relationship between critical constants and vander Waal's constants. Lawof corresponding states. Joule- Thomson effect. Inversion temperature.

2.Liquid state

Liquid crystals, mesomorphic state. Differences between liquid crystal and solid/liquid. Classification of liquid crystals into Smectic and Nematic. Application of liquid crystals as LCD devices.

UNIT V:SOLUTIONS, IONIC EQUILIBRIUM & DILUTE SOLUTIONS

1. Solutions

Azeotropes- HCl-H_2O system and ethanol-water system. Partially miscible liquids-phenol- water system. Critical solution temperature (CST), Effect of impurity on consulate temperature. Immiscible liquids and steam distillation. Nernst distribution law. Calculation of the partition coefficient. Applications of distribution law.

2. Ionic equilibrium

Ionic product, common ion effect, solubility and solubility product. Calculations based on solubility product.

3. Dilute solutions

Colligative properties- RLVP, Osmotic pressure, Elevation in boing point and depression in freezing point. Experimental methods for the determination of molar mass of a non-volatile solute using osmotic pressure, Elevation in boiling point and depression in freezing point. Abnormal colligative properties. Van't Hoff factor.

Co-curricular activities and Assessment Methods

1. Continuous Evaluation: Monitoring the progress of student's learning
2. Class Tests, Worksheets and Quizzes
3. Presentations, Projects and Assignments and Group Discussions: Enhances critical thinking skills and personality
4. Semester- end Examination: critical indicator of student's learning and teaching methods adopted by teachers throughout the semester.

REFERENCE BOOKS

1. Principles of physical chemistry by Prutton and Marron
2. Solid State Chemistry and its applications by Anthony R. West
3. Text book of physical chemistry by K L Kapoor
4. Text book of physical chemistry by S Glasstone
5. Advanced physical chemistry by Bahl and Tuli
6. Inorganic Chemistry by J. E. Huheey
7. Basic Inorganic Chemistry by Cotton and Wilkinson
8. A textbook of qualitative inorganic analysis by A.I. Voge
9. Atkins, P.W.&Paula,J.deAtkin'sPhysicalChemistryEd.,OxfordUniversityPress 10thEd(2014).
10. Castellan, G.W.Physical Chemistry4th Ed. Narosa (2004).
11. Mortimer, R. G.Physical Chemistry3rdEd. Elsevier: NOIDA, UP(2009)
12. Barrow, G.M. PhysicalChemistry

B.Sc.	Semester - I	Credits: 1
Course: 1(L)	Analysis of SALT MIXTURE LAB	Hrs/Wk: 2

LABORATORY COURSE -I **30**hrs (2 h / w)

Qualitative inorganic analysis (Minimum of Six mixtures should be analyzed) 50 M

Course outcomes:

At the end of the course, the student will be able to;

- Understand the basic concepts of qualitative analysis of inorganic mixture
- Use glassware, equipment and chemicals and follow experimental procedures in the laboratory
- Apply the concepts of common ion effect, solubility product and concepts related to qualitative analysis

Analysis of SALT MIXTURE **50 M**

Analysis of mixture salt containing two anions and two cations (From two different groups) from the following:

Anions: Carbonate, Sulphate, Chloride, Bromide, Acetate, Nitrate, Borate, Phosphate.

Cations: Lead, Copper, Iron, Aluminium, Zinc, Nickel, Manganese, Calcium, Strontium, Barium, Potassium and Ammonium.

MODEL QUESTION COURSE

B. Sc DEGREE EXAMINATION

SEMESTER: I

Course 1: INORGANIC & PHYSICAL CHEMISTRY

Time: 3Hrs. **Max. Marks: 75**

Section - A

Answer any **FIVE** of the following questions. Each carries **FIVE** marks **5 X 5 = 25 M**

1. Explain the preparation & structures of Phosphonitrilic compounds.
2. Explain in brief, catalytic properties & stability of various oxidation states of d- block elements.
3. Write a short note on Bravais lattices and crystal systems.
4. What are Semitic & Nematic liquid Crystals? Explain.
5. Write an account on Common ion effect & Solubility product.
6. Describe Andrew's isotherms of carbon dioxide.
7. Explain Actinide Contraction.
8. Explain the structure of Borazine.

Section - B

Answer **ALL** the questions. **5 X 10 = 50 M**

9 a). Explain Classification, Preparations & uses of Silicones

(OR)

b). (i) What are Pseudo halogens.

(ii) Explain the Structures of any one AX_3 & AX_5 interhalogen compounds.

10 a). What is Lanthanide Contraction? Explain the Consequences of Lanthanide Contraction.

(OR)

b). (i) Explain the magnetic properties of d- block elements.

(ii) Explain about Conductors, Semi-Conductors & Insulators using Band Theory.

11. a). Write an essay on Crystal defects.

(OR)

b). What is Bragg's Law? Explain the determination of structure of a crystal by powder method.

12. a). Derive the relationship between Critical constants & vander Waal constants

(OR)

b). (i) Write any 5 differences between liquid crystals & liquids, solids

(ii) Write the applications of Liquid crystals.

13. a). Explain Nernst distribution Law. Explain its applications

(OR)

b). What are colligative properties? Write experimental methods for determination of molar mass of a non-volatile solute by using Elevation in boiling point & depression in freezing point.

B.Sc.	Semester - II	Credits: 4
Course: 2	Organic & General Chemistry	Hrs/Wk: 4

Course outcomes:

At the end of the course, the student will be able to;

- Understand and explain the differential behavior of organic compounds based on fundamental concepts learnt.
- Formulate the mechanism of organic reactions by recalling and correlating the fundamental properties of the reactants involved
- Learn and identify many organic reaction mechanism including Free Radical Substitution, Electrophonic Addition and Electrophonic Aromatic Substitution.
- Correlateanddescribethestereochemicalpropertiesoforganiccompoundsand reactions.

UNIT I: ORGANIC CHEMISTRY
Recapitulation of Basics of Organic Chemistry
Carbon-Carbon sigma bonds (Alkanes and Cycloalkanes)

General methods of preparation of alkanes- Wurtz and Wurtz-Fittig reaction, Corey House synthesis, physical and chemical properties of alkanes, Isomerism and its effect on properties, Free radical substitutions; Halogenations, concept of relative reactivity v/s selectivity. Conformational analysis of alkanes (Conformations, relative stability and energy diagrams of Ethane, Propane and butane) General molecular formulae of cycloalkanes and relative stability, Baeyer strain theory, Cyclohexane conformations with energy diagram, Conformations of monosubstituted cyclohexane.

UNIT II: Carbon-Carbon pi Bonds(Alkenes and Alkynes)
General methods of preparation, physical and chemical properties. Mechanism of E1, E2, E1 cb reactions, Saytzeff and Hofmann eliminations, Electrophilic Additions ,mechanism (Markovnikov/Anti Markovnikov addition) with suitable examples,, *syn and anti-addition*; additionofH_2,X_2, HX. Oxymercuration, demercuration, hydroboration-oxidation, ozonolysis, hydroxylation, Diels Alderreaction,1,2- and1,4-addition reactions in conjugated dienes. Reactions of alkynes; acidity, electrophilic and nucleophilic additions, hydration to form carbonyl compounds, Alkylation of terminal alkynes.

UNIT III: Benzene and its reactivity
Concept of aromaticity, Huckel's rule - application to Benzenoid (Benzene, Naphthalene) and Non - Benzenoid compounds (cyclopropenyl cation, cyclopentadienyl anion and tropylium cation) Reactions - General mechanism of electrophilic aromatic substitution, mechanism of nitration, Friedel- Craft's alkylation and acylation. Orientation of aromatic substitution - ortho, para and meta directing groups. Ring activating and deactivating groups with examples (Electronic interpretation of various groups like NO_2 and Phenolic).
Orientation of

i. Amino, methoxy and methyl groups
ii. Carboxy, nitro, nitrile, carbonyl and sulfonic acid groups
iii. Halogens (Explanation by taking minimum of one example from each type)

UNIT IV: **GENERAL CHEMISTRY**
1. Surface chemistry and chemical bonding Surface chemistry
Colloids- Coagulation of colloids- Hardy-Schulze rule. Stability of colloids, Protection of Colloids, Gold number.
Adsorption-Physical and chemical adsorption, Langmuir adsorption isotherm, applications of adsorption.

2. Chemical Bonding

Valence bond theory, hybridization, VB theory as applied to ClF3**,**Ni(CO**)4,** Molecular orbital theory -LCAO method, construction of M.O. diagrams for homo-nuclear and hetero-nuclear diatomic molecules(N2,O2,CO and NO).

3. HSAB

Pearson's concept, HSAB principle & its importance, bonding in Hard-Hard and Soft-Soft combinations.

UNIT V:

Stereochemistry of carbon compounds

Molecular representations- Wedge, Fischer, Newman and Saw-Horse formulae. **Optical isomerism**: Optical activity- wave nature of light, plane polarised light, optical rotation and specific rotation. Chiral molecules- definition and criteria (Symmetry elements)- Definition of enantiomers and diastereomers – Explanation of optical isomerism with examples- Glyceraldehyde, Lactic acid, Alanine, Tartaric acid, 2,3-dibromopentane. D,L, R,S and E,Z- configuration with examples. Definition of Racemic mixture – Resolution of racemic mixtures (any 3 techniques)

Co-curricular activities and Assessment Methods Continuous Evaluation: Monitoring the progress of student's learning Class Tests, Worksheets and Quizzes Presentations, Projects and Assignments and Group Discussions: Enhances critical thinking skills and personality

Semester-end Examination: critical indicator of student's learning and teaching methods adopted by teachers throughout the semester.

REFERENCE BOOKS:

1. Morrison, R. N. & Boyd, R. N. Organic Chemistry, Dorling Kindersley (India) Pvt. Ltd. (Pearson Education).
2. Finar, I. L. Organic Chemistry (Volume 1), Dorling Kindersley (India) Pvt. Ltd. (Pearson Education).
3. Finar, I. L. Organic Chemistry (Volume 2: Stereochemistry and the Chemistry of Natural Products), Dorling Kindersley (India) Pvt. Ltd. (Pearson Education).
4. Eliel, E. L. & Wilen, S. H. Stereochemistry of Organic Compounds; Wiley: London, 1994. Kalsi, P. S. Stereochemistry Conformation and Mechanism; New Age International, 2005.

Practical:

1. Ahluwalia, V.K. & Aggarwal, R. Comprehensive Practical Organic Chemistry: Preparation and Quantitative Analysis, University Press (2000).
2. Ahluwalia, V.K. & Dhingra, S. Comprehensive Practical Organic Chemistry: Qualitative Analysis, University Press (2000).
3. Furniss, B.S.; Hannaford, A.J.; Smith, P.W.G.; Tatchell, A.R. Practical Organic Chemistry, 5th Ed., Pearson (2012)

Additional Resources:

1. Solomons, T. W. G.; Fryhle, C. B. &Snyder, S. A. Organic Chemistry, 12th Edition, Wiley. Bruice, P. Y. Organic Chemistry, Eighth Edition, Pearson.
2. Clayden, J.; Greeves, N.&Warren, S. Organic Chemistry, Oxford. Nasipuri, D. Stereochemistry of Organic Compounds: Principles and Applications, Third Edition, NewAge International.
3. Gunstone, F. D. Guidebook to Stereochemistry, Prentice Hall Press, 1975.

B.Sc.	Semester - II	Credits: 1
Course: 2(L)	Volumetric Analysis Lab	Hrs/Wk: 2

Course outcomes:

At the end of the course, the student will be able to;

- Use glassware, equipment and chemicals and follow experimental procedures in the laboratory
- Understand and explain the volumetric analysis based on fundamental concepts learnt in ionic equilibria
- Learn and identify the concepts of a standard solutions, primary and secondary standards
- Facilitate the learner to make solutions of various molar concentrations.
- This may include: The concept of the mole; Converting moles to grams; Converting grams to moles; Defining concentration; Dilution of Solutions; Making different molar concentrations.

Volumetric analysis **50 M**

1. Estimation of sodium carbonate and sodium hydrogen carbonate present in a mixture.
2. Determination of Fe (II) using $KMnO_4$ with oxalic acid as primary standard.
3. Determination of Cu (II) using $Na_2S_2O_3$ with $K_2Cr_2O_7$ as primary standard.
4. Estimation of water of crystallization in Mohr's salt by titrating with $KMnO_4$

MODEL QUESTION COURSE

B. Sc DEGREE EXAMINATION
SEMESTER: II

Course 2: ORGANIC & GENERAL CHEMISTRY

Time: 3Hrs. **Max. Marks: 75**

Section - A

Answer any **FIVE** of the following questions. Each carries **FIVE** marks **5X5= 25M**

1. Write different conformations of n-butane. Explain their relative stability.
2. Explain 1,2- & 1,4- addition reactions of conjugated dienes.
3. Explain the orientation effect of halogens on mono substituted benzene.
4. Explain the mechanism of $E1^{CB}$ elimination reaction.
5. Explain the structure of ClF_3 by Valence Bond theory.
6. What are Hard & soft acids & bases? Explain with examples.
7. Draw the Wedge, Fischer, Newman & saw-Horse representations for Tartaric acid.
8. Define Enantiomers and Diastereomers and give two examples for each.

Section - B

Answer **ALL** the questions. Each carries **TEN** marks **5 X 10 = 50 M**

9 (a). i) Write the preparation of alkanes by Wurtz and Corey-House reaction.
ii) Explain Halogenation of alkanes. Explain the reactivity and selectivity in free radical substitutions.

(OR)

(b).(i) Explain Baeyer Strain Theory
(ii) Draw the conformations of Cyclohexane and explain their stability by drawing energy profile diagram.

10 (a). (i) Write any two methods of preparation of alkenes.
(ii) Explain the mechanism of Markovnikov and Anti-Markovnikov addition of HBr to alkene.

(OR)

(b). (i) Explain the acidity of 1-alkynes
(ii) How will you prepare acetaldehyde and acetone from alkynes?
(iii) Write alkylation reaction of terminal alkne.

11.(a). Define Huckel rule of aromatic compounds. What are benzenoid and non- benzenoid aromatic compounds? Give examples.

(OR)

(b). Explain the mechanisms of Nitration and Friedel-Craft's alkylation of Benzene.

12.(a). (i) Define Hardy-Schulze rule & Gold number.
(ii) Differentiate Physisorption Or Chemisorption. Explain Langmuir adsorption isotherm.

(OR)

(b). Construct the Molecular Orbital diagram for O_2 and NO and explain their bond order and magnetic property.

13.(a). Define racemic mixture. Explain any two techniques for resolution of racemic mixture.

(OR)

(b).(i) Define Optical activity and Specific rotation.
(ii)Draw the R- & S- isomers of Alanine, Glyceraldehyde.
(iii)Write the E- & Z- isomers of 2-butene.

B.Sc.	Semester - III	Credits: 4
Course: 3	Organic chemistry & Spectroscopy	Hrs/Wk: 4

Course outcomes:

At the end of the course, the student will be able to;

- Understand preparation, properties and reactions of haloalkanes, haloarenes and oxygen containing functional groups.
- Use the synthetic chemistry learnt in this course to do functional group transformations.
- To propose plausible mechanisms for any relevant reaction

UNIT I: ORGANIC CHEMISTRY

Chemistry of Halogenated Hydrocarbons: Alkyl Halides: Methods of preparation and properties, nucleophilic substitution reactions– SN1, SN2 and SNi mechanisms with stereo chemical aspects and effect of solvent etc.; nucleophilic substitution vs. elimination, Williamson's synthesis. Aryl Halides: Preparation (including preparation from diazonium salts) and properties, nucleophilic aromatic substitution; SN Ar, Benzyne mechanism. Relative reactivity of alkyl, allyl, benzyl, vinyl and aryl halides towards nucleophilic substitution reactions.

1. Alcohols & Phenols

Alcohols: preparation, properties and relative reactivity of 1°, 2°, 3° alcohols, Bouvet Blanc Reduction; Oxidation Of Diols By Periodic Acid Andlead Tetraacetate,Pinacol- Pinacolone Rearrangement;

Phenols: Preparation And Properties; Acidity And Factors Affecting It, Ring substitution reactions, Reimer–Tiemann and Kolbe's–Schmidt Reactions, Fries and Claisen Rearrangement with mechanism;

UNIT II:

Carbonyl Compounds: Structure, reactivity, preparation and properties; Nucleophilic Addition, Nucleophilic Addition-elimination reactions with ammonia derivatives Mechanisms of Aldol and Benzoin Condensation, Claisan-Schmidt, Perkin, Cannizzaro and Wittig reaction, Beckmann Haloform Reaction And Baeyer Villiger oxidation, α- substitution reactions, oxidations and reductions (Clemmensen, wolf –kishner, with $LiAlH_4$ &$NaBH_4$). Addition Reactions Of α, β-unsaturated carbonyl compounds: Michael Addition. Active Methylene Compounds: Keto-enol tautomerism. Preparation And Synthetic Applications Diethyl malonate and ethyl acetoacetate.

UNIT III:

Carboxylic Acids and their Derivatives : General methods of preparation, physical properties and reactions of monocarboxylic acids, effect ofsubstituent acidic strength. Typical reactions of icarboxylic acids, hydroxy acids and unsaturated acids. Preparation And Reactions Of Acid Chlorides, anhydrides, esters and amides; Comparative study of nucleophilic substitution at acyl group-Mechanism of acidic and alkaline hydrolysis of esters, Claisen Condensation, Reformatsky reactions and Curtius Rearrangement Reactions involving H, OH and COOH groups- salt formation, anhydride formation, acid chloride formation, amide formation and esterification (mechanism). Degradation of carboxylic acids by Huns-Diecker reaction, decarboxylation by Schimdt reaction, Arndt- Eistert synthesis, halogenation by Hell- Volhard- Zelinsky reaction.

UNIT IV: SPECTROSCOPY

Molecular Spectroscopy:Interactionofelectromagneticradiationwithmoleculesandvarioustypesof spectra;

Rotation spectroscopy: Selection rules, intensities of spectral lines, determination of bond lengths of diatomic and linear triatomic molecules, isotopic substitution.

Vibrational Spectroscopy: Classical Equation Of Vibration, computation of force constant, Harmonic and anharmonic oscillator, Morse Potential curve, vibrational degrees of freedom for polyatomic molecules, modes of vibration. Selection rules for vibrational transitions, Fundamental Frequencies, overtones and hot bands.

Electronic spectroscopy: Energy levels of molecular orbitals (σ, π, n). Selection rules for electronic spectra. Types of electronic transitions in molecules, effect of conjugation. Concept of chromophore. bathochromic and hypsochromic shifts. Beer-Lambert's law and its limitations.

Nuclear Magnetic Resonance (NMR) spectroscopy: Principles of nuclear magnetic resonance, equivalent and non-equivalent protons, position of signals. Chemical shift, NMR splitting of signals - spin-spin coupling, coupling constants. Applications of NMR with suitable examples - ethyl bromide, ethanol, acetaldehyde, 1,1,2-tribromo ethane, ethyl acetate, toluene and acetophenone.

UNIT V: Application of Spectroscopy to Simple Organic Molecules

Application of visible, ultraviolet and Infrared spectroscopy in organic molecules. Application of electronic spectroscopy and Woodward rules for calculating λ_{max} of conjugated dienes and α,β – unsaturated compounds.

Infrared radiation and types of molecular vibrations, functional group and fingerprint region. IR spectra of alkanes, alkenes and simple alcohols (inter and intramolecular hydrogen bonding), aldehydes, ketones, carboxylic acids and their derivatives (effect of substitution on >C=O stretching absorptions).

Co-curricular activities and Assessment Methods Continuous Evaluation: Monitoring The Progress Of student's learning Class Tests, Worksheets and Quizzes, Presentations, Projects and Assignments Group Discussions: Enhances Critical Thinking Skills And personality

Semester-end Examination: critical indicator of student's learning and teaching methods adopted by teachers throughout the semester.

REFERENCE BOOKS:

1. A TextBook of Organic Chemistry by Bahl and Arunbahl
2. A Textbook of Organic chemistry by I L FinarVol I
3. Organic chemistry by Bruice
4. Organic chemistry by Clayden
5. Spectroscopy by William Kemp
6. Spectroscopy by Pavia
7. Organic Spectroscopy by J. R. Dyer
8. Elementary organic spectroscopy by Y.R. Sharma
9. Spectroscopy by P.S.Kalsi
10. Mann, F.G. & Saunders, B.C. Practical Organic Chemistry, Pearson Education (2009)
11. Spectrometric Identification of Organic Compounds by Robert M Silverstein, Francis X Webster
12. Furniss, B.S., Hannaford, A.J., Smith, P.W.G. & Tatchell, A.R. Practical Organic Chemistry,5th Ed. Pearson (2012)
13. Ahluwalia, V.K. & Aggarwal, R. Comprehensive Practical Organic Chemistry:Preparation and Quantitative Analysis, University Press (2000)

B.Sc.	Semester - III	Credits: 1
Course: 3(L)	Organic preparations and IR Spectral Analysis Lab	Hrs/Wk: 2

Course outcomes:

On the completion of the course,the student will be able to do the following**:**

1. how to use glassware, equipment and chemicals and follow experimental procedures in the laboratory
2. how to calculate limiting reagent, theoretical yield, and percent yield
3. how to engage in safe laboratory practices by handling laboratory glassware, equipment, and chemical reagents appropriately
4. how to dispose of chemicals in a safe and responsible manner
5. how to perform common laboratory techniques including reflux, distillation, recrystallization, vacuum filtration.
6. how to create and carry out work up and separation procedures
7. how to critically evaluate data collected to determine the identity, purity, and percent yield of products and to summarize findings in writing in a clear and concise manner

Organic preparations: 40M

i. Acetylation of one of the following compounds:

amines (aniline, o-, m-, p- toluidine and o-, m-, p-anisidine) and phenols (β-naphthol, vanillin, salicylic acid) by any one method:

a. Using conventional method.

b. Using green approach

ii. Benzoylation of one of the following amines

(aniline, o-, m-, p- toluidine and o-, m-, p-anisidine)

a. Nitration of any one of the following:Acetanilide/nitrobenzene by conventional method

b. Salicylic acid by green approach (using ceric ammonium nitrate).

IR Spectral Analysis 10M

IR Spectral Analysis of the following functional groups with examples

a) Hydroxyl groups

b) Carbonyl groups

c) Amino groups

d) Aromatic groups

MODEL QUESTION COURSE

B. Sc DEGREE EXAMINATION
SEMESTER: III
Course 3: ORGANIC CHEMISTRY & SPECTROSCOPY

Time: 3Hrs. **Max. Marks: 75**

Section - A

Answer any **FIVE** of the following questions. Each carries **FIVE** marks. **5x5 25M**

1. Discuss two methods for preparation of aryl halides.
2. Explain the mechanism for Pinacol-Pinacolone rearrangement
3. Discuss the mechanism for Baeyer-villiger oxidation reaction.
4. Explain the effect of substituents on acidic strength of mono-carboxylic acids.
5. Write the mechanism for Claisen Condensation reaction.
6. Write the selection rules in rotational spectroscopy.
7. Explain Spin – Spin coupling and Coupling Constant.
8. Explain types of electronic transitions in UV spectroscopy.

Section - B

Answer **ALL** the questions. Each carries **TEN** marks **5 X 10 = 50 M**

9 (a). Give the mechanism & stereochemistry of SN^1 & SN^2 reactions of alkyl halides with suitable example.

(OR)

(b). Explain the following reactions with mechanism.
(i) Reimer-Tiemann reaction (ii) Fries rearrangement.

10 (a). Discuss the mechanism for following reactions.
(i) Perkin reaction. (ii) Cannizaro reaction

(OR)

(b). Write the preparation and any three synthetic applications of diethyl malonate.

11.(a). Explain acid and base hydrolysis reaction of esters with mechanism.

(OR)

(b). Explain the mechanisms of Curtius rearrangement & Arndt –Eistert reaction.

12.(a). (i) Write a note on vibrational degrees of freedom for polyatomic molecules.
(ii) Explain different modes of vibrations & selection rules in IR spectroscopy.

(OR)

(b).(i) Define Bathochromic shift. Explain the effect of conjugation in U.V. spectroscopy.
(ii) Discuss the principle of NMR spectroscopy.

13.(a). Write Woodward-Fieser rules for calculating λmax for conjugated dienes and α,β – unsaturated carbonyl compounds , and apply them for one example each.

(or)

(b).(i) What is Fingerprint region? Explain its significance with an example.
(ii) Write IR spectral data for any one alcohol, aldehyde and ketone

B.Sc.	Semester - IV	Credits: 4
Course: 4	Inorganic, Organic and Physical Chemistry	Hrs/Wk: 4

Course outcomes:

At the end of the course, the student will be able to;

- To learn about the laws of absorption of light energy by molecules and subsequent photochemical reactions.
- To understand the concept of quantum efficiency and mechanisms of photochemical reactions.

UNIT I:

Organ metallic Compounds: Definition and classification of organometallic compounds on the basis of bond type, Concept of hapticity of organic ligands. Metal Carbonyls:18electronrule, electron count of mononuclear, polynuclear and substituted metal carbonyls of 3d series. General methods of preparation of mono and binuclear carbonyls of 3d series. P-acceptor behaviour of carbon monoxide. Synergic effects (VB approach) - (MO diagram of CO can be referred to for synergic effect to IR frequencies).

UNIT II:

Carbohydrates: Occurrence, classification and their biological importance, Monosaccharides: Constitution and absolute configuration glucose and fructose, epimers and anomers, mutarotation, determination of ring size of glucose and fructose, Haworth Projection And Conformational Structures ;Interconversions of aldoses and ketoses; Kiliani-Fischer synthesis and Ruff degradation; Disaccharides– Elementary Treatment Of Maltose, lactose and sucrose. Polysaccharides–Elementary Treatment Of starch.

UNIT III:

Amino acids and proteins: Introduction: Definition of Amino acids, classification of Amino acids into alpha, beta, and gamma amino acids. Natural and essential amino acids - definition and examples, classification of alpha amino acids into acidic, basic and neutral amino acids with examples. Methods of synthesis: General methods of synthesis of alpha amino acids (specific examples - Glycine, Alanine, valine and leucine) by following methods: a) from halogenated carboxylic acid b) Gabriel Phthalimide synthesis c) strecker's synthesis.

Physical properties: Zwitter ion structure - salt like character - solubility, melting points, amphoteric character, definition of isoelectric point.

Chemical properties: General reactions due to amino and carboxyl groups - lactams from gamma and delta amino acids by heating- peptide bond (amide linkage). Structure and nomenclature of peptides and proteins.

Heterocyclic Compounds: Introduction and definition: Simple five membered ring compounds with one hetero atom Ex. Furan. Thiophene and pyrrole - Aromatic character – Preparation from 1, 4, - dicarbonyl compounds, Paul-Knorr synthesis. Properties: Acidic character of pyrrole - electrophilic substitution at 2 or 5 position, Halogenation, Nitration and Sulphonation under mild conditions - Diels Alder reaction in furan. Pyridine – Structure - Basicity - Aromaticity- Comparison with pyrrole- one method of preparation and properties - Reactivity towards Nucleophilic substitution reaction.

UNIT IV:

Nitrogen Containing Functional Groups: Preparation, properties and important reactions of nitro compounds, amines and diazonium salts.

1. Nitro hydrocarbons

Nomenclature and classification-nitro hydrocarbons, structure -Tautomerism of nitroalkanes leading to aci and keto form, Preparation of Nitroalkanes, reactivity -halogenation, reaction with HONO (Nitrous acid), Nef reaction and Mannich reaction leading to Micheal addition and reduction.

2.Amines:

Introduction, classification, chirality in amines (pyramidal inversion), importance and general methods of preparation.

Properties : Physical properties, Basicity of amines: Effect of substituent, solvent and steric effects. Distinction between Primary, secondary and tertiary amines using Hinsberg's Method And Nitrous Acid. Discussion of the following reactions with emphasis on the mechanistic pathway: Gabriel Phthalimide synthesis, Hoffmann- Bromamide Reaction,Carbylamine Reaction, Mannich reaction, Hoffmann's exhaustive methylation, Hofmann-elimination reaction and Cope elimination.

Diazonium Salts: Preparation and synthetic applications of diazonium salts including preparation of arenes, haloarenes, phenols, amino and nitro compounds. Coupling Reactions Of Diazonium Salts (preparation of azo dyes).

UNIT V:

Photochemistry: Difference between thermal and photochemical processes, Laws of photochemistry- Grothus- Draper's law and Stark-Einstein's law of photochemical equivalence, Quantum yield- Photochemical reaction mechanism- hydrogen- chlorine and hydrogen- bromine reaction. Qualitative description of fluorescence, phosphorescence, Jablonski diagram, Photosensitized reactions- energy transfer processes (simple example).

Thermodynamics: The first law of thermodynamics-statement, definition of internal energy and enthalpy, Heat capacities and their relationship, Joule-Thomson effect- coefficient, Calculation of work for the expansion of perfect gas under isothermal and adiabatic conditions for reversible processes, State function. Temperature dependence of enthalpy of formation- Kirchoff s equation, Second law of thermodynamics Different Statements of the law, Carnot cycle and its efficiency, Carnot theorem, Concept of entropy, entropy as a state function, entropy changes in reversible and irreversible processes. Entropy changes in spontaneous and equilibrium processes. Third law of thermodynamics, Nernst heat theorem, Spontaneous and non- spontaneous processes, Helmholtz and Gibbs energies-Criteria for spontaneity.

Co-curricular activities and Assessment Methods

Continuous Evaluation: Monitoring the progress of student's learning Class Tests, Worksheets and Quizzes Presentations, Projects and Assignments Group Discussions: Enhances Critical Thinking Skills And personality

Semester-end Examination: critical indicator of student's teachers throughout the semester.

REFERENCE BOOKS:

1. Concise coordination chemistry by Gopalan and Ramalingam
2. Coordination Chemistry by Basalo and Johnson
3. Organic Chemistry by G.Mareloudan, Purdue Univ
4. Text book of physical chemistry by S Glasstone
6. Concise Inorganic Chemistry by J.D.Lee
7. Advanced Inorganic Chemistry Vol-I by Satyaprakash, Tuli, Basu and Madan
8. A Text Book of Organic Chemistry by Bahl and Arunbahl
9. A Text Book of Organic chemistry by I L FinarVol I
10. A Text Book of Organic chemistry by I L FinarVol II
11. Advanced physical chemistry by Gurudeep Raj

B.Sc.	Semester - IV	Credits: 1
Course: 4(L)	Organic Qualitative analysis Lab	Hrs/Wk: 2

Course outcomes:

At the end of the course, the student will be able to;

- Use glassware, equipment and chemicals and follow experimental procedures in the laboratory
- Determine melting and boiling points of organic compounds
- Understand Application of concepts of different organic reactions studied in theory part of organic chemistry

Organic Qualitative analysis **50 M**

Analysis of an organic compound through systematic qualitative procedure for functional group identification including the determination of melting point and boiling point with suitable derivatives.

Alcohols, Phenols, Aldehydes, Ketones, Carboxylic acids, Aromatic primary amines, amides and simple sugars

MODEL QUESTION COURSE

B. Sc DEGREE EXAMINATION

SEMESTER: IV

Course 4: Inorganic, Organic & Physical Chemistry

Time: 3Hrs. **Max. Marks: 75**

Section - A

Answer any **FIVE** of the following questions. Each carries **FIVE** marks. **5x5 25M**

1. Describe the 18 electron rule of mono nuclear and polynuclear metal carbonyls with suitable examples.
2. What are epimers and anomers. Give examples.
3. Discuss about iso electric point and zwitter ion.
4. Discuss the Paul-Knorr synthesis of five membered heterocyclic compounds.
5. Explain Tautomerism shown by nitro alkanes
6. Discuss the basic nature of amines.
7. Write the differences between thermal and photochemical reactions.
8. Derive heat capacities and derive $C_p - C_v = R$

Section - B

Answer **ALL** the questions. Each carries **TEN** marks. **5 X 10 = 50 M**

9 (a).What are organometallic compounds? Discuss their Classification on the basis of type of bonds with examples.

(OR)

(b).Discuss the general methods of preparations of mono & bi-nuclear carbonyls of 3d series.

10 (a). Discuss the constitution, configuration and ring size of glucose. Draw the Haworth and Conformational structure of glucose.

(OR)

(b). (i) Explain Ruff's degradation. (ii) Explain Kiliani- Fischer synthesis.

11.(a). What are amino acids? Write any three general methods of preparation of amino acids.

(OR)

(b). Discuss the aromatic character of Furan, Thiophene and Pyrrole.

12.(a). Write the mechanism for the following.

(i)Nef reaction (ii) Mannich reaction

(OR)

(b).(i) Explain Hinsberg separation of amines.

(ii) Discuss any three synthetic applications of diazonium salts.

13.(a). What is quantum yield? Explain the photochemical combination of Hydrogen- Chlorine and Hydrogen - Bromine.

(OR)

(b). Define entropy. Describe entropy changes in the reversible and irreversible process.

B.Sc.	Semester - IV	Credits: 4
Course: 5	Inorganic & Physical Chemistry	Hrs/Wk: 4

Course outcomes:

At the end of the course, the student will be able to;

- Understand concepts of boundary conditions and quantization, probability distribution, most probable values, uncertainty and expectation values
- Application Of Quantization To Spectroscopy.
- Various types of spectra and their use in structure determination.

UNIT I: INFORMATION CHEMISTRY

Coordinator Chemistry: IUPAC nomenclature of coordination compounds, Structural and stereoisomerism in complexes with coordination numbers 4 and 6. Valence Bond Theory (VBT): Inner and outer orbital complexes. Limitations of VBT, Crystal field effect, octahedral symmetry. Crystal field stabilization energy (CFSE), Crystal field effects for weak and strong fields. Tetrahedral symmetry, Factors affecting the magnitude of crystal field splitting energy, Spectrochemical series, Comparison of CFSE for Octahedral and Tetrahedral complexes, Tetragonal distortion of octahedral geometry, Jahn-Teller distortion, square planar coordination.

UNIT II:

1. Inorganic Reaction Mechanism:

Introduction to inorganic reaction mechanisms. Concept of reaction pathways, transition state, intermediate and activated complex. Labile and inert complexes, ligand substitution reactions -SN^1 and SN^2, Substitution reactions in square planar complexes, Trans-effect, theories of trans effect and its applications

2. Stability of metal complexes:

Thermodynamic stability and kinetic stability, factors affecting the stability of metal complexes, chelate effect, determination of composition of complex by Job's method and mole ratio method.

Bioinorganic Chemistry:

Metal ions present in biological systems, classification of elements according to their action in biological system. Geochemical effect on the distribution of metals, Sodium / K - pump, carbonic anhydrase and carboxypeptidase. Excess and deficiency of some trace metals. Toxicity of metal ions (Hg, Pb, Cd and As), reasons for toxicity, Use of chelating agents in medicine, Cis-platin as an anti-cancer drug. Iron and its application in bio-systems, Haemoglobin, Myoglobin. Storage and transfer of iron.

UNIT-III: PHYSICAL CHEMISTRY

1 .Phase rule: Concept of phase, components, degrees of freedom. Thermodynamic derivation of Gibbs phase rule. Phase diagram of one component system - water system, Study of Phase diagrams of Simple eutectic systems i) Pb-Ag system, desilverisation of lead ii) NaCl-Water system, Congruent and incongruent melting point- Definition and examples for systems having congruent and incongruent melting point , freezing mixtures.

UNIT IV:

Electrochemistry: Specific conductance, equivalent conductance and molar conductance- Definition and effect of dilution. Cell constant. Strong and weak electrolytes, Kohlrausch's law and its applications, Definition of transport number, determination of transport number by Hittorf's method. Debye-Huckel-Onsager's equation for strong electrolytes (elementary treatment only), Application of conductivity measurements- conduct metric titrations.Electrochemical Cells- Single electrode

potential, Types of electrodes with examples: Metal- metal ion, Gas electrode, Inert electrode, Redox electrode, Metal-metal insoluble salt- salt anion. Determination of EMF of a cell, Nernst equation, Applications of EMF measurements - Potentiometric titrations. Fuel cells- Basic concepts, examples and applications

UNIT V:

Chemical Kinetics :

The concept of reaction rates. Effect of temperature, pressure, catalyst and other factors on reaction rates. Order and molecularity of a reaction, Derivation of integrated rate equations for zero, first and second order reactions (both for equal and unequal concentrations of reactants). Half–life of a reaction. General methods for determination of order of a reaction. Concept of activation energy and its calculation from Arrhenius equation. Theories of Reaction Rates: Collision theory and Activated Complex theory of bimolecular reactions. Comparison of the two theories (qualitative treatment only).Enzyme catalysis- Specificity,factors affecting enzyme catalysis, Inhibitors and Lock & key model. Michaels- Menten equation- derivation, significance of Michaelis-Menten constant.

Co-curricular activities and Assessment Methods Continuous Evaluation: Monitoring the progress of student's learning Class Tests, Worksheets and Quizzes Presentations, Projects and Assignments and Group Discussions: Enhances critical thinking skills and personality

Semester-end Examination: critical indicator of student's learning and teaching methods adopted by teachers throughout the semester.

REFERENCE BOOKS:

1. Text book of physical chemistry by S Glasstone
2. Concise Inorganic Chemistry by J.D.Lee
3. Advanced Inorganic Chemistry Vol-I by Satyaprakash, Tuli, Basu and Madan
4. Advanced physical chemistry by Gurudeep Raj
5. Principles of physical chemistry by Prutton and Marron
6. Advanced physical chemistry by Bahl and Tuli
7. Inorganic Chemistry by J.E.Huheey
8. Basic Inorganic Chemistry by Cotton and Wilkinson
9. A textbook of qualitative inorganic analysis by A.I. Vogel
10. Atkins, P.W. & Paula, J.de Atkin's Physical Chemistry Ed., Oxford UniversityPress 10thEd(2014)
11. Castellan,G.W.PhysicalChemistry4thEd.Narosa(2004)
12. Mortimer,R. G.PhysicalChemistry3rdEd. Elsevier:NOIDA,UP(2009).
13. Barrow, G.M.Physical Chemistry

B.Sc.	Semester - IV	Credits: 1
Course: 5(L)	Conductometric and Potentiometric Titrimetry Lab	Hrs/Wk: 2

Course outcomes:

At the end of the course, the student will be able to;

- Use glassware, equipment and chemicals and follow experimental procedures in the laboratory
- Apply concepts of electrochemistry in experiments
- Be familiar with electroanalytical methods and techniques in analytical chemistry which study an analyte by measuring the potential (volts) and/or current (amperes) in an electrochemical cell containing the analyte

Conductometric and Potentiometric Titrimetry **50 M**

1. **Conductometric titration**- Determination of concentration of HCl solution using standard NaOH solution.
2. **Conductometric titration**- Determination of concentration of CH_3COOH Solution using standard NaOH solution.
3. **Conductometric titration**- Determination of concentration of CH_3COOH and HCl in a mixture using standard NaOH solution.
4. **Potentiometric titration**- Determination of Fe (II) using standard $K_2Cr_2O_7$ solution.
5. Determination of rate constant for acid catalyzed ester hydrolysis.

MODEL QUESTION COURSE

B. Sc DEGREE EXAMINATION

SEMESTER: IV

Course 5: : Inorganic & Physical Chemistry

Time: 3Hrs. **Max. Marks: 75**

Section - A

Answer any **FIVE** of the following questions. Each carries **FIVE** marks. **5x5 25M**

1. Write note on Jahn-Teller distortion
2. Explain Labile & inert complexes.
3. Explain Job's method for determination of composition of complex.
4. Explain Thermodynamic derivation of Gibb's phase rule.
5. Explain any two conductometric titrations.
6. Write note on Fuel Cells with examples and applications.
7. What is enzyme catalysis? Write any three factors effecting enzyme catalysis.
8. Derive Michaels- Menten equation.

Section - B

Answer **ALL** the questions. Each carries **TEN** marks **5 X 10 = 50M**

9 (a).Explain Valence Bond theory with Inner and Outer orbital complexes. Write limitations of VBT.

(OR)

(b).Define CFSE. Explain the factors affecting the magnitude of crystal field splitting energy.

10 (a). Explain Trans effect. Explain the theories of trans effect and write any two applications of trans effect.

(OR)

(b). (i) Write the biological functions of Haemoglobin and Myoglobin.

(ii) Write a note on the use of chelating agents in medicines.

11.(a). Define Phase rule and terms involved in it. Explain phase diagram of Pb-Ag system.

(OR)

(b). (i) Explain phase diagram for NaCl-water system.

(ii) Explain briefly about Freezing mixtures.

12.(a). Define Transport number. Write an experimental method for the determination of transport number by Hittorf method.

(OR)

(b).(i) Define single electrode potential.

(ii) Explain four types of electrodes with examples.

13.(a). Explain general methods for determination of order of a reaction.

(or)

(b).Explain Collision theory and Activated complex theory of bimolecular reactions.

UG ROGRAM (4 Y ears Honors)
CBCS - 2020-21

SUBJECT
ZOOLOGY

Syllabus and Model Question Papers

TABLE OF CONTENTS

1. Resolutions of the Board of Studies

Meeting held on 22-01-2010Time: 10:00
AMAt: N.T.R Convention Centre,
Adikavi Nannaya University, Rajamahendravaram

Agenda:

1. Adoption of revised-common program structure and revising/updating course-wise syllabi (in the prescribed format) as per the guidelines issued by APSCHE
2. Adoption of regulations on scheme of examination and marks/grading system of the UG program
3. Preparation of Model question papers in prescribed format
4. List of equipment / software requirement for each lab/practical
5. Eligibility of student for joining the course
6. Eligibility of faculty for teaching the course
7. Any specific instructions to the teacher/paper-setter/student/ chief-superintendent/ paper-evaluator
8. List of paper-setters/paper evaluator with phone, email-id in the prescribed format

Members present:

1. Dr P. Vijaya Nirmala
2. Dr. N. Srinivas
3. Dr. P. Anil Kumar
4. Dr. M. Tejomurthy
5. Dr. P. Raghava Kumari
6. K. Babu
7. Dr. P.S.CH. P Deepika Rani
8. Lakshmi Kantham
9. D. Mounika

UG Program (4 years Honors) Structure (CBCS)

2020-21 A. Y., onwards

BACHLOR OF SCIENCE

(3rd and 4th year detailed design will be followed as per APSCHE GUIDELINES)

Subjects/ Semesters		I		II		III		IV		V		VI			
		H/W	C	H/W	C	H/W	C	H/W	C	H/W	C	H/W	C		
Languages												THIRD PHASE of APPRENTICESHIP Entire 5th / 6th Semester		FIRST and SECOND PHASES (2 spells) of APPRENTICESHIP between 1st and 2nd year and between 2nd and 3rd year (two summer vacations).	
English		4	3	4	3	4	3								
Language (H/T/S)		4	3	4	3	4	3								
Life Skill Courses		2	2	2	2	2+2	2+2								
Skill Development Courses		2	2	2+2	2+2	2	2								
Core Papers															
M-1	C1 to C5	4+2	4+1	4+2	4+1	4+2	4+1	4+2 4+2	4+1 4+1						
M-2	C1 to C5	4+2	4+1	4+2	4+1	4+2	4+1	4+2 4+2	4+1 4+1						
M-3	C1 to C5	4+2	4+1	4+2	4+1	4+2	4+1	4+2 4+2	4+1 4+1						
M-1	SEC (C6,C7)									4+2 4+2	4+1 4+1				
M-2	SEC (C6,C7)									4+2 4+2	4+1 4+1				
M-3	SEC (C6,C7)									4+2 4+2	4+1 4+1				
Hrs/ W (Academic Credits)		30	25	32	27	32	27	36	30	36	30	0	12	4	4
Project Work															
Extension Activities (Non Academic Credits)															
NCC/NSS/Sports/Extra Curricular									2						
Yoga							1		1						
Extra Credits															
Hrs/W (Total Credits)		30	25	32	27	32	28	36	33	36	30	0	12	4	4

M= Major; C= Core; SEC: Skill Enhancement Courses

Marks & Credits distribution: UG-Sciences

Sl. No	Course type	No. of courses	Each course teaching Hrs/wk	Credit for each course	Total credits	Each course evaluation			Total marks
						Conti-Assess	Univ-exam	Total	
1	English	3	4	3	9	25	75	100	300
2	S.Lang	3	4	3	9	25	75	100	300
3	LS	4	2	2	8	0	50	50	200
4	SD	4	2	2	8	0	50	50	200
5	Core/SE -I	5+2	4+2	4+1	35	25	75+50	150	1050
	Core/SE -II	5+2	4+2	4+1	35	25	75+50	150	1050
	Core/SE -III	5+2	4+2	4+1	35	25	75+50	150	1050
6	Summer-Intern	2		4	8		100	200	200
7	Internship/ Apprentice/ on the job training	1		12	12		200	200	200
		38			**159**				**4550**
8	**Extension Activities (Non Academic Credits)**								
	NCC/NSS/Sports/ Extra Curricular			2	2				
	Yoga	2		1	2				
	Extra Credits								
	Total	**40**			**142**				

ETAILS OF PAPER TITLES & CREDITS

Sem	Course no.	Course Name	Course type (T/L/P)	Hrs./Week (Arts/Commerce:5 &Science:4+2)	Credits (Arts/Commerce:4 &Science:4+1)	Max. Marks Cont/ Internal/Mid Assessment	Max. Marks Sem - end Exam
I	1	Animal Diversity – IBiology of Non- Chordates	T	4	4	25	75
		Animal Diversity – IBiology of Non- Chordates Lab	L	2	1	-	50
II	2	Animal Diversity –IIBiology of Chordates	T	4	4	25	75
		Animal Diversity –II Biology of ChordatesLab	L	2	1	-	50
III	3	Cell biology,Genetics, Molecular Biology &Evolution	T	4	4	25	75
		Cell biology,Genetics, Molecular Biology & Evolution Lab	L	2	1	-	50
IV	4	Physiology, CellularMetabolism & Embryology	T	4	4	25	75
		Physiology, Cellular Metabolism & Embryology Lab	L	2	1	-	50
	5	Immunology & Animal Biotechnology	T	4	4	25	75
		Immunology & Animal BiotechnologyLab	L	2	1	-	50
V	6A	Sustainable Aquaculture Management	T	4	4	25	75
		Sustainable Aquaculture Management Lab	L	2	1	-	50
	7A	Post Harvest Technologyof Fish And Fisheries	T	4	4	25	75
		Postharvest Technology of Fish And Fisheries Lab	L	2	1	-	50
	OR						
	6B	Live Stock Management-I (Biology of Dairy Animals)	T	4	4	25	75
		Live Stock Management-I Lab (Biology of Dairy Animals)	L	2	1	-	50
	7B	Live Stock Management -II (Dairy Production and Management)	T	4	4	25	75
		Live Stock Management -II Lab (Dairy Production and Management)	L	2	1	-	50
	OR						
	6C	Poultry Management- I (Poultry Farming)	T	4	4	25	75
		Poultry Management- I Lab (Poultry Farming)	L	2	1	-	50

	7C	Poultry Management- II (Poultry Production and Management	T	4	4	25	75
		Poultry Management- II Lab (Poultry Production and Management	L	2	1	-	50
	OR						
	6D	Seri Culture -I***	T	4	4	25	75
		Seri Culture -I Lab	L	2	1	-	50
	7D	Seri Culture -II	T	4	4	25	75
		Seri Culture -II Lab	L	2	1	-	50

Note: *Course type code: T: Theory, L: Lab, P: Problem solving

Note 1: For Semester–V, for the domain subject **ZOOLOGY**, any one of the three pairs of SECs shall be chosen as courses 6 and 7, i.e., 6A & 7A or 6B & 7B or 6C & 7C or 6D&7D. The pair shall not be broken (ABC allotment is random, not on any priority basis).

Note 2: One of the main objectives of Skill Enhancement Courses (SEC) is to inculcate field skills related to the domain subject in students. The syllabus of SEC will be partially skill oriented. Hence, teachers shall also impart practical training to students on the field skills embedded in the syllabus citing related real field situations.

Note 3: To insert assessment methodology for Internship/ on the Job Training/Apprenticeship under the revised CBCS as per APSCHE Guidelines.

- **First internship (After 1st Year Examinations):** Community Service Project. To inculcate social responsibility and compassionate commitment among the students, the summer vacation in the intervening 1st and 2nd years of study shall be for Community Service Project (the detailed guidelines are enclosed).
- **Credit For Course: 04**

- **Second Internship (After 2nd Year Examinations):** Apprenticeship / Internship / on the job training / In-house Project / Off-site Project. To make the students employable, this shall be undertaken by the students in the intervening summer vacation between the 2nd and 3rd years (the detailed guidelines are enclosed).
- **Credit For Course: 04**

- **Third internship/Project work (6th Semester Period):**
  During the entire 6th Semester, the student shall undergo Apprenticeship / Internship / On the Job Training. This is to ensure that the students develop hands on technical skills which will be of great help in facing the world of work (the detailed guidelines are enclosed).
- **Credit For Course:12**

a. Proposed combination subjects: **Chemistry, Botany,Zoology.**

b. Student eligibility for joining in the course:**10+2 Intermediate qualification Bi.P.C**
Vocational courses MLT, MPHW (Nursing, PT Phytotherapy)

c. Faculty eligibility for teaching the course: **PG, M.Phil, PhD in Zoology**

d. List of Proposed Skill enhancement courses with syllabus, if any

e. Any newly proposed Skill development/Life skill courses with draft syllabus and required resources

f. Required instruments/software/ computers for the course (Lab/Practical course-wise required i.e., for a batch of 15 students)

Sem. No.	**Lab/Practical Name**	**Names of Instruments/Software/ computers required with specifications**	**Brand Name**	**Qty Required**
I	Animal Diversity – I Biology of Non-Chordates			
II	Animal Diversity –II Biology of Chordates			
III	Cell biology, Genetics, Molecular Biology & Evolution			
IV	Physiology, Cellular Metabolism & Embryology			
IV	Immunology &Animal Biotechnology			

g. List of Suitable levels of positions eligible in the Govt/Pvt organizations

Suitable levels of positions for these graduates either in industry/govt organization like. technical assistants/ scientists/ school teachers., clearly define them, with reliable justification

S.No	Position	Company/ Govt organization	Remarks	Additional skills required, if any
1	School Teachers	Private		
2	Technical Assistant	Private		

h. List of Govt. organizations / Pvt companies for employment opportunities or internships or projects

S.No	Company/ Govt organization	Position type	Level of Position			
1						
2.						

i. Any specific instructions to the teacher /paper setters/Exam-Chief Superintendent

2. Program objectives, outcomes, co-curricular and assessment methods

BA/BCOM/BSc/BVoc	ZOOLOGY

1. Aim and objectives of UG program in Subject:

2. Learning outcomes of Subject (in consonance with the Bloom's Taxonomy):

3. Recommended Skill enhancement courses: (Titles of the courses given below and details of the syllabus for 4 credits (i.e., 2 units for theory and Lab/Practical) for 5 hrs class- cum-lab work

4. Recommended Co-curricular activities:(Co-curricular Activities should not promote copying from text book or from others' work and shall encourage self/independent and group learning)

   A**. Measurable:**
   1. Assignments on:
   2. Student seminars (Individual presentation of papers) on topics relating to:
   3. Quiz Programmes on:
   4. Individual Field Studies/projects:
   5. Group discussion on:
   6. Group/Team Projects on:

   B General
   1. Collection of news reports and maintaining a record of paper-cuttings relating to topics covered in syllabus
   2. Group Discussions on:
   3. Watching TV discussions and preparing summary points recording personal observations etc., under guidance from the Lecturers
   4. Any similar activities with imaginative thinking.

5. Recommended Continuous Assessment methods:

4. Details of course-wise Syllabus

BSc/BA/BCom	Subject **(Semester: I)**	**Credits:**
Paper: 1	Title of Course	**Hrs/Wk:**

1. Aim and objectives of Course (Title of the course/paper):

6. Learning outcomes of Course (in consonance with the Bloom's Taxonomy):

7. Detailed Syllabus: (Five units with each unit having 12 hours of class work)

   Unit-1

   Unit-2

   Unit-3

   Unit-4

   Unit-5

   Recommended Text Books:

   Reference books:

8. Details of Lab/Practical/Experiments/Tutorials syllabus:

   Recommended Text books:

   Recommended Reference books:

9. Recommended Co-curricular activities:(Co-curricular Activities should not promote copying from text book or from others' work and shall encourage self/independent and group learning)

   A. Measurable:
      1. Assignments on:
      2. Student seminars (Individual presentation of papers) on topics relating to:
      3. Quiz Programmes on:
      4. Individual Field Studies/projects:
      5. Group discussion on:
      6. Group/Team Projects on:

B. General

1. Collection of news reports and maintaining a record of paper-cuttings relating to topics covered in syllabus
2. Group Discussions on:
3. Watching TV discussions and preparing summary points recording personal observations etc., under guidance from the Lecturers
4. Any similar activities with imaginative thinking.

10. Recommended Continuous Assessment methods:

5. MODEL QUESTION PAPER (Sem-end. Exam)

B.Sc	Subject (Semester: I)	Max. Marks:
Paper: 1	(Coursetitle)	3Hrs

B.Sc	Subject (Semester: V)	Credits:
Paper: 5	(Course title)	Hrs/Wk:

1. Aim and objectives of Course (Title of the course):

2. Learning outcomes of Course (in consonance with the Bloom's Taxonomy):

3. Detailed Syllabus: Five units (i.e., each unit having 12 hours of class work)

   Unit-1

   Unit-2

   Unit-3

   Unit-4

   Unit-5

   Recommended Text Books:

   Reference books:

4. Details of Lab/Practical/Experiments/Tutorials syllabus:

   Recommended Text books:

   Recommended Reference books:

5. Recommended Co-curricular activities:(Co-curricular Activities should not promote copying from text book or from others' work and shall encourage self/independent and group learning)

   A. Measurable:
      1. Assignments on:
      2. Student seminars (Individual presentation of papers) on topics relating to:
      3. Quiz Programmes on:
      4. Individual Field Studies/projects:
      5. Group discussion on:
      6. Group/Team Projects on:

   B. General
      1. Collection of news reports and maintaining a record of paper-cuttings relating to topics covered in syllabus
      2. Group Discussions on:
      3. Watching TV discussions and preparing summary points recording personal observations etc., under guidance from the Lecturers
      4. Any similar activities with imaginative thinking.

6. Recommended Continuous Assessment methods:

B. Sc	Semester: I	Credits:4
Paper: 1	Animal Diversity – Biology of Nonchordates	Hrs/Wk:4

Course Outcomes: By the completion of the course the graduate should able to –

- Describe general taxonomic rules on animal classification
- Classify Protozoa to Coelenterata with taxonomic keys
- Classify Phylum Platyhemninthes to Annelida phylum usingexamples from parasitic adaptation and vermin composting
- Describe Phylum Arthropoda to Mollusca using examples andimportance of insects and Molluscans
- Describe Echinodermata to Hemichordate with suitable examples andlarval stages in relation to the phylogeny

Learning objectives

- To understand the taxonomic position of protozoa to helminthes.
- To understand the general characteristics of animalsbelonging to protozoa to hemichordate.
- To understand the structural organization of animal'sphylum from protozoa to hemichordate.
- To understand the origin and evolutionary relationship of different phyla from protozoa to hemichordate.
- To understand the origin and evolutionary relationship of different phylum from annelids to hemichordates.

UNIT I:

Principles of Taxonomy – Binomial nomenclature – Rules of nomenclature Whittaker's five kingdom concept and classification of Animal Kingdom.

Phylum Protozoa: General Characters and classification of protozoa up to species level with suitable examples Locomotion, nutrition and reproduction in Protozoan's *Elphidium (typestudy)*

UNIT II:

Phylum Porifera: General characters and classification up to species level with suitable examples Skelton in Sponges Canal system in sponges

Phylum Coelenterate: General characters and classification up to species level with suitable examples Mutagenesis in *Obelia,* Polymorphism in coelenterates, Corals and coral reefs formation

Phylum Ctenophore: General Characters and Evolutionary significance (affinities)

UNIT III:

Phylum Platy helminthes: General characters and classification up to species level with suitable examples Life cycle and pathogen city of *Fasciolahepatica* Parasitic Adaptations in helminthes

Phylum Nemathelminthes: General characters and classification up to species level with suitable examples Life cycle and pathogen city of *Ascaris lumbricoides*

UNIT IV:

Phylum Annelida: General characters and classification up to species level with suitable examples *Hirudinaria granulosa*- External characters, digestive system, excretory system and reproductive system, Evolution of Coelom and Coelomoducts, Vermiculture - Scope, significance, earthworm species, processing, Vermicompost, economic importance of vermin compost

Phylum Arthropoda : General characters and classification up to species level with suitable examples Prawn-External characters, appendages, respiratory system and circulatory system Vision and respiration in Arthropoda, Metamorphosis in Insects *Peripatus*- Structure and affinitiesSocial Life in Bees and Termites

UNIT V:

Phylum Mollusca: General characters and classification up to species level with suitable examples ,Pearl formation in Pelecypoda, Sense organs in Mollusca,Torsion in gastropods

Phylum Echinodermata: General characters and classification up to species level with suitable examples, Water vascular system in starfish, Larval forms of Echinodermata

Phylum Hemichordate: General characters and classification up to species level with suitable examples, *Balanoglossus* - Structure and affinities

Co-curricular activities (suggested)

- Preparation of chart/model of phylogenic tree of life, 5-kingdom classification, *Elphidium* life cycle etc.
- Visit to Zoology museum or Coral island as part of Zoological tour
- Charts on life cycle of *Obelia*, polymorphism, spongespicules
- Clay models of canal system in sponges
- Preparation of charts on life cycles of *Fasciola* and *Ascaris*
- Visit to adopted village and conducting awareness campaign on diseases, to people as part of Social Responsibility.
- Plaster-of-Paris or Thermocol model of *Periapt's*
- Construction of a vermicompost in each college, manufacture of manure by students and donating to local farmers
- Models of compound eye, bee hive and terminarium (termitaria) by students
- Visit to apiculture centre and short-term training as part of apprenticeship programme of the govt. of Andhra Pradesh
- Chart on pearl forming layers using clay orThermocol
- Visit to a pearl culture rearing industry/institute
- Live model of water vascular system
- Phylogeny chart on echinoderm larvae and their evolutionary significance
- Preparation of charts depicting the feeding mechanism, 3coeloms, tornarialarvaetc., of *Balanoglossus.*

REFERENCE BOOKS:

1. L.H. Hyman '*The Invertebrates' Vol I, II and V.* – M.C. Graw Hill Company Ltd.
2. Kotpal, R.L. 1988 - 1992 Protozoa, Porifera, Coelenterata, Helminthes,Arthropoda, Mollusca, Echinodermata. Rastogi Publications, Meerut.
3. E.L. Jordan and P.S. Verma '*Invertebrate Zoology'* S. Chand and Company.
4. R.D. Barnes '*Invertebrate Zoology'* by: W.B. Saunders CO.,1986.
5. Barrington. E.J.W., '*Invertebrate structure and Function'* by ELBS.
6. P.S. Dhami and J.K. Dhami. Invertebrate Zoology. S. Chand and Co. New Delhi.
7. Parker, T.J. and Haswell'*A text book of Zoology'* by, W.A., Mac Millan Co.London.
8. Barnes, R.D. (1982). *Invertebrate Zoology*, VEdition"

B. Sc	Semester: I	Credits:1
Paper: 1(L)	Animal Diversity – Biology of Nonchordates Lab	Hrs/Wk:2

Learning Outcomes:

- To understand the importance of preservation of museum specimens
- To identify animals based on special identifying characters
- To understand different organ systems through demo or virtual dissections
- To maintain a neat, labeled record of identified museum specimens

Syllabus:

1. **Study of museum slides / specimens / models (Classification of animals up to orders)**

   Protozoa: Amoeba, *Paramecium, Paramecium Binary fission and Conjugation, Vorticella, Entamoebahistolytica, Plasmodium vivax*
   Porifera: *Sycon, Spongilla, Euspongia, Sycon*- T.S & L.S, Spicules, Gem mule
   Coelenterata: *Obelia – Colony & Medusa, Aurelia, Physalia, Velella, Corallium, Gorgonia, Pennatula*v.
   Platyhelminthes: *Planaria, Fasciola hepatica, Fasciola*larval forms – Miracidium, Redia, Cercaria, *Echinococcusgranulosus, Taeniasolium, Schistosomahaematobium*vii.
   Nemathelminthes: *Ascaris (Male & Female), Drancunculus, Ancylostoma,Wuchereria*
   Annelida: *Nereis, Aphrodite, Chaetopteurs, Hirudinaria,* Trochophore larva
   Arthropoda: Cancer, Palaemon**,** Scorpion, *Scolopendra, Sacculina, Limulus, Periapt's,* Larvae - Nauplius, Mysis, Zoea, Mouth parts of male &female *Anopheles* and *Culex,* Mouthparts of Housefly and Butterfly. xiii.
   Mollusca: *Chiton, Pila, Unio, Pteredo, Murex, Sepia, Loligo, Octopus, Nautilus,* Glochidium larva
   Echinodermata: *Asterias, Ophiothrix, Echinus, Clypeaster, Cucumaria, Ante don,* Bipinnaria larva
   Hemichordata: *Balanoglossus,* Tornaria larva.
2. **Dissections:**
   Prawn: Appendages, Digestive system, Nervous system, Mounting of Statocyst
   Insect Mouth Parts
   Laboratory Record work shall be submitted at the time of practicalamination

   An **"Animal album**" containing photographs, cut outs, with appropriate write up about the above mentioned taxa. Different taxa/ topics may be given to differentsets of students for thispurpose
   Computer - aided techniques should be adopted or show virtual dissections

RFERENCE MANUALS:

1. Practical Zoology- Invertebrates S.S.Lal
2. Practical Zoology - Invertebrates P.S.Verma
3. Practical Zoology - Invertebrates K.P.Kurl
4. Ruppert and Barnes (2006) Invertebrate Zoology,8th Edition, Holt SaundersInternational Edition

B. Sc	Semester: II	Credits:4
Paper: 2	Animal Diversity – Biology of Chordates	Hrs/Wk:4

Course Outcomes: By the completion of the course the graduate should able to -

- Describe general taxonomic rules on animal classification of chordates
- Classify Protochordata to Mammalian with taxonomic keys
- Understand Mammals with specific structural adaptations
- Understand the significance of dentition and evolutionary significance
- Understand the origin and evolutionary relationship of different phyla from Prochordata to mammalian.

Learning objectives

- To understand the animal kingdom.
- To understand the taxonomic position of Protochordata to Mammalian.
- To understand the general characteristics of animals belonging to Fishes to Reptilians.
- To understand the body organization of Chordata.
- To understand the taxonomic position of Protherian mammals.

UNIT I:

General characters and classification of Chordata upto species level Protochordata- Salient features of Cephalochordate, Structure of *Branchiostoma* Affinities of Cephalochordate. Salient features of Urochordata Structure and life history of *Herdmania* Retrogressive metamorphosis –Process and Significance.

UNIT II:

Cyclostomata, General characters, Comparison of *Petromyzon* and *Myxine* Pisces: General characters and classification of Fishes upto species level ***Scoliodon*****:** External features, Digestive system, Respiratory system, Structure and function of Heart, Structure and functions of the Brain. Migration in Fishes Types of Scales Dipnoi.

UNIT III:

General characters of Amphibian Classification of Amphibian upto species level with examples. ***Ranahexadactyla*****:** External features, Digestive system, Respiratory system, Structure and function of Heart, structure and functions of the Brain

Reptilia: General characters of Reptilia, Classification of Reptilia upto species level with examples

Calotes: External features, Digestive system, Respiratory system, Structure and function of Heart, structure and function of Brain Identification of Poisonous and non-poisonous snakes and Skull in reptiles.

UNIT IV:

Aves: General characters and classification of Aves upto species level *Columba livia*: External features, Digestive system, Respiratory system, Structure and function of Heart, structure and function of Brain Migration in Birds Flight adaptation in birds.

UNIT V:

General characters of Mammalian Classification of Mammalian upto species level with examples Comparison of Prototherians, Metatherians and Eutherians Dentition in mammals

Co-curricular activities (suggested)

- Preparation of charts on Chordate classification (with representative animal photos) and retrogressive metamorphosis
- Thermocol or Clay models of Herdmania and Amphioxus
- Visit to local fish market and identification of local cartilaginous and bony fishes
- Maintaining of aquarium by students
- Thermocol model of fish heart and brain
- Preparation of slides of scales of fishes
- Visit to local/nearby river to identify migratory fishes and prepare study notes
- Preparation of Charts on above topics by students (Eg: comparative account of vertebrate heart/brain/lungs, identification of snakes etc.)
- Collecting and preparation of Museum specimens with dead frogs/snakes/lizards etc., and/or their skeletons
- Additional input on types of snake poisons and their antidotes (student activity).
- Collection of bird feathers and submission of report on Plumology
- Taxidermic preparation of dead birds for Zoology museum
- Map pointing of prototherian and metatherianmammals
- Chart preparation for dentition in mammals.

REFERENCE BOOKS:

1. J.Z. Young, 2006. The life of vertebrates. (The Oxford University Press, New Delhi). 646 pages. Reprinted
2. Arumugam, N. Chordate Zoology, Vol. 2. Saras Publication. 278 pages. 200 figs.
3. A.J. Marshall, 1995. Textbook of zoology, Vertebrates. (The McMillan PressLtd., UK). 852 pages. (Revised edition of Parker &Haswell,1961).
4. M. Ekambaranatha Ayyar, 1973. A manual of zoology. Part II. (S. ViswanathanPvt. Ltd.,Madras).
5. P.S. Dhami& J.K. Dhami, 1981. Chordate zoology. (R. Chand & Co.). 550pages.
6. Gurdarshan Singh & H. Bhaskar, 2002. Advanced Chordate Zoology. Campus Books, 6 Vols., 1573 pp., tables, figs.
7. A.K. Sinha, S. Adhikari& B.B. Ganguly, 1978. Biology of animals. Vol. II. Chordates. (New Central Book Agency, Calcutta). 560 pages.
8. R.L.Kotpal, 2000. Modern textbook of zoology, Vertebrates. (Rastogi Publ., Meerut).632pages.
9. E.L. Jordan & P.S. Verma, 1998. Chordate zoology. (S. Chand & Co.). 1092pages.
10. G.S. Sandhu, 2005. Objective Chordate Zoology. Campus Books, vii, 169pp.
11. Sandhu, G.S. & H. Bhaskar, H. 2004. Textbook of Chordate Zoology. Campus Books, 2 vols., xx, 964 p.,figs.
12. Veena, 2008. Lower Chordata. (Sonali Publ.), 374 p., tables, 117 figs.

B. Sc	Semester: II	Credits:1
Paper: 2(L)	Animal Diversity – Biology of Chordates Lab	Hrs/Wk:2

Learning Outcomes:

- To understand the Taxidermic and other methods of preservation of chordates
- To identify chordates based on special identifying characters
- To understand internal anatomy of animals through demo or virtual dissections, thus directing the student for "empathy towards the fellow living beings"
- To maintain a neat, labelled record of identified museum specimens

Observation of the Following Slides / Spotters / Models

- Protochordata: *Herdmania, Amphioxus, Amphioxus* T.S through pharynx.
- Cyclostomata: *Petromyzon and Myxine.*
- Pisces: *Pristis, Torpedo, Hippocampus, Exocoetus, Echeneis, Labeo, Catla, Claries, Channa,Anguilla.*
- Amphibian: *Ichthyophis, Amblystoma, Axolotl larva,Hyla,*
- Reptilia: *Draco, Chameleon, Uromastix, Testudo, Trionyx, Russels viper,Naja*
- Krait, *Hydrophis, Crocodile.*
- Aves: *Psittacula, Eudynamis, Bubo, Alcedo.*
- Mammalian: *Ornithorhynchus, Pteropus, Funambulus.*

Dissections-

1. *Scoliodon* IX and X, Cranial nerves
2. *Scoliodon* Brain
3. Mounting of fish scales

Note: 1. Dissections are to be demonstrated only by the faculty or virtual.

2. Laboratory Record work shall be submitted at the time of practical examination.

REFERENCE BOOKS:

1. S.S.Lal, Practical Zoology –Vertebrate
2. P.S.Verma, A manual of Practical Zoology – Chordata

B. Sc	Semester: III	Credits:4
Paper: 3	Cell Biology, Genetics, Molecular Biology and Evolution	Hrs/Wk:4

Course Outcomes:

The overall course outcome is that the student shall develop deeper understanding of what life is and how it functions at cellular level. This course will provide students with a deep knowledge in Cell Biology, Animal Biotechnology and Evolution and by the completionof the course the graduate shall able to–

- To understand the basic unit of the living organisms and to differentiate the organisms by their cell structure.
- Describe fine structure and function of plasma membrane and different cell organelles of eukaryotic cell.
- To understand the history of origin of branch of genetics, gain knowledge on heredity, interaction of genes, various types of inheritance patterns existing in animals
- Acquiring in-depth knowledge on various of aspects of genetics involved in sex determination, human karyo typing and mutations of chromosomes resulting in various disorder.
- Understand the central dogma of molecular biology and flow of genetic information from DNA to proteins.
- Understand the principles and forces of evolution of life on earth, the process of evolution of new species and apply the same to develop new and advanced varieties of animals for the benefit of the society.

Learning Objectives

- To understand the origin of cell and distinguish between prokaryotic and eukaryotic cell.
- To understand the role of different cell organelles in maintenance of life activities.
- To provide the history and basic concepts of heredity, variations and gene interaction.
- To enable the students distinguish between polygenic, sex-linked, and multiple allelic modes of inheritance.
- To acquaint student with basic concepts of molecular biology as to how characters are expressed with a coordinated functioning of replication, transcription and translation in all living beings.
- To provide knowledge on origin of life, theories and forces of evolution.
- To understand the role of variations and mutations in evolution of organisms.

UNIT I:

Cell Biology: Definition, history, prokaryotic and eukaryotic cells, virus, viroids, mycoplasma Electron microscopic structure of animal cell. Plasma membrane –Models and transport functions of plasma membrane. Structure and functions of Golgi complex, Endoplasmic Reticulum and Lysosomes Structure and functions of Ribosomes, Mitochondria, Nucleus, Chromosomes

(Note: 1. General pattern of study of each cell organelle – Discovery, Occurrence,Number, Origin, Structure and Functions with suitable diagrams**)**

2. Need not study cellular respiration under mitochondrial functions)

UNIT II:

Genetics-I: Mendel's work on transmission of traits Gene Interaction – Incomplete Dominance, Codominance, Lethal Genes Polygene's (General Characteristics & examples); Multiple Alleles (General Characteristics and Blood group inheritance Sex determination (Chromosomal, Genic Balance, Hormonal, Environmental and Haplo- diploidy types of sex determination) Sex linked inheritance (X-linked, Y-linked & XY-linked inheritance)

UNIT III:

Genetics - II: Mutations &Mutagenesis, Chromosomal Disorders (Autosomal and Allosomal) Human Genetics – Karyo typing, Pedigree Analysis(basics)Basics on Genomics and Proteomics

UNIT IV:

Molecular Biology: Central Dogma of Molecular BiologyBasic concepts of-

1. DNA replication – Overview (Semi-conservative mechanism, Semi- discontinuous mode, Origin & Propagation of replication fork)
2. Transcription in prokaryotes – Initiation, Elongation and Termination, Post-transcriptional modifications(basics)
3. Translation – Initiation, Elongation and Termination Gene Expression in prokaryotes (Lac Operon); Gene Expression in eukaryotes

UNIT V:

Origin of life Theories of Evolution: Lamarckism, Darwinism, Germ Plasm Theory, Mutation Theory Neo-Darwinism: Modern Synthetic, Theory of Evolution, Hardy-Weinberg Equilibrium Forces of Evolution: Isolating mechanisms, Genetic Drift, Natural Selection, Speciation

Co-curricular activities (Suggested)

- Model of animal cell
- Working model of mitochondria to encourage creativity among students
- Photo album of scientists of cell biology
- Charts on plasma membrane models/cell organelles
- Observation of Mendelian / Non-Mendelian inheritance in the plants of college botanical garden or local village as a student study project activity
- Observation of blood group inheritance in students, from their parents and grandparents
- Karyo typing and preparation of pedigree charts for identifying diseases in family history
- Charts on chromosomal disorders
- Charts on central dogma/lac Operon/geneticcode
- Model of semi-conservative model of DNA replication
- Model of tRNA and translationechanism
- Power point presentation of transcription or any other topic by students
- Draw geological time scale and highlight important events along the timeline
- Chart on industrial melanism to teach directed selection, Darwin's finches to teach genetic drift, collection of data on weight of children born in primary health centres to teach stabilizing selection etc.

REFERENCE BOOKS:

1. Lodish, Berk, Zipursky, Matsudaria, Baltimore, Darnell 'Molecular Cell Biology' W.H.Freeman and company New York.
2. Cell Biology by DeRobertis
3. Bruce Alberts, Molecular Biology of the Cell
4. Rastogi, Cytology
5. Varma & Aggarwal, Cell Biology
6. C.B. Pawar, Cell Biology
7. Gardner, E.J., Simmons, M.J., Snustad, D.P. (2008).Principles of Genetics. VIII Edition. Wiley India.
8. Snustad, D.P., Simmons, M.J. (2009). Principles of Genetics. V Edition. John Wileyand SonsInc.
9. Klug, W.S., Cummings, M.R., Spencer, C.A. (2012). Concepts of Genetics. X Edition. Benjamin Cummings.
10. Russell, P. J. (2009). Genetics- A Molecular Approach. III Edition. BenjaminCummings.
11. Griffiths, A.J.F., Wessler, S.R., Lewontin, R.C. and Carroll, S.B. Introductionto Genetic Analysis. IX Edition. W. H. Freeman andCo.
12. Ridley, M. (2004). Evolution. III Edition. Blackwell Publishing

13. Molecular Biology by freifielder
14. Instant Notes in Molecular Biology by Bios scientific publishers and Viva BooksPrivate Limited
15. Hall, B. K. and Hallgrimsson, B. (2008). Evolution. IV Edition. Jones and BartlettPublishers
16. Campbell, N. A. and Reece J. B. (2011). Biology. IX Edition, Pearson, Benjamin,Cummings.
17. Douglas, J. Futuyma (1997). Evolutionary Biology. Sinauer Associates.
18. Minkoff, E. (1983). Evolutionary Biology. Addison-Wesley.
19. James D. Watson, Nancy H. Hopkins 'Molecular Biology of the Gene'
20. Jan M. Savage. Evolution, 2nd ed, Oxford and IBH Publishing Co., New Delhi.
21. Gupta P.K..'Genetics

B. Sc	Semester: III	Credits:1
Paper: 3(L)	Cell Biology, Genetics, Molecular Biology and Evolution Lab	Hrs/Wk:2

Learning Objectives:

Acquainting and skill enhancement in the usage of laboratory microscope Hands-on experience of different phases of cell division by experimentation Develop skills on human Karyo typing and identification of chromosomal disorders
To apply the basic concept of inheritance for applied research
To get familiar with phylogeny ad geological history of origin & evolution of animals

I. Cell Biology

1. Preparation of temporary slides of Mitotic divisions with onion root tips
2. Observation of various stages of Mitosis and Meiosis with prepared slides
3. Mounting of salivary gland chromosomes of *Chiranomous*

II. Genetics

1. Study of Mendelian inheritance using suitable examples and problems.
2. Problems on blood group inheritance and sex linked inheritance.
3. Study of human Karyo types (Down's syndrome, Edwards, syndrome, Patausyndrome, Turner's syndrome and Klinefelter syndrome).

III. Evolution

1. Study of fossil evidences.
2. Study of homology and analogy from suitable specimens and pictures.
3. Phylogeny of horse with pictures.
4. Study of Genetic Drift by using examples of Darwin's finches(pictures).
5. Visit to Natural History Museum and submission of report.

REFERENCE BOOKS:

1. Burns GW. 1972. *The Science of Genetics. An Introduction to Heredity.* Mac MillanPubl.Co.Inc.
2. Gardner EF. 1975. *Principles of Genetics.* John Wiley & Sons, Inc. NewYork.
3. Harth and Jones EW. 1998. *Genetics – Principles and Analysis.* Jones and BarHett Publ.Boston.
4. Levine L. 1969. *Biology of the Gene.*Toppan.
5. Pedder IJ. 1972. *Genetics as a Basic Guide*. W. Norton & Company,Inc.
6. Rastogi VB. 1991. *A Text Book of Genetics.*KedarNath Ram Nath Publications, Meerut, Uttar Pradesh,India.
7. Rastogi VB. 1991. *Organic Evolution.*KedarNath Ram Nath Publications,Meerut,Uttar Pradesh,India.
8. Stahl FW. 1965. *Mechanics of Inheritance.* Prentice-Hall.
9. White MJD. 1973. *Animal Cytology and Evolution.* Cambridge Univ.Press.

B. Sc	Semester: IV	Credits:4
Paper: 4	**Animal Physiology, Cellular Metabolism** and **Embryology**	Hrs/Wk:4

Course Outcomes:

This course will provide students with a deep knowledge in Physiology, Cellular metabolism and Molecular Biology and by the completion of the course the graduate shall able to –

- Understand the functions of important animal physiological systems including digestion, cardio-respiratory and renal systems.
- Understand the muscular system and the neuro-endocrine regulation of animal growth, development and metabolism with a special knowledge of hormonal control of human reproduction.
- Describe the structure, classification and chemistry of Biomolecules and enzymes responsible for sustenance of life in living organisms
- Develop broad understanding the basic metabolic activities pertaining to the catabolism and anabolism of various Biomolecules
- Describe the key events in early embryonic development starting from the formation of gametes upto gastrula ion and formation of primary germ layers.

Learning Objectives

- To achieve a thorough understanding of various aspects of physiological systems andtheir functioning in animals.
- To instil the concept of hormonal regulation of physiology, metabolism andreproduction in animals.
- To understand the disorders associated with the deficiency of hormones
- To demonstrate a thorough knowledge of the intersection between the disciplines of Biology and Chemistry.
- To provide insightful knowledge on the structure and classification of carbohydrates, proteins, lipids and enzymes
- To demonstrate an understanding of fundamental biochemical principles such as the function of Biomolecules, metabolic pathways and the regulation of biochemical processes
- To make students gain proficiency in laboratory techniques in biochemistry and orient them to apply the scientific method to the processes of experimentation and hypothesis testing.

UNIT I:

Animal Physiology -I: Process of digestion and assimilation, Respiration - Pulmonary ventilation, transport of oxygen and CO_2, (Note: Need not study cellular respiration here), Circulation - Structure and functioning of heart, Cardiac cycle, Excretion - Structure and functions of kidney urine formation, counter currentMechanism

UNIT II:

Animal Physiology -II: Nerve impulse transmission - Resting membrane potential, origin and propagation of action potentials along myelinated and non-myelinated nerve fibers. Muscle contraction - Ultra structure of muscle, molecular and chemical basis of muscle contraction. Endocrine glands - Structure, functions of hormones of pituitary, thyroid, parathyroid, adrenal glands and pancreas, Hormonal control of reproduction in a mammal

UNIT III:

Cellular Metabolism – I(Biomolecules) Carbohydrates - Classification of carbohydrates. Structure of glucose Proteins - Classification of proteins. General properties of amino acids Lipids - Classification of lipids. Enzymes: Classification and Mechanism of Action

UNIT IV:

Cellular Metabolism –II: Carbohydrate Metabolism - Glycolysis, Krebs cycle, Electron Transport Chain, Glycogen metabolism, Gluconeogenesis, Lipid Metabolism – Synthesis of fatty acids, β-oxidation of palmitic acidProtein metabolism - Transamination, Deamination and Urea Cycle

UNIT V:

Embryology: Gametogenesis Fertilization, Types of eggs Types of cleavages,Development of Frog upto formation of primary germ layers

Co-curricular activities (Suggested)

- Chart on cardiac cycle, human lung, kidney/nephron structure etc.
- Working model of human / any mammalian heart.
- Chart of sarcomere/location of endocrine glands in human body
- Chart affixing of photos of people suffering from hormonal disorders
- Student study projects such as identification of incidence of hormonal disorders in the local primary health centre, studying the reasons thereof and measures to curb or any other as the lecturer feels good in nurturing health awareness among students
- Chart on structures of Biomolecules/types of amino acids (essential and non- essential) Chart preparation by students on Glycolysis / kerb's cycle/urea cycle etc.
- Model of electron transport chain
- Preparation of models of different types of eggs in animals
- Chart on frog embryonic development, fate map of frog blastula, cleavage etc.

REFERENCE BOOKS:

1. Eckert H. *Animal Physiology: Mechanisms and Adaptation.* W.H. Freeman &Company.
2. Floray E. *An Introduction to General and Comparative Animal Physiology.* W.B. Saunders Co., Philadelphia.
3. Goel KA and Satish KV. 1989. *A Text Book of Animal Physiology,* Rastogi Publications, Meerut,U.P.
4. Hoar WS. *General and Comparative Physiology.* Prentice Hall of India, NewDelhi.
5. Lehninger AL. Nelson and Cox. *Principles of Biochemistry.* Lange MedicalPublications, NewDelhi.
6. Prosser CL and Brown FA. *Comparative Animal Physiology.* W.B. SaundersCompany,Philadelphia.
7. Developmental Biology byBalinksy
8. Developmental Biology by GerardKarp
9. Chordate embryology by Varma andAgarwal
10. Embryology by V.B.Rastogi
11. Austen CR and Short RV. 1980. *Reproduction in Mammals*. Cambridge UniversityPress.
12. Gilbert SF. 2006. *Developmental Biology,* 8th Edition. Sinauer Associates Inc., Publishers, Sunderland,USA.
13. Longo FJ. 1987. *Fertilization.* Chapman & Hall, London.
14. Rastogi VB and Jayaraj MS. 1989. *Developmental Biology.* KedaraNath Ram Nath Publishers, Meerut, UttarPradesh.
15. Schatten H and Schatten G. 1989. *Molecular Biology of Fertilization.* AcademicPress, NewYork.

B. Sc	Semester: IV	Credits:1
Paper: 4(L)	Animal Physiology, Cellular Metabolism and Embryology Lab	Hrs/Wk:2

Learning Objectives:

- Identification of an organ system with histological structure
- Deducing human health based on the information of composition of blood cells
- Demonstration of enzyme activity *invitro*
- Identification of various Biomolecules of tissues by simple colorimetric methods and also quantitative methods
- Identification of different stages of earl embryonic development in animals

I. Animal physiology

1. Qualitative tests for identification of carbohydrates, proteins and fats
2. Study of activity of salivary amylase under optimum conditions
3. T.S. of duodenum, liver, lung, kidney, spinal cord, bone and cartilage
4. Differential count of human blood

II. Cellular metabolism

1. Estimation of total proteins in given solutions by Lowry's method.
2. Estimation of total carbohydrate by Anthrone method.
3. Qualitative tests for identification of ammonia, urea and uric acid
4. Protocol for Isolation of DNA in animal cells

III. Embryology

1. Study of T.S. of testis, ovary of a mammal
2. Study of different stages of cleavages (2, 4, 8 cell stages)
3. Construction of fate map of frog blastula

REFERENCE BOOKS:

- Harper's Illustrated Biochemistry
- Cell and molecular biology: Concepts & experiments. VI Ed. John Wiley &sons. Inc.
- Lab Manual on Blood Analysis and Medical Diagnostics, S. Chand and Co. Ltd.
- Laboratory techniques by Plummer

B. Sc	Semester: IV	Credits:4
Paper: 5	Immunology and Animal Biotechnology	Hrs/Wk:4

Course Outcomes:

This course will provide students with a deep knowledge in immunology, genetics, embryology and ecology and by the completion of the course the graduate shall able to –

- To get knowledge of the organs of Immune system, types of immunity, cells and organs of immunity.
- To describe immunological response as to how it is triggered (antigens) and regulated(antibodies)
- Understand the applications of Biotechnology in the fields of industry and agriculture including animal cell/tissue culture, stem cell technology and genetic engineering.
- Get familiar with the tools and techniques of animal biotechnology.

Learning Objectives

- To trace the history and development of immunology
- To provide students with a foundation in immunological processes
- To be able to compare and contrast the innate versus adaptive immune systems and humoral versus cell-mediated immune responses
- Understand the significance of the Major His to compatibility Complex in terms of immune response and transplantation
- To provide knowledge on animal cell and tissue culture and their preservation
- To empower students with latest biotechnology techniques like stem cell technology, genetic engineering, hyridoma technology, transgenic technology and their applicationin medicine and industry for the benefit of living organisms
- To explain *in vitro* fertilization, embryo transfer technology and other reproduction manipulation methodologies.
- To get insight in applications or recombinant DNA technology in agriculture, production of therapeutic proteins.
- To understand principles of animal culture, media preparation.

UNIT I:

Immunology – I (Overview of Immune system): Introduction to basic concepts in Immunology, Innate and adaptive immunity, Vaccines and Immunization programme , Cells of immune system,Organs of immune system

UNIT II: Immunology – II (Antigens, Antibodies, MHC and Hypersensitivity)

Antigens: Basic properties of antigens, B and T cell epitomes, happens and adjuvant; Factors influencing immunogenicity

Antibodies: Structure of antibody, Classes and functions of antibodies Structure and functions of major his to compatibility complexes, Exogenous and Endogenous pathways of antigen presentation and processing Hypersensitivity – Classification and Types

UNIT III:

Techniques: Animal Cell, Tissue and Organ culture media: Natural and Synthetic media, Cell cultures: Establishment of cell culture (primary culture, secondary culture, types of cell lines; Protocols for Primary Cell Culture); Established Cell lines (common examples such as MRC, HeLa, CHO, BHK, Vero); Organ culture; Cryopreservation of cultures

Stem cells: Types of stem cells and applications, Hybridoma Technology: Production & applications of Monoclonal antibodies (mAb)

UNIT IV:

Applications of Animal Biotechnology: Genetic Engineering: Basic concept, Vectors, Restriction Endo nucleases andRecombinant DNA technology

Gene delivery: Microinjection, electroportion, biolistic method (gene gun), liposome and viral-mediated gene delivery

Transgenic Animals: Strategies of Gene transfer; Transgenic - sheep, fish; applications Manipulation of reproduction in animals: Artificial Insemination, *Invitro* fertilization, super ovulation, Embryo transfer, Embryo cloning

UNIT V:

PCR: Basics of PCR.

DNA Sequencing: Sanger's method of DNA sequencing- traditional and automated sequencing (2hrs)

Hybridization techniques: Southern, Northern and Western blotting DNA fingerprinting: Procedure and applications

Applications in Industry and Agriculture: Fermentation: Different types of Fermentation and Downstream processing;

Agriculture: Monoculture in fishes, polyploidy in fishes

Co-curricular activities (suggested)

- Organizing awareness on immunization importance in local village in association with NCC and NSS teams.
- Charts on types of cells and organs of immune system
- Student study projects on aspects such as – identification of allergies among students (hypersensitivity), blood groups in the class (antigens and antibodies duly reported) etc., as per the creativity and vision of the lecturer and students
- Visit to research laboratory in any University as part of Zoological tour and exposure and/ or hands-on training on animal cell culture.
- Visit to biotechnological laboratory in University or any central/state institutes and create awareness on PCR, DNA finger printing and blot techniques or Visit to a fermentation industry or Visit to a local culture pond and submit report on culture of fishes etc.

REFERENCE BOOKS:

1. Immunology by Ivan M.Riott
2. Immunology by Kubey
3. Sree krishna V. 2005. *Biotechnology –I, Cell Biology and Genetics*. New AgeInternational Publ. New Delhi, India.

B. Sc	Semester: IV	Credits:1
Paper: 5(L)	Immunology and Animal BiotechnologyLab	Hrs/Wk:2

Learning Objectives:

a. Acquainting student with immunological techniques vis-à-vis theory taught in the classroom
b. Interconnect the theoretical and practical knowledge of immunity with the outer world for the development of a healthier life.
c. Demonstrate basic laboratory skills necessary for Biotechnology research
d. Promoting application of the lab techniques for taking up research in higher studies

I. Immunology

1. Demonstration of lymphoid organs (as per UGC guidelines)
2. Histological study of spleen, thymus and lymph nodes (through prepared slides)
3. Blood group determination
4. Demonstration of

    a. ELISA
    b. Immune electrophoresis

II. Animal biotechnology

1. DNA quantification using DPA Method.
2. Techniques: Western Blot, Southern Hybridization, DNA Fingerprinting
3. Separation, Purification of biological compounds by paper, Thin-layer and Column chromatography
4. Cleaning and sterilization of glass and plastic wares for cell culture.
5. Preparation of culture media.

REFERENCE BOOKS:

1. Immunology Lab Biology 477 Lab Manual; Spring 2016 Dr. Julie Jameson
2. Practical Immunology A Laboratory Manual; **LAP LAMBERT AcademicPublishing**
3. Manual of laboratory experiments in cell biology by Edward
4. Laboratory Techniques by Plummer

MODEL QUESTION PAPERS(Semester - End)

B .Sc DEGREE EXAMINATIONS

SEMESTER - I

Course - 1:ANIMAL DIVERSITY – BIOLOGY OF NONCHORDATES

Time: 3hrs. **Max. Marks: 75**

Section - A

Answer any FIVE of the following: **5x5=25M**

Draw labeled diagrams wherever necessary

1. Bionomial nomenclature
2. Whittaker's concept
3. Hexactinellida
4. Polymorphism
5. Parasitic adaptations
6. Coelom and coelomic ducts
7. Cephalic appendages in Prawn
8. Pearl formation

Section - B

Answer ALL the following: **5x10=50**

Draw labeled diagrams wherever necessary

9. a. Describe the structure and life history of *Elphidium.*

OR

b. Classify the phylum Protozoa with suitable examples up to species level.

10. a. Describe various types of canal systems in sponges.

OR

b. Write an essay on corals and coral reef formation.

11. a. Write in detail about the life history of *Fasciola hepatica.*

OR

b. Discuss the life cycle of Ascaris lumbricoides. Add a note on its Pathogenecity.

12. a. Explain the process and economic importance of vermiculture.

OR

b. Describe the structure of *Peripatus.* Add a note on its affinities.

13. a. Give an account on water vascular system in star fish.

OR

b. Write in detail about the structure and affinities of Balanoglossus.

MODEL QUESTION PAPERS(Semester - End)

B .Sc DEGREE EXAMINATIONS

SEMESTER - II

Course - 2: **ANIMAL DIVERSITY – BIOLOGY OF CHORDATES**

Time: 3hrs. **Max. Marks: 75**

Section - A

Answer any FIVE of the following: **5x5=25M**

Draw labeled diagrams wherever necessary

1. *Amphioxus*
2. Placoidscale
3. Quillfeather
4. Prototheria
5. Anadromousmigration
6. *Draco*
7. Emu
8. Apoda

Section - B

Answer ALL the following: **5x10=50M**

Draw labeled diagrams wherever necessary

9. a. Explain the life history of Herdmania

OR

b. Explain the origin and general characters of chordates

10. a. Compare the characters of *Petromyzon* and *Myxine*

OR

b. Describe the structure of heart in *Scoliodon*

11. a. Describe the brain of *Ranahexadactyla*

OR

b. Explain the external features of *Calotes*

12. a. Write an essay on flight adaptations in birds

OR

b. Explain the respiratory system of *Columba livia*

13. a. Compare the characters of Metatheria and Eutheria

OR

b. Write an essay on dentition in mammals

MODEL QUESTION PAPERS(Semester - End)

B .Sc DEGREE EXAMINATIONS

SEMESTER - III

Course - 3: **CELL BIOLOGY, GENETICS, MOLECULAR BIOLOGY AND EVOLUTION**

Time: 3hrs. **Max. Marks: 75**

Section - A

Answer any FIVE of the following: **5x5=25**

Draw labeled diagrams wherever necessary

1. Prokaryotic cell
2. Golgi complex
3. Polygenes
4. Multiple alleles
5. Mutations
6. Karyotyping
7. Lac operon concept
8. Genetic drift

Section - B

Answer ALL the following: **5x10=50**

Draw labeled diagrams wherever necessary

9. a. Describe the ultra structure of animal cell

OR

b. Explain the structure of mitochondria. Add a note on its functions.

10. a. Write an essay on gene interactions

OR

b. Discuss sex linked inheritance.

11. a. What are chromosomal disorders? Explain various types of autosomal and allosomal disorders

OR

12. a. Give an account of DNA replication.

OR

b. Explain the mechanism of Prokaryotic transcription.

13. a. An essay on modern synthetic theory of evolution.

OR

b. Define isolation. Discuss various isolating mechanisms.

MODEL QUESTION PAPERS(Semester - End)

B .Sc DEGREE EXAMINATIONS

SEMESTER - IV

Course - 4: **ANIMAL PHYSIOLOGY, CELLULAR METABOLISM AND EMBRYOLOGY**

Time: 3hrs. **Max. Marks: 75**

Section - A

Answer any FIVE of the following: **5x5=25**

Draw labeled diagrams wherever necessary

1. Assimilation
2. Cardiac cycle
3. Ultra structure of muscle
4. Pancreas
5. Structure of glucose
6. Lipids
7. Gluconeogenesis
8. Types of eggs

II.Section - B

Answer ALL the following: **5x10=50**

Draw labeled diagrams wherever necessary

9. a. Explain the process of digestion.

OR

b. Describe the structure and function of heart

10. a. Give an account of nerve impulse transmission.

OR

b. Write an essay on the hormonal control of reproduction in mammals

11. a. Write an essay on the classification of carbohydrates

OR

b. Classify the enzymes. Discuss the mechanism of enzyme action.

12. a. Write an account on Kreb's cycle.

OR

b. Explain B- oxidation of palmitic acid

13. a. Discuss the process of fertilization.

OR

b. Write an essay on gameto genesis.

MODEL QUESTION PAPERS(Semester - End)

B .Sc DEGREE EXAMINATIONS

SEMESTER - IV

Course - 5: **IMMUNOLOGY AND ANIMAL BIOTECHNOLOGY**

Time: 3hrs. **Max. Marks: 75**

Section - A

Answer any FIVE of the following: **5x5=25**

Draw labeled diagrams wherever necessary

1. Vaccines
2. Primary lymphoid organs
3. Hapten
4. Hypersensitivity
5. Natural media
6. Cell lines
7. Endo nucleases
8. Polyploidy in fishes

Section - B

Answer ALL the following: **5x10=50**

Draw labeled diagrams wherever necessary

9. a. Define immunity. Write in detail about innate immunity.

OR

b. Explain various cells of immune system

10. a. Describe the structure of antibody. Add a note on their functions.

OR

b. Describe the structure of MHC molecules. Discuss their role in the mechanism of exogeneous and endogeneous pathway of antigen processing and presentation

11. a. Write an essay on different types of stem cells and their applications

OR

b. Explain the production and applications of monoclonal antibodies.

12. a. Write an account on recombinant DNA technology.

OR

b. Write an essay on transgenic animals

13. a. Explain hybridization techniques.

OR

b. Write an essay on PCR.

B. Sc	**Semester: V**(Skill Enhancement Course - Elective)	**Credits:4**
Paper: 6A	**Sustainable Aquaculture Management**	**Hrs/Wk:4**

Learning Outcomes:

Students at the successful completion of this course will be able to

- Evaluate the present status of aquaculture at the Global level and National level
- Classify different types of ponds used in aquaculture
- Demonstrate induced breeding of carps
- Acquire critical knowledge on commercial importance of shrimps
- Identify fin and shell fish diseases

II. Syllabus: (Total Hours: 90 including Teaching, Lab, Field Skills Training, Unit tests etc.)

UNIT I:

1.1 Present status of Aquaculture – Global and National scenario
1.2 Major cultivable species for aquaculture: freshwater, brackish water and marine.
1.3 Traditional, extensive, modified extensive, semi-intensive and intensive cultures of fish and shrimp.
1.4 Design and construction of fish and shrimp farms

UNIT II:

2.1 Functional classification of ponds – head pond, hatchery, nursery ponds
2.2 Functional classification of ponds -rearing, production, stocking and quarantine ponds
2.3 Need of fertilizer and manure application in culture ponds
2.4 Physio-chemical conditions of soil and water optimum for culture (Temperature, depth, turbidity, light, water, PH, BOD, CO2 and nutrients)

UNIT III:

3.1. Induced breeding in fishes
3.2. Culture of Indian major carps: Pre-stocking management (Dewatering, drying, ploughing/desilting; redators, weeds and algal blooms and their control, Liming and fertilization)
3.3. Culture of Indian major carps - Stocking management
3.4. Culture of Indian major carps - post-stocking management

UNIT IV:

4.1 Commercial importance of shrimp & prawn
4.2 Macrobrachium rosenbergii- biology, seed production.
4.3 Culture of L. vannamei – hatchery technology and culture practices
4.4 Mixed culture of fish and prawns

UNIT V:

5.1 Viral diseases of Fin Fish & shell fish
5.2 Fungal diseases of Fin & Shell fish
5.3 Bacterial diseases of Finfish & Shell fish
5.4 Prophylaxis in aquaculture

REFERENCES:

1. Pillay TVR & M.A.Dill, 1979. Advances in Aquaculture. Fishing News Books Ltd., London
2. Stickney RR 1979. Principles of Warm Water Aquaculture. John Wiley & Sons Inc.1981
3. Boyd CE 1982. Water Quality Management for Pond Fish Culture. Elsivier Scientific Publishing Company.
4. Bose AN et.al. 1991. Costal Aquaculture Engineering. Oxford & IBH Publishing Company Pvt. Ltd.

Web Links:

1. http://www.fao.org/fishery/docs/CDrom/FAO_Training/FAO_Training/General/x6708e/x6708e06.htm
2. http://aquaticcommons.org/1666/1/Better-Practice3_opt.pdf
3. https://www.notesonzoology.com/india/fishery/fish-diseases-symptoms-and-control-fishery/871

B. Sc	**Semester: V**(Skill Enhancement Course - Elective)	**Credits:1**
Paper: 6A	**Sustainable Aquaculture Management Lab**	**Hrs/Wk:2**

Learning Outcomes:
On successful completion of this practical course, student shall be able to:

- Identify the characaters of Fresh water cultivable species
- Etimate physico chemical characateristics of water used for aquaculture
- Examine the diseases of fin and shell fish
- Suggest measures to prevent diseases in aquaculture

Practical (Laboratory) Syllabus: (30hrs) (Max.50Marks)

1. Fresh water Cultivable species any (Fin & Shell Fish Specimens – Observation of morphological characters by observation and drawings)-5

2. Brackish water cultivable species (Fin &Shell fish- Specimens- Observation of Morphological Character by observing drawing) -5

3. Hands on training on the use of kits for determination of water quality in aquaculture (DO, Salinity, pH, Turbidity- Testing kits to be used for the estimation of various parameters/ Standard procedure can be demonstrated for the same)

4. Demonstration of Hypophysation(Procedure of hypophysation to be demonstrated in the practical lab with any edible fish as model)

5. Viral diseases of Fin & Shell Fish (Observation of his to pathological slides / Charts/ Models of viral pathogens in fin/ shell fish – one edible specimen can be used for observation of same in the laboratory)

6. Bacterial diseases of Fin & Shell Fish (Observation of his to pathological slides / Charts/ Models of Bacterial pathogens in fin/ shell fish – One edible specimen can be used for observation of same in the laboratory)

7. Fungal diseases of Fin & Shell Fish (Observation of his to pathological slides / Charts/ Models of Bacterial pathogens in fin/ shell fish – One edible specimen can be used for observation of same in the laboratory)

LAB REFERENCES

1. Boyd CE 1982. Water Quality Management for Pond Fish Culture. Elsevier Scientific Publishing Company
2. http://www.fao.org/fishery/docs/CDrom/FAO_Training/FAO_Training/General/x6708e/x6708e06.htm
3. http://aquaticcommons.org/1666/1/Better-Practice3_opt.pdf
4. https://www.notesonzoology.com/india/fishery/fish-diseases-symptoms-and-control-fishery/871

Web resources suggested by the teacher concerned and the college librarian including reading material

Co-Curricular Activities

a) Mandatory:(Student training by teacher in field skills: Total 15 hrs., Lab:10 + field 05)

1. For Teacher: Training of students by the teacher in laboratory/field fornotlessthan15 hours on Breeding-Induced breeding in carps -hatchery technology of L. Vennami- Farming techniques- disease diagnostic techniques—concepts –Demonstration @ any aqua laboratory
2. For Student: Students shall (individually) visit a Hatchery/Farm/ Aqua diagnostic center and make careful observations of the process method and implements- protocols and report on the same in 10 pages hand written Fieldwork/Project work Report.
3. Max marks for Fieldwork/Project work Report: 05.
4. Suggested Format for Fieldwork/Project work: Title page, student details, index page, details of place visited, observations made, findings and acknowledgements.
5. (IE).Unit tests.

b) Suggested Co-Curricular Activities

1. Preparation of Model/Charts of Cultivable species of fin fish shell fish
2. Preparation of Model/Chart of Ideal fish Pond- with the standards prescribed.
3. Observation of aquaculture activities in their area (Observation of any activity related to aquaculture in the vicinity of the college/village)
4. Preparation of Model – charts of Fin /Shell fish Diseases with eco-friendly material.
5. Assignments, Group discussion, Seminar, Quiz, Collection of Material, Video preparation etc., Invited lecture

MODEL QUESTION PAPERS(Semester - End)

B .Sc DEGREE EXAMINATIONS

SEMESTER - V (Skill Enhancement Course - Elective)

Course - 6A: **Sustainable Aquaculture Management**

Time: 3hrs. **Max. Marks: 75**

Section - A

Answer any FIVE of the following: **5x5=25M**

1. History of Aquaculture
2. Brackish water aquaculture
3. Culture species of Sea weeds
4. Organic Manures
5. Water Quality
6. Fungal diseases of Fin fish
7. Post stocking Management
8. Procurement of seed for stalking

Section - B

Answer ALL the following: **5x10=50M**

9. a. What is the current status of aquaculture at global and National level?

OR

b. Describe the layout of fish farm.

10. a. Explain the construction and management methods of nursery ponds.

OR

b. Write a detailed account on the need of fertilizer and manure application in culture ponds.

11 a. Write an essay on Induced breeding

OR

b. Discuss the culture of Indian Major Carps.

12 a. Give an account of commercial importance of Shrimp culture.

OR

b. Write an essay on mixed culture of fishes.

13. a. Describe the viral diseases of shell fishes.

OR

b. Write about bacterial diseases of Fin fishes.

B. Sc	**Semester: V**(Skill Enhancement Course - Elective)	**Credits:4**
Paper: 7A	**Postharvest Technology of Fish and Fisheries**	**Hrs/Wk:4**

Learning Outcomes:

Students at the successful completion of this course will be able to

- Identify the types of preservation methods employed in aquaculture
- Choose the suitable Processing methods in aquaculture
- Maintain the standard quality control protocols laid down in aqua industry
- Identify the best Seafood quality assurance system

Syllabus: Total Hours: 90 including Teaching, Lab, Field Skills Training, Unit tests etc.)

UNIT I: Handling and Principles of fish Preservation

1. 1 Handling of fresh fish, storage and transport of fresh fish, post mortem changes (rigor mortis and spoilage), spoilage in marine fish and freshwater fish.

1.2 Principles of preservation – cleaning, lowering of temperature, rising of temperature, denudation, use of salt, use of fish preservatives, exposure to low radiation of gamma rays.

UNIT II: Methods of fish Preservation

2.1 Traditional methods - sun drying, salt curing, pickling and smoking.

2.2. Advanced methods – chilling or icing, refrigerated sea water, freezing, canning, irradiation and Accelerated Freeze drying (AFD).

UNIT III: Processing and preservation of fish and fish by-products

3.1 Fish products – fish minced meat, fish meal, fish oil, fish liquid (ensilage), fish protein concentrate, fish chowder, fish cake, fish sauce, fish salads, fish powder, pet food from trash fish, fish manure.

3.2 Fish by-products – fish glue, Using glass, chitosan, pearl essence, shark fins, fish Leather and fish maws.

UNIT IV: Sanitation and Quality control

4.1 Sanitation in processing plants - Environmental hygiene and Personal hygiene in processing plants.

4.2 Quality Control of fish and fishery products – pre-processing control, control during processing and control after processing.

UNIT V: Quality Assurance, Management and Certification

5.1. Seafood Quality Assurance and Systems: Good Manufacturing Practices (GMPs); Good Laboratory Practices (GLPs); Standard Operating Procedures (SOPs); Concept of Hazard Analysis and Critical Control Points (HACCP) in seafood safety.

5.2 National and International standards – ISO 9000: 2000 Series of Quality Assurance System, Codex Aliment Arius.

REFERENCES:

1. Santharam R, N Sukumaran and P Natarajan 1987. A manual of aquaculture, Oxford- IBH, NewDelhi
2. Lakshmi Prasad's, Fish Processing Technology 2012, Arjun Publishing House
3. Dr Sunitha Rai, Fish Processing Technology, 2015, Random Publications
4. Safety and Quality Issues in Fish Processing (Woodhead Publishing Series in Food Science,Technology and Nutrition)by H A Bremner
5. K.A Mahanthy, Innovations in Fishing and Fish Processing Technologies, January 2021

Web Resources:

1. http://ecoursesonline.iasri.res.in/mod/page/view.php?id=145743
2. https://ecourses.icar.gov.in/e-Leaarningdownload3_new.aspx?Degree_Id=03

B. Sc	**Semester: V**(Skill Enhancement Course - Elective)	**Credits:1**
Paper: 7A	**Postharvest Technology of Fish and Fisheries Lab**	**Hrs/Wk:2**

Learning Outcomes: On successful completion of this practical course, student shall beable to:

- Identify the quality of aqua processed products.
- Determine the quality of fishery by products by observation
- Analyze the protocols of aqua processing methods

Practical (Laboratory) Syllabus:

1. Evaluation of fish/ fishery products for organo leptic, chemical and microbial quality.
2. Preparation of dried, cured and fermented fish productsFor detailed procedure method visit sites:
3. Examination of salt, protein, moisture in dried / cured products
4. Examination of spoilage of dried / cured fish products, marinades, pickles, sauce.
5. Preparation of isinglass, collagen and chitosan from shrimp and crab shell.
6. Developing flow charts and exercises in identification of hazards – preparation of hazardanalysis worksheet
7. Corrective action procedures in processing of fish- flow chart- work sheet preparation

(** Refer the following web sites for complete procedure method and estimations of abovelisted practicals)

REFERENCES:

1. Dr Sunitha Rai, Fish Processing Technology, 2015, Random Publications
2. https://ecourses.icar.gov.in/e-Leaarningdownload3_new.aspx?Degree_Id=03
3. https://vikaspedia.in/agriculture/fisheries/post-harvest-and-marketing/processing-in-fisheries/fermented-products
4. https://krishi.icar.gov.in/jspui/bitstream/123456789/20500/1/Fermentation%20technology%20for%20fish.pdf
5. http://jebas.org/00200620122014/Abujam%20et%20al%20JEBAS.pdf
6. https://krishi.icar.gov.in/jspui/bitstream/123456789/20770/1/Training%20Manual_Hygienic
7. %20drying%20and%20packing%20of%20fish.pdf
8. https://krishi.icar.gov.in/jspui/bitstream/123456789/20770/1/Training%20Manual_Hygienic
9. %20drying%20and%20packing%20of%20fish.pdf
10. https://agritech.tnau.ac.in/fishery/fish_byproducts.html
11. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5352841/
12. http://www.fao.org/3/i1136e/i1136e.pdf
13. http://www.fao.org/3/x5989e/X5989e01.htm#What%20is%20sensory%20assessment)

Web resources suggested by the teacher concerned and the college librarian including readingmaterial

Co-Curricular Activities

a) **Mandatory:** *(Lab/field training of students by teacher (lab 10 + field 05):*

1. For Teacher: Training of students by the teacher in laboratory/fieldfornotlessthan15hourson various steps of post-harvest techniques of fishes, on the advanced techniques in post-harvest technology – Training of students on other employability skills in the Post-harvest sector of Aquaculture Industry-like Processing, Packing, marketing of processed aqua products.
2. For Student: Students shall (individually) visit - Any fish/shrimp Processing Plant/Packing industry and make observations on post harvesting techniques and submit a brief handwritten Fieldwork/Project work Report with pictures and data /survey in 10 pages.
3. Max marks for Fieldwork/Project work Report: 05.
4. Suggested Format for Fieldwork/Project work: *Title page, student details, index page, details of place visited, observations made, findings and acknowledgements*
5. (IE): Unit tests,

b) Suggested Co-Curricular Activities

1. Observation of fish/shrimp processing plants – visit web sites of processing companies and record the details of that Unit
2. Interaction with local fishermen to know the method of preservation and details with the available traditional technology
3. Collection of web resources on the Quality assurance, quality control measures in Aqua Industries-cross checking the standards during the visit to any processing units.
4. Assignments, Seminar, Group discussion. Quiz, Collection of Material, Invited lecture, Video preparation etc.,

MODEL QUESTION PAPERS(Semester - End)

B .Sc DEGREE EXAMINATIONS

SEMESTER - V (Skill Enhancement Course - Elective)

Course - 7A: **Postharvest Technology of Fish and Fisheries**

Time: 3hrs. **Max. Marks: 75**

Section - A

Answer any FIVE of the following: **5x5=25M**

1. Storage and transport of fresh fish
2. Sun drying
3. Canning
4. Fish glue
5. Preparation of Agar
6. Fish liver oil
7. Quality control of fishery products
8. GMP's and SOP's

Section - B

Answer ALL the following: **5x10=50M**

9. a. Write an essay on Principles of Post harvesting technology.

OR

b. Explain the spoilage in marine and fresh water fish.

10 a. Describe the Traditional methods of Fish preservation.

OR

b. Write about advanced methods of fish preservation.

11. a. Enlist the important fish products.

OR

b. Give an account of fish by-products.

12 a. Discuss the sanitation in processing plants of Post harvesting technology.

OR

b. Write an essay on quality control of fish and fishery products.

13 a. Explain the sea food quality assurance and systems.

OR

b. Discuss the national and international standards of quality assurance system ISO 9000 : 2000 series of quality assurance system.

B. Sc	**Semester: V**(Skill Enhancement Course - Elective)	**Credits:4**
Paper: 6B	**Live Stock Management-I** (Biology of Dairy Animals)	**Hrs/Wk:4**

Learning Outcomes:

Students at the successful completion of the course will be able to

- Select the suitable breeds of livestock for rearing
- Relate the anatomy of udder with letdown of milk
- Identify and manipulate the reproductive behavior of cattle
- Inspect the economics of dairy farming
- Apprise the various breeding techniques employed in live stock

Syllabus: (Total Hours: 90 including Teaching, Lab, Field Skills Training, Unit tests etc.)

UNIT I: Livestock census; Breeds of Dairy cattle, Buffaloes and Goats. Indigenous, Exotic and Crossbred Cattle breeds

UNIT II: Anatomy of Udder; Development of udder; Lacto genesis and Galactopoises; Letdown of milk.

UNIT III: Artificial insemination; Oestrous cycle; Symptoms of heat in cows and buffaloes. Conception, Pregnancy diagnosis in cattle. Multi ovulation and embryo transfer technique. Cloning.

UNIT IV: Economic traits of Dairy cattle. Methods of selection of dairy animals.

UNIT V: Systems of Dairy cattle breeding. Inbreeding, out breeding, Cross breeding, Grading up. Breeding systems (Cross breeding of cattle and Grading up of buffaloes).

REFERENCES:

1. Textbook of Animal Husbandry-GC Benarjee
2. Handbook of Animal Husbandry –ICAR Edition
3. Principles and practices of Dairy Farm–Jagdish Prasad

Web resources:

1. http://ecoursesonline.iasri.res.in/course/index.php?categoryid=42
2. https://vetsebooks.blogspot.com/p/e-books.html
3. https://www.basu.org.in/study-materials/veterinary-science/
4. https://vikaspedia.in/agriculture/livestock/cattle-buffalo/breeds-of-cattle-buffalo

B. Sc	Semester: V(Skill Enhancement Course - Elective)	Credits:1
Paper: 6B	Live Stock Management-I Lab (Biology of Dairy Animals)	Hrs/Wk:2

Learning Outcomes:

On successful completion of this practical course, student shall be able to

1. Examine the points of dairy cow
2. Understand the behavioral changes of cow during the reproductive period
3. Differentiate the merits and demerits of cross breeds in cattle

Practical (Laboratory) Syllabus:(30hrs) (Max.50Marks)

1. Points dairy cow. (Explanation with observation of charts- Model evaluation to be performed by the student in the laboratory)
2. Identification of different breeds of dairy cattle and buffaloes.(Observation of Charts of breeds in the laboratory- at least 3 breeds should be identified by the students in their locality with video, photo)
3. Male and female reproductive systems of cow – Model/ Chart (Student has to draw a labeled diagram of the male and female reproductive systems of cow – acquire skill to identify the parts).
4. Symptoms of heat in cow (Study and Understanding the physiological symptoms duringheat).
5. Artificial in semi nation (Flow chart of implements – Procedure- precautions)
6. Pregnancy diagnosis in cattle.
7. Study comparative merits of cows and buffaloes; zebu and cross bred cows (Examination ofmerits

Lab References:

1. Principles and practices of Dairy Farm–Jadish Prasad
2. Dairy cow points: https://www.icar.org/Guidelines/05-Conformation-Recording.pdf
3. Pregnancy test protocol: https://cgspace.cgiar.org/bitstream/handle/10568/109408/Milk%20testing%20lab%20protocol.pdf?sequence=1&isAllowed=y

Web resources suggested by the teacher concerned and the college librarian including readingmaterial

Co-Curricular Activities

a) **Mandatory**:*(Lab/ field training of students by teacher :(lab:10 + filed: 05):*

1. For Teacher: Training of students by the teacher in laboratory/field fornotlessthan15hoursonprinciples and practices of dairy industry- breeds –artificial insemination- reproductive behavior of cows etc. as per the syllabus above.
2. For Student: Students shall individually visit to any of the nearby cattle rearing centers/ veterinary hospital/Raithu Bharosa Kendra and make observations of the procedure and quality enhancement activities and submit a handwritten Fieldwork/Project work Report in 10pages.
3. Max marks for Fieldwork/Project work Report: 05.
4. Suggested Format for Fieldwork/Project work Report: *Title page, student details, index page,details of place visited, observations made, findings and acknowledgements*
5. (IE)Unit tests,

b) Suggested Co-Curricular Activities

1. Collection of various cattle breed images from the web to prepare a album
2. Visit the sites of Veterinary colleges in India and preparation of brief report on the videosand content/ employment details
3. Sketch a model dairy farm with details
4. Invited lecture and presentation on related topics by experts

Seminar, Assignment, Group discussion. Quiz, Collection of Material, Invited lecture, Video preparation etc

MODEL QUESTION PAPERS(Semester - End)

B .Sc DEGREE EXAMINATIONS

SEMESTER - V (Skill Enhancement Course - Elective)
Course - 6B: **Live Stock Management-I**
(Biology of Dairy Animals)

Time: 3hrs. **Max. Marks: 75**

Section - A

Answer any FIVE of the following: **5x5=25M**

1. Exotic Cattle breeds
2. Breeds of goats
3. Galactopoises
4. Oestrous cycle
5. Cloning
6. Symptoms of heat in cows
7. Grading up of buffaloes
8. Out Breeding

Section - B

Answer ALL the following: **5x10=50M**

9. a. Write an essay on breeds of dairy cattle.
   OR
   b. Give an account ofdifferent types of Crossbreeds in Cattle.

10. a. Describe the anatomy of udder and its development.
    OR
    b. Write an account on Lactogenesis.

11. a. Discuss in detail about artificial insemination
    OR
    b. Describe Multi ovulation and Embryo transfer technology.

12. a. Explain various selection methods of dairy animals.
    OR
    b. Write an essay on economic traits of dairy cattle.

13 a. Explain Inbreeding.
    OR
    b. Write about cross breeding systems of cattle.

B. Sc	**Semester: V**(Skill Enhancement Course - Elective)	**Credits:4**
Paper: 7B	**Live Stock Management -II** (Dairy Production And Management)	**Hrs/Wk:4**

Learning Outcomes:

Students at the successful completion of the course will be able to

- Identify and suggest the suitable housing system for the dairy farming
- Understand management practices for the dairy farming
- Learn the process of milk pasteurization
- Prepare cream from milk

Syllabus: (Total Hours: 90 including Teaching, Lab, Field Skills Training, Unit tests etc.)

UNIT I:

Systems of Housing of Dairy cattle- Loose Housing and Conventional Dairy Barns. Drawing of layouts for dairy cattle dwellings; Criteria for selecting site for establishing Dairy farm buildings; Water requirement of dairy animals.

UNIT II:

Management of different classes of Dairy animals- Milk producing animals, pregnant animals dry animals, heifers and calves. Management practices for Dairy farm; Identification, Dehorning, Castration, Deworming, Vaccination, Disinfection, and Milking.

UNIT III:

a. Pasteurization of milk: Definition, objects of pasteurization, objections to pasteurization, Principles of heat exchange. Methods of pasteurization: LTLT, HTST and Uperization.
b) Sterilization of milk. Homogenization: Factors influencing homogenization

UNIT IV:

Market milk: Toned milk, double toned milk, Reconstituted milk, Standardized milk and full cream milk– Standards and methods of manufacture.

UNIT V:

Cream: Types of cream, composition, methods of cream separation, gravity and centrifugal methods, types of cream separators, factors affecting fat losses in skim milk and fat percentage in cream.

REFERENCES:

1. Textbook of Animal Husbandry-G C Benarjee
2. Handbook of Animal Husbandry –ICAR Edition
3. Principles and practices of Dairy Farm–Jagdish Prasad
4. http://ecoursesonline.iasri.res.in/course/index.php?categoryid=42
5. https://vetsebooks.blogspot.com/p/e-books.html
6. https://www.basu.org.in/study-materials/veterinary-science/
7. https://vikaspedia.in/agriculture/livestock/cattle-buffalo/breeds-of-cattle-buffalo

B. Sc	**Semester: V**(Skill Enhancement Course - Elective)	**Credits:1**
Paper: 7B	**Live Stock Management -II Lab** (Dairy Production And Management)	**Hrs/Wk:2**

Learning Outcomes:

On successful completion of this practical course, student shall be able to:

- Design a model dairy farm layout
- Understand procedure of milk pasteurization at milk processing centers
- Identify various important management practices in dairy farming

Practical (Laboratory) Syllabus :(30hrs) (Max.50Marks)

1. Dairy Farm layout (In the laboratory student has to sketch a dairy farm with all its components)
2. Identification of cows (students have to identify the breeds of cows form the images/charts – have to identify any two breeds in the vicinity of the college/ their locality).
3. Dehorning of calves : (Method - protocol- precautions)
4. Castration of bulls (Method – Apparatus- Time-importance)
5. Deworming of dairy cattle : (Schedule – method- benefits)
6. Pasteurization of milk (Batch Method- procedure- Observation)
7. Sterilization of milk (In bottle sterilization- procedure – protocol)
8. Cream separation (By gravity method- procedure- hands on experiment)

Lab References

1. Handbook of Animal Husbandry –ICAR Edition
2. Dairy farm layout : https://www.youtube.com/watch?v=dmukHUEUvKc
3. Dehorning procedure : http://www.omafra.gov.on.ca/english/livestock/dairy/facts/09-003.htm
4. Castration of bulls: https://vikaspedia.in/agriculture/livestock/general-management-practices-of-livestock/castration-of-ruminants
5. Deworming: https://kvk.icar.gov.in/API/Content/PPupload/k0347_10.pdf
6. Pasteurization of milk : http://www.jnkvv.org/PDF/08042020170652part%203.pdf
7. http://ecoursesonline.iasri.res.in/mod/page/view.php?id=1690
8. Cream separation: http://ecoursesonline.iasri.res.in/mod/page/view.php?id=147910

Web resources suggested by the teacher concerned and the college librarian including readingmaterial

Co-Curricular Activities

a) **Mandatory:** *(Lab/field training of students by teacher; lab 10+ field :05)*

1. For Teacher: Training of students by the teacher in laboratory and filed fornotlessthan15 hours on skills of dairy management – housing-management of dairy animals of various stages- procedure of preparation of marketable milk with procedures like sterilization, pasteurization and other techniques)
2. For Student: Student shall (individually) visita nearby dairy farm- house hold cattle rearing – make observations on aspects like housing – management – feed- milk- revenue- breed selection- qualities of breed –etc. A handwritten Fieldwork/Project work Report to be submitted inn the given format.
3. Max marks for Fieldwork/Project work Report: 05.
4. Suggested Format for Fieldwork/Project work Report: *Title page, student details, index page, details of place visited, observations made, findings and acknowledgements.*
5. (IE)Unit tests.

b) Suggested Co-Curricular Activities

1. Sketch model dairy house with details
2. Web resources on Protocols in the management of stages of cattle
3. Properties of varieties of milk from the market observation
4. Assignment, Seminar, Invited lecture, Group discussion. Quiz, Collection of Material, Video preparation etc.

MODEL QUESTION PAPERS(Semester - End)

B .Sc DEGREE EXAMINATIONS

SEMESTER - V (Skill Enhancement Course - Elective)
Course - 7B: **Live Stock Management -II**
(Dairy Production And Management)

Time: 3hrs. **Max. Marks: 75**

Section - A

Answer any FIVE of the following: **5x5=25M**

1. Water requirement of dairy animals
2. Drawing of layouts for dairy cattle dwellings
3. Heifers
4. Vaccination
5. Objections of Pasteurization
6. Principles of heat exchange
7. Cream and its composition
8. Types of cream separators

Section - B

Answer ALL the following: **5x10=50M**

9. a. Explain the systems of housing in dairy cattle.
   OR
   b. Give an account of selection site for establishing dairy farm buildings.

10. a. Write an essay on management of milk producing and dry animals.
    OR
    b. Discuss the management practices of dairy farm.

11. a. Describe the methods of Pasteurization.
    OR
    b. Write an account of Homogenization and add a note on factors influencing homogenization.

12. a. Explain the standards and methods for manufacture of full cream milk.
    OR
    b. Give an account of market milk.

13. a. Describe the methods of cream separation
    OR
    b. Explain various factors affecting fat losses in skim milk and fat percentage in cream.

B. Sc	**Semester: V**(Skill Enhancement Course - Elective)	**Credits:4**
Paper: 6C	**Poultry Management- I** (Poultry Farming)	**Hrs/Wk:4**

Learning Outcomes:

Students at the successful completion of the course will be able to

- Evaluate the status of Indian Poultry Industry
- Explain the Scientific Poultry keeping
- Compare the diversified Poultry practices
- Inspect the different breeds of chicken

Syllabus: (Total Hours: 90 including Teaching, Lab, Field Skills Training, Unit tests etc.)

UNIT I: Indian poultry Industry

1.1 Importance of poultry farming and poultry development in India.
1.2 Present status and future prospectus of poultry Industry
1.3 Classification of poultry based on genetics Utility

UNIT II: Scientific Poultry Keeping

2.1 Modern breeds of Chicken
2.2 Present day egg production lines- meat production lines
2.3 Mini breeds- dwarfism in mini-Leghorns

UNIT III: Diversified Poultry

3.1 Ducks and Geese-classification- rearing system-classification-advantages
3.2 Guinea fouls - guinea fowl farming in India-Production-varieties
3.3 Emu-rearing- Economical aspects-commercial products

UNIT IV: Desi Chickens:

4.1 Indigenous breeds and economical aspects of desi chicken
4.2 Indigenous breeds-Aseel-Chittagong-Kadaknath-Bursa
4.3 Improved varieties in India – Giriraja-Vanaraja-Girirani-Kalinga brown, Gramapriya, Swarnandhra

UNIT V: Breeds from Central Avian Research Institute – Izatnagar

5.1 CARI Nirbheek - CARI- Shyama-HITCARI (Naked Neck Cross)
5.2 CARI- Priya Layer, CARI- Sonali Layer,
5.3 CARIBRO-VISHAL, CARI-RAINBRO,
5.4 Nandanam chicken-I, Nandanam Chicken-II, Nandanm-Quail

REFERENCES:

1. Text Book of Poultry Science, P V Sreenivasaiah, Write and Print Publications, ISBN No. 9788192970592, 8192970590
2. Poultry Science Practices, Nilothpal Ghosh, CBS Publication & Distributions, 2015
3. Principles of Poultry Science, 1996, CAB Publishers, ISBN 9780851991221
4. A Text Book of Animal Husbandry, C. C. Banerjee, Oxford and IBH, Publish Co, ISBN: 9788120412606

WEB SOURCES

1. https://www.drvet.in/p/e-books.html
2. https://byjus.com/biology/animal-husbandry-poultry-farming/
3. https://www.helpforag.app/2018/02/livestock-production-and-management-lpm_14.html?m=1

B. Sc	**Semester: V**(Skill Enhancement Course - Elective)	**Credits:1**
Paper: 6C	**Poultry Management- I Lab** (Poultry Farming)	**Hrs/Wk:2**

Learning Outcomes: On successful completion of this practical course, student shall beable to:

- Identify different types of Poultry rearing practices
- Evaluate the efficacy of different types of poultry practices in maximizing yield
- Understand the importance of different hybrid breeds in poultry

Practical (Laboratory) Syllabus :(30hrs) (Max.50Marks)

1. Different types of Poultry rearing (Students has to observe and draw the different types of poultry rearing systems)
2. Different types of poultry Housing - Models / Images/charts
3. Different layer breeds images/charts/ Models (Observation of characters)
4. Types of broilers images/charts/ Models (Identification of important Characters)
5. CARI breeds characters –images/charts
6. Nandanam breeds- images/charts (Identification of characters)

*** (This practical is 70 % (Web based /virtual) 30% physical: student and teachers must browse the web for the specimens models – write down the important characters based on theweb resources)

Lab references

1. A Text Book of Animal Husbandry, C. C. Banerjee, Oxford and IBH, Publish Co, ISBN: 9788120412606

Web resources suggested by the teacher concerned and the college librarian including readingmaterial

Co-Curricular Activities:

a) **Mandatory**:*(Student training by teacher in field skills: total15hours (lab:10, field 05)*

1. For Teacher: Training of students by the teacher in laboratory and field for notlessthan15hours on the techniques of identification of layers, broilers and management practices in poultry.
2. For Student: Students shall Individually visit a Poultry farm, make observations and report on the Rearing, Housing, Brooding, Feeding and water management activities. The student shall submit a handwritten Fieldwork/Project work Report on the observations along with pictures in the given format not exceeding 10 pages to teacher.
3. Max marks for Fieldwork/Project work Report: 05.
4. Suggested Format for Fieldwork/Project work: *Title page, student details, index page, detailsof place visited, observations made, findings and acknowledgements*.
5. Unit tests. (IE)

b) Suggested Co-Curricular Activities

1. **Web resources**–visiting the web sites of CARI-IZATNAGAR-https://cari.icar.gov.inprocuring additional information on the poultry breeds
2. Web resources- visiting the web site of NANADANAM http://www.tanuvas.ac.in/ippmmadhavaram_tech.html
3. Collection of additional data on different types of Poultry breeds
4. Seminar, Assignment, Group discussion. Quiz, Collection of Material, Invited Lecture, Videopreparation etc.

MODEL QUESTION PAPERS(Semester - End)

B .Sc DEGREE EXAMINATIONS

SEMESTER - V (Skill Enhancement Course - Elective)
Course - 6C: **Poultry Management- I** (Poultry Farming)

Time: 3hrs. **Max. Marks: 75**

Section - A

Answer any FIVE of the following: **5x5=25M**

1. Classify the poultry based on genetics Utility **(Analysis level)**
2. Write a detail note on meat production lines **(Knowledge level)**
3. Explain about Present day egg production line **(Understand level)**
4. Describe in detail about rearing system of Ducks **(Understand level)**
5. Write a detail note on Nandanam chicken-I **(Knowledge level)**
6. Explain about Gramapriya, and Swarnandhra**(Understand level)**
7. Write an essay on poultry development in India. **(Knowledge level)**
8. Discuss about Shyama-HITCARI (Naked Neck Cross) **(Understand level)**

Section - B

Answer ALL the following: **5x10=50M**

9. A. Write an essay on Present status and future prospectus of poultry Industry in India **(Knowledge level)**

OR

B. Write a detail note on Importance of poultry farming and poultry development in India. **(Remembering level)**

10. A. Explain about Modern breeds of Chicken **(Knowledge level)**

OR

B. Write an essay on Mini breeds of poultry farming**(Understand level)**

11. A. Discuss in detail about guinea fowl farming in India, and add a note on Production and varieties **(Understand level)**

OR

B**.** Discuss about Emu-rearing. Add a note on Economical aspects and commercial products of Emu. **(Understand level)**

12. A. What are Indigenous breeds? Explain about any two Indigenous breeds **(Knowledge level)**

OR

B**.** Write an essay on Improved varieties of poultry birds in India **(Application level)**

13. A. Distinguish about CARIBRO-VISHAL and CARI-RAINBRO **(Analysis level)**

OR

B. Discuss in detail bout CARI- Priya Layer and CARI- Sonali Layer **(Knowledge level)**

B. Sc	**Semester: V**(Skill Enhancement Course - Elective)	**Credits:4**
Paper: 7C	**Poultry Management -II** (Poultry Production and Management)	**Hrs/Wk:4**

Learning Outcomes:

Students at the successful completion of the course will be able to

- Suggest measure for Health care in Poultry
- Evaluate the economics of poultry production
- Elaborate the poultry Breeder flock management
- Differentiate the poultry hatchery practices

Syllabus: (Total Hours: 90 including Teaching, Lab, Field Skills Training, Unit tests etc.)

UNIT I: HEALTH CARE

1.1 Common poultry diseases: bacterial, viral, fungal, parasitic and nutritional deficiencies.
1.2 Vaccination schedule for commercial layers and broilers: factors that govern vaccination schedule; vaccination principles type, methods, pre and post vaccination care.
1.3 Disinfection: Types of disinfectants; mode of action; recommended procedure; precaution and handling.

UNIT II: ECONOMICS

2.1 Economics of layer and broiler production
2.2 Projects reports in different systems of rearing for layer & broilers.
2.3 Feasibility studies on poultry rearing- in context of small units and their profitability.
2.4 Export/import of poultry and poultry products.

UNIT III: BREEDER FLOCK MANAGEMENT

3.1 Layer and broiler breeder flock management housing & space requirements.
3.2 Different stage of management during life cycle; Light management during growing and laying period, Artificial insemination.
3.3 Feeding: Feed restriction, separate male feeding. Nutrient requirement of layer and broiler breeders of different age groups.

UNIT IV: BREEDER HEALTHCARE

4.1 Vaccination of breeder flock; difference between vaccination schedule of broilers and commercial birds.
4.2 Common diseases of breeders (Infectious and metabolic disorders)-prevention.
4.3 Fertility disorder- etiology, diagnosis and corrective measures. Selection and culling of breeder flocks

UNIT V: HATCHERY PRACTICES

5.1 Management principles of incubation.
5.2 Factors affecting fertility and hatchability. Selection, care and incubation of hatching eggs. Fumigation; sanitation and hatchery hygiene.
5.3 Importance of hatchery records, break even analysis of unhitched eggs.
5.4 Computer applications for hatchery management

REFERENCES:

1. HVS Chauhan, S. Roy, Poultry Diseases, Diagnosis and Treatment, New Age International Publishers-2018
2. https://www.drvet.in/p/e-books.html
3. https://byjus.com/biology/animal-husbandry-poultry-farming/
4. https://www.helpforag.app/2018/02/livestock-production-and-management-lpm_14.html?m=1

B. Sc	**Semester: V**(Skill Enhancement Course - Elective)	**Credits:1**
Paper: 7C	**Poultry Management -II Lab** (Poultry Production and Management)	**Hrs/Wk:2**

Learning Outcomes:

On successful completion of this practical course, student shall be able to:

- Identify Poultry diseases by observation
- Analyze Poultry establishment feasibility
- Understand the Poultry Records

Practical (Laboratory) Syllabus:(30hrs) (Max.50Marks)

1. Poultry Viral diseases – Observation of histopathological slides
2. Poultry Fungal Diseases- Observation of histopathological slides
3. Poultry Bacterial Diseases-Observation of histopathological slides
4. Feasibility study of Poultry establishment: (Preparation of feasibility study report with given parameters)
5. Rearing of Layers – (Preparation of Flow chart
6. Rearing of broiler- Flow chart
7. Hatchery records- Model study/analysis- Report with modified data

Lab references:

1. HVS Chauhan, S. Roy, Poultry Diseases, Diagnosis and Treatment, New Age International Publishers-2018
2. Flow chart hatchery : http://lms.tanuvas.ac.in/mod/resource/view.php?id=45106
3. Feasibility report: https://www.manage.gov.in/stry&fcac/content/19.%20Project%20Report%20on%20Layer%20Poultry.pdf

Web resources suggested by the teacher concerned and the college librarian including reading material

Co-Curricular Activities

a) **Mandatory**:*(Lab/filed training of students by teacher: (lab10+ field 05)*

1. For Teacher: Training of students by the teacher laboratory and field fornotlessthan15hourson skills in different practices employed in poultry with regard to the disease management – analysis of poultry project- preparation of flow chart – Observation ofPoultry records – computerization activities
2. For Student: students shall (individually) visit a Layer/ Broiler Poultry farming places (small scale/corporate), make observations on practices- resources – management and marketing - analysis and submit a handwritten Fieldwork/Project work Report of 10 pages with necessary images.
3. Max marks for Fieldwork/Project work Report: 05.
4. Suggested Format for Fieldwork/Project work: *Title page, student details, index page, detailsof place visited, observations made, findings and acknowledgements*.
5. (IE): Unit tests.

b) Suggested Co-Curricular Activities

1. Preparation of Poultry diseases charts
2. Preparation of feasibility report poultry establishment with different variables
3. Seminar, Assignment, Group discussion. Quiz, Collection of Material, Invited Lecture, Video preparation etc.

MODEL QUESTION PAPERS(Semester - End)

B .Sc DEGREE EXAMINATIONS

SEMESTER - V (Skill Enhancement Course - Elective)
Course - 7C: **Poultry Management -II**
(Poultry Production and Management)

Time: 3hrs. **Max. Marks: 75**

Section - A

Answer any FIVE of the following: **5x5=25M**

14. Fungal diseases in poultry
15. Broilers
16. Artificial insemination
17. Metabolic disorders
18. Fumigation
19. Sanitation and hatchery hygiene
20. Vaccination for commercial birds.
21. Feed restriction

Section - B

Answer ALL the following: **5x10=50M**

22. A. Discuss in detail about any two viral and bacterial diseases in poultry

OR

B. Define Disinfection. Add a note on Types of disinfectants, and their mode of action

23. A. Write an essay on Economics of layer and broiler production

OR

B. Explain about Export and import of poultry and poultry products.

24. A. Discuss in detail about Nutrient requirement of layer and broiler breeders of different age groups.

OR

B**.** Write an essay on Layer and broiler breeder flock management housing & space requirements

25. A. Write a detail note on Fertility disorder- etiology, diagnosis and corrective measures

OR

B**.** Write an essay on Common Infectious diseases of breeders and their prevention**.**

26. A. Explain about hatchery Management principles of incubation.

OR

B. Write a detail note on Computer applications for hatchery management

B. Sc	**Semester: V**(Skill Enhancement Course - Elective)	**Credits:4**
Paper: 6D	**Seri Culture -I*** **	**Hrs/Wk:4**

Learning Outcomes:

Students at the successful completion of this course will be able to

- Evaluate the general status of Sericulture in India
- Understand the development of sericulture Botany
- Evaluate the use of Silk worm breeds
- Differentiate among various silkworm breeds
- Apprise the economics of silk rearing

Syllabus: (Total Hours: 90 including Teaching, Lab, Field Skills Training, Unit tests etc.)

UNIT I: A general introduction to Sericulture

1.1 Sericulture map of India: Components of Sericulture.

1.2 Textile fibers: Types- natural and synthetic fibers- types of silk produced in India; Importance of mulberry silk:

1.3 Sericulture organization in India; role of state departments of Sericulture, Central Silk Board and NGOs in Sericulture development

UNIT II: Sericultural Botany.

2.1Taxonomy of mulberry and food plants of silkworms: Study of salient features of the familiesMarceau.

2.2 Morphology of mulberry: different varieties of mulberry.

2.3 Anatomy of mulberry: internal structure of stem, root and leaf; secondary growth in root and stem.

UNIT III: Floral biology of mulberry

3.1 Floral biology of mulberry: Sexual behavior, different types of anthers and ovule in mulberry; micro- and megaspore genesis.

3.2 Development of male and female gametophytes; pollination, fertilization

3.3 Development of endosperm, embryo and seed; polyembryony and parthenocarpy in mulberry.

UNIT IV: Silkworm Biology.

4.1 Characteristic features of the order Lepidoptera; detailed study of the families- Saturnidae and Bombycid. Classification of sericigenous insects.

4.2 Classification of silkworms based on moultinism, voltinism and geographical distribution; popular silkworm breeds and hybrids of Karnataka; their economic traits

UNIT V: Morphology and anatomy of reproductive systems of silk moth.

5.1 Life cycle of Bombyx Mori; morphology of egg, larva, pupa and adult.

*** This course shall be completely taught by Zoology faculty

REFERENCES:

1. Hortmann and Kesler (1993) Plant Propagation, principles and practices. Prentice Hall,Hemel Nemstead.
2. Krishna Murthy, N.(1981)Plant growth substances including application in Agriculture. TataMcGraw Hill Pub. Co. Ltd. New Delhi.
3. Shankar, M.A (1998) Handbook on mulberry Nutrition, Multiplex, Bangalore.
4. Subbarao, N.S (1998) Bio fertilizers in Agriculture. Oxford & IBH Pub. Co, Pvt. Ltd, NewDelhi.
5. A text Book on Mulberry Crop Protection. Govindaiah, V.P Gupta, D.D Sharma, S. Rajaduraiand V. Nishitha Naik, Published by Central Silk Board, Bangalore-68, India.2005.
6. Rajanna L,Das P.K, Ravindra S, Bhogesha K , Mishra R.K,Singhvi N.R, Katigar R.S andJayaram H. Mulberry Cultivation and Physiology Central Silk Board, Bangalore,Dec.2005

Web resources:

1. http://www.fao.org/3/ad108e/ad108e0a.htm
2. https://onlinecourses.swayam2.ac.in/cec19_bt05/preview
3. https://www.skuastkashmir.ac.in/DisplaySInformation.aspx?id=16&pid=20592
4. http://www.fao.org/3/x9895E/x9895e04.htm
5. https://www.notesonzoology.com/sericulture/moriculture/common-indian-mulberry-plants-and-their-morphological-characteristics/347

Web resources suggested by the teacher concerned and the college librarian including readingmaterial

B. Sc	**Semester: V**(Skill Enhancement Course - Elective)	**Credits:1**
Paper: 6D	**Seri Culture -I*** Lab**	**Hrs/Wk:2**

Learning Outcomes:

On successful completion of this practical course, student shall be able to:

- Develop sericulture map of India
- Develop charts on production of silk
- Examine the popular varieties of mulberry
- Display the silk glands of silk worm

Practical (Laboratory) Syllabus:(30hrs) (Max.50Marks)

1. Sericulture map of India and Karnataka.
2. Preparation of histograms and pie charts on:
3. Production of textile fibers in India.
4. Pie chart on mulberry and non-mulberry silk production in India.
5. Life cycle of *Bombyx mori*- Morphology of egg, larva, pupa and adult of *Bombyx mori.*
6. Sex separation in larva, pupa and adult of the silkworm *Bombyx mori*.
7. Dissection and display of: Digestive system of larva. Silk glands.

Lab References :

1. Rajanna L,Das P.K, Ravindra S, Bhogesha K , Mishra R.K,Singhvi N.R, Katigar R.S andJayaram H. Mulberry Cultivation and Physiology Central Silk Board, Bangalore,Dec.2005

Web sources suggested by the teacher concerned and the college librarian including reading material

Co-Curricular Activities :

a) **Mandatory**: *(Student training by teacher in field skills: total15hrs, Lab: 10+ filed 05):*

1. For Teacher: Training of students by the teacher in the laboratory and field for notlessthan15hourson the skills of preparation of Sericulture Map of India – identification of Mulberry plants – plantation- observation of Silk worm reproductive biology- observation of silk glands
2. **For Student:** Students shall (individually) visit any local Mulberry Plantation area and Silk worm Rearing center – make observations on plants, procedures and yield. Observations and outcomes shall be submitted as Fieldwork/Project work Report not exceeding 10 pages to teacher in the given format.
3. Max marks for Fieldwork/Project work Report: 05.
4. Suggested Format for Fieldwork/Project work: *Title page, student details, index page, details of place visited, observations made, findings and acknowledgements*.
5. (IE)Unit tests.

b) Suggested Co-Curricular Activities

1. Webbased **:** Collection of additional information of mulberry plants
2. Charts /Models preparation of silkworm developmental stages
3. Seminar, Invited lecture, .
4. Assignment, Group discussion. Quiz, Collection of Material, Videopreparation etc.

MODEL QUESTION PAPERS(Semester - End)

B .Sc DEGREE EXAMINATIONS

SEMESTER - V (Skill Enhancement Course - Elective)
Course - 6D: **Seri Culture -I*****

Time: 3hrs. **Max. Marks: 75**

Section - A

Answer any FIVE of the following: **5x5=25M**

1. Importance of mulberry silk:
2. Central Silk Board
3. Anatomy of mulberry leaf
4. Microsporogenesis
5. Classification of sericigenous insects
6. Larva of Bombyx
7. Types of silks
8. order Lepidoptera

Section - B

Answer ALL the following: **5x10=50M**

9. A. Write an essay on Components of Sericulture.

OR

B. Write a detail note on natural and synthetic fibers

10. A. Explain the salient features of the families Marceau

OR

B. Write an essay on different varieties of mulberry.

11. A. Enumerate about different types of anthers and ovule in mulberry

OR

B**.** Write an essays on pollination, fertilization in mulberry

12. A. Write a detail note on family Saturnidae and Bombycid

OR

B**.** Classify the silkworms based on moultinism, voltinism and geographical Distribution

13. A. Write an essay on Life cycle of Bombyx Mori

OR

B. Write an essay on Morphology and anatomy of reproductive systems of silk moth

B. Sc	**Semester: V**(Skill Enhancement Course - Elective)	**Credits:4**
Paper: 7D	**Sericulture -II**	**Hrs/Wk:4**

Learning Outcomes:

Students at the successful completion of this course will be able to

- Design low cost rearing house preparation for silk worm rearing
- Formulate procedure of sanitation of rearing house
- Make use of Chawki rearing practice
- Decide and suggest the correct time for harvest
- Develop and Maintain the records related to sericulture

Syllabus: (Total Hours: 90 including Teaching, Lab, Field Skills Training, Unit tests etc.)

UNIT I:

1.1 Rearing house: Location, orientation, plan and utilities; model rearing house; low-cost rearing house.

1.2 Rearing appliances-shelf and shoot rearing; requirements of rearing appliances (per unit rearing of 100dfls).

UNIT II:

2.1 Disinfection of rearing house and rearing appliances; (disinfectants formalin, bleaching powder, chlorine dioxide, slaked lime and iodine compounds);

2.2 Rearing and personal hygiene.

UNIT III:

3.1 Incubation- definition, requirement of environmental conditions, incubation devices; identification of stages of development; black boxing and its importance.

3.2 Chawki rearing: Preparation; brushing and its methods; types of chawki rearing - traditional and . improved method; optimum environmental conditions; methods and frequency of feeding; methods of . bed cleaning; spacing; moulting and care during moult.

UNIT IV:

4.1 Late age silkworm rearing: Methods; optimum environmental conditions; feeding quantity and frequency; methods of bed cleaning; spacing; moulting and care during moult.

4.2. Identification of spinning larva; spinning; mounting and mounting density; types of mountages, their advantages and disadvantages; environmental requirements during spinning.

UNIT V:

5.1 Harvesting: Time of harvesting; sorting, storage/ preservation

5.2 Packaging and transport of cocoons; leaf-cocoon ratio; Maintenance of rearing records.

REFERENCES:

1. Charley, S.R. (1982). Culture and Sericulture. Academic Press Inc., New York, U.S.A
2. Chowdhury, S.N. (1998) Muga Culture. Central Silk Board, Bangalore, India
3. Dokuhon, Z.S. (1998). Illustrated Textbook on Sericulture. Oxford & IBH publishing Co., Pvt. Ltd.Calcutta.
4. Hamamura, Y. (2001). Silkworm rearing on Artificial Diet. Oxford & IBH publishing Co., Pvt. Ltd. New Delhi.
5. Hasao Aruga (1994). Principles of Sericulture (Translated from Japanese) Oxford & IBH publishing Co., Pvt. Ltd. New Delhi.

Web Resources:

1. http://www.fao.org/3/ad108e/ad108e0a.htm
2. https://onlinecourses.swayam2.ac.in/cec19_bt05/preview
3. https://www.skuastkashmir.ac.in/DisplaySInformation.aspx?id=16&pid=20592

B. Sc	**Semester: V**(Skill Enhancement Course - Elective)	**Credits:1**
Paper: 7D	**Sericulture -II Lab**	**Hrs/Wk:2**

Learning Outcomes:

- On successful completion of this practical course, student shall be able to :
- Appreciate the morphology of silkworm
- Realize the importance of and initiate measures to disinfect the importance of disinfection ofrearing houses and rearing appliances
- Differentiate the methods of incubation of silkworm eggs
- Prioritize the records in silkworm rearing

Practical (Laboratory) Syllabus :(30hrs)(Max.50Marks)

1. Morphology and structure of silkworm egg, fertilization, Diapause development
2. Rearing house: Location, orientation, plan and utilities; model rearing house; low-cost rearinghouse.
3. Disinfection of rearing house and rearing appliances;
4. Incubation of silkworm eggs- Methods; black boxing; maintenance of temperature andhumidity; Brushing: Methods; chawki rearing; use of paraffin paper and blue polythene sheet.
5. Bed cleaning: use of bed cleaning net and disposal of bed refuses and silkworm litter.
6. Moulting: Identification of moulting larva, care during moulting; mounting and mountingdensity; harvesting of cocoons; assessment of cocoons; types of mountages;
7. Study the mulberry leaf by graph paper method : (for calculating the leaf area)

Lab References

1. HasaoAruga (1994). Principles of Sericulture (Translated from Japanese) Oxford & IBHpublishing Co., Pvt. Ltd. New Delhi.

Web resources suggested by the teacher concerned and the college librarian including readingmaterial

Co-Curricular Activities

a) **Mandatory**: *(Lab/field training of students by teacher (lab10+filed5)*

1. For Teacher: Training of students by the teacher in laboratory and field for notlessthan15hourson the skills/techniques of Rearing of Silk moth
2. For Student: Students shall (individually) visit to Silk worm rearing center and observe all the procedures. He/she shall prepare a Fieldwork/Project work Report on the observations made in the given format not exceeding 10 pages and submit to teacher.
3. Max marks for Fieldwork/Project work Report: 05.
4. Suggested Format for Fieldwork/Project work Report**:** *Title page, student details, index page, details of place visited, observations made, findings and acknowledgements.*
5. (IE). Unit tests.

b) Suggested Co-Curricular Activities

1. Model Chart preparation of chawki rearing
2. Cocoon collection and observation of characteristics
3. Mountage images / charts preparation
4. Seminar, Invited Lecture, Assignment, Seminar, Group discussion. Quiz, Seminar, Quiz, Collection of Material, Video preparation etc.

MODEL QUESTION PAPERS(Semester - End)

B .Sc DEGREE EXAMINATIONS

SEMESTER - V (Skill Enhancement Course - Elective)
Course - 7D: **Seri Culture -II**

Time: 3hrs. **Max. Marks: 75**

Section - A

Answer any FIVE of the following: **5x5=25M**

1. Low-cost rearing house.
2. Slaked lime
3. Black boxing and its importance
4. Spacing
5. Environmental requirements during spinning
6. Methods of bed cleaning
7. Sorting
8. Leaf-cocoon ratio

Section - B

Answer ALL the following: **5x10=50M**

9. A. Write an essay on construction of model rearing house for sericulture

OR

B. Discuss in detail about requirements of rearing appliances

10. A.Write an essay on Rearing and personal hygiene.

OR

B. Write a detail note on disinfection of rearing house and rearing appliance

11. A. Define Incubation. Write a note on requirement of environmental conditions and incubation devices;

OR

B**.** What is Chawki rearing? Discuss about traditional and improved method of chawki rearings

12. A. Write an essay on Methods of Late age silkworm rearing.

OR

B**.** Write a detail note on spinning; mounting and mounting density.

13. A. Write an essay on Maintenance of rearing records.

OR

B. Discuss in detail about storage and preservation of silk months

Skill Enhancement Courses (SECs) for Semester -V,

From 2020-21(Syllabus-Curriculum)

Structure of SECs for Semester–V

(To choose One pair from the Five alternate pairs of SECs)

Univ. Code	Course NO. 6&7	Name of Course	Th.Hrs / Week	Credits	Max. Marks Internal Assessment	Max. Marks Sem-End Exam
	6A	Synthetic Organic Chemistry	4	4	25	75
		Synthetic Organic Chemistry Lab	2	1	-	50
	7A	Analysis of Organic Compounds	4	4	25	75
		Analysis of Organic Compounds Lab	2	1	-	50
		OR				
	6B	Analytical Methods in Chemistry-1	4	4	25	75
		Analytical methods in Chemistry-1 Lab	2	1	-	50
	7B	Analytical Methods in Chemistry-1	4	4	25	75
		Analytical Methods in Chemistry-2 Lab	2	1	-	50
		OR				
	6C	Industrial Chemistry-1	4	4	25	75
		Industrial Chemistry - 1 Lab	2	1	-	50
	7C	Industrial Chemistry-2	4	4	25	75
		Industrial Chemistry-2 Lab	2	1	-	50
		OR				
	6D	Environmental Chemistry	4	4	25	75
		Environmental Chemistry Lab	2	1	-	50
	7D	Green Chemistry and Nanotechnology	4	4	25	75
		Green Chemistry and Nanotechnology Lab	2	1	-	50
		OR				
	6E	Analytical Methods in Chemistry	4	4	25	75
		Analytical Methods in Chemistry Lab	2	1	-	50
	7E	Cosmetics and Pharmaceutical Chemistry	4	4	25	75
		Cosmetics and Pharmaceutical Chemistry Lab	2	1	-	50

Note: *Course type code: T: Theory, L: Lab, P: Problem solving
***Note**: FIRST and SECOND PHASES (2 spells) of APPRENTICESHIP between 1st and 2nd year and between 2nd and 3rd year (two summer vacations)
***Note**: THIRD PHASE of APPRENTICESHIP Entire 5th / 6th Semester
Note-1: For Semester–V, for the domain subject Chemistry, any one of the five pairs of SECs shall be chosen as courses 6 and 7, i.e., 6A&7A or 6B&7B or 6C&7C or 6D&7D or 6E&7E. The pair shall not be broken (ABC allotment is random, not on any priority basis).

Note-2: *One of the main objectives of Skill Enhancement Courses (SEC) is to inculcate skills related to the domain subject in students. The syllabus of SEC will be partially skill oriented. Hence, teachers shall also impart practical training to students on the skills embedded in syllabus citing related real field situations.*

B. Sc	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course: 6A	Synthetic Organic Chemistry	Hrs/Wk:4

Learning Outcomes:

Students after successful completion of the course will be able to:

1. Identify the importance of reagents used in the synthesis of organic compounds.
2. Acquire knowledge on basic concepts indifferent types of pericyclic reactions.
4. Understand the importance of retro synthesis in organic chemistry.
5. Comprehend the applications of different reactions in synthetic organic chemistry.

Syllabus :*(Total Hours: 90 including Teaching, Lab, Field Skills Training, Unit tests etc.)*

Unit-1: Pericyclic reactions 12 hours

3. A brief introduction to synthetic organic chemistry
4. Features and classification of pericyclic reactions: Phases, nodes and symmetry properties of molecular orbitals in ethylene, 1, 3-butadiene, 1, 3, 5-hexatriene, alkylation and ally radical. Thermal and photochemical reactions.
5. Electro cyclic reactions: Definition and examples, definitions of con and dis rotation, Woodward- Hoffmann selection rules.(Correlation diagrams are not required)
6. Cyclo addition reactions: Definition and examples, definitions of supra facial and antar facial addition, Woodward- Hoffmann selection rules. (Correlation diagrams are not required)

Unit-2: Organic photochemistry 8hours

1. Jablonski diagram-singlet and triplet states
2. Photochemistry of Carbonyl compounds-□−□ and □−□* transitions, Norrish type-1and type-2 reactions
3. Paterno – Buchi reaction.

Unit-3: Retro synthesis 12 hours

1. Important terms in Retro synthesis with examples-Disconnection, Target molecule, FGI, Synthon, Retro synthetic analysis, chemo selectivity, region selectivity
2. Importance of Order of events in organic synthesis
3. Retro synthetic analysis of the compounds: a. cyclohexene, b. 4-Nitro toluene, c. Paracetamol.

Unit-4: Synthetic Reactions 8hours

Shapiro reaction, Stork - enamine reaction (only alkylation), Wittig reaction, Robinson annulation, Bailys-Hillman reaction, Heck reaction, Suzuki coupling. Synthesis of aldehydes and ketones using1, 3-Dithiane.

Unit-5: Reagents in Organic Chemistry 10 hours

Oxidizing agents: PCC, PDC, SeO_2 (Riley oxidation), NBS.

Reducing agents: $LiAlH_4$ (with mechanism), LTBA, Metal-solvent reduction (Birch reduction), Catalytic reduction.

References

1. Pericyclic reactions by Ian Fleming, Second edition, Oxford University press.
2. Pericyclic Reactions-A Text book: Reactions, Applications and Theoryby S. Sankararaman, WILEY-VCH.
3. Reaction Mechanism in Organic Chemistry by S.M. Mukherji and S.P. Singh, Revised edition, Trinity Press.
4. Pericyclic reactions-A Mechanistic study by S.M. Mukherji, Macmillan India.
5. Organic synthesis: The disconnection approach by Stuart Warren, John Wiley & Sons.
6. Organic chemistry by Jonathan Clayden, Nick Greeves and Stuart Warren, Second edition, Oxford university press.
7. Reactions, Reagents and Rearrangements by S.N. Sanyal, Bharati Bhawan Publishers & Distributors.

B. Sc	Semester – V (Skill Enhancement Course- Elective)	Credits: 1
Course: 6A	Synthetic Organic Chemistry Lab	Hrs/Wk:2

Learning Outcomes:

On successful completion of this practical course, student shall be able to:

1. Perform the organic qualitative analysis for the detection of N, S and halogens using the green procedure.
2. Learn the procedure for the separation of mixture famine acids using paper Chromatography.
3. Prepare the TLC plates for TLC chromatography.
4. Acquire skills in conducting column chromatography for the separation of dyes in the given mixture.

Practical (Laboratory) Syllabus :(**30hrs**) (Max.50 Marks)

1. Green procedure for organic qualitative analysis: Detection of N, S and halogens
2. Separation of given mixture of amino acids (glycine and phenyl alanine) using ascending paper chromatography.
3. Separation of a given dye mixture (methyl orange and methylene blue) using TLC (using alumina as adsorbent).
4. Separation of mixture of methyl range and methyl enable by column chromatography
5. Separation of food dyes using Column Chromatography
6. Separation of triglycerides using TLC

Lab References:

1. Vogel A. I. Practical Organic Chemistry, Longman Group Ltd.
2. Bansal R.K. Laboratory Manual of Organic Chemistry, Wiley-Eastern.
3. Ahluwalia V. K. and Aggarwal R. Comprehensive Practical Organic Chemistry, University press.
4. Mann F. G and Saunders B.C, Practical Organic Chemistry, Pearson Education.

Co-Curricular Activities

a) Mandatory:*(Lab/field training of students by teacher:(lab: 10+field:05*):

1. **For Teacher**: Training of students by the teacher in laboratory and field for not less than15 hours on the field techniques/skills of detection of N, Sand halogens using the green procedure, preparation of TLC plates, detection of organic compounds using R_f values in TLC/ paper chromatography, loading of column, selection of solvent system for column chromatography, separation of amino acids and dye mixture using chromatographic techniques.
2. **For Students**: Student shall visit a related industry/chemistry laboratory in universities/research organizations/private sector facility and observes the synthetic reactions. Write their observations and submit a hand written fieldwork/project work report notexceeding10 pages in the given format to the teacher.
3. Max marks for Fieldwork/project work Report: 05.
4. Suggested Format for Fieldwork/project work**:** *Title page, student details, index page, details of place visited, observations, findings, and acknowledgements.*
4. Unit tests (IE).

b) Suggested Co-Curricular Activities

1. Training of students by related industrial experts.
2. Assignments, Seminars and Quiz (on related topics), collection of relevant videos and material.
3. Visits of abilities, firms, research organizations etc.
4. Invited lectures and presentations on related topics by field/industrial experts.

MODEL QUESTION PAPER (Sem-end. Exam)

B. Sc DEGREE EXAMINATIONS
Semester - III

Course 6A: Synthetic Organic Chemistry

Time: 3Hrs. **Max.Marks:75**

SECTION – A 5 x 5 = 25 M

Answer any **FIVE** questions. Each question carries 5 Marks

1. Draw Molecular orbital diagram of 1,3-butadiene.
2. Differentiate between electrocyclic reactions and cyclo addition reactions.
3. Explain Norrish Type – I reaction.
4. Define Chemoselectivity and Regio selectrivity.
5. Define FGI, Target molecule and synthon. Give examples.
6. Write the mechanism of Stork – enamine reaction.
7. Explain Heck reaction.
8. Explain Birch reduction with mechanism.

SECTION – B 5 x 10 = 50 M

Answer **ALL** questions. Each question carries 10 M

9. a) Explain [2+2] - cycloaddition reaction by any one approach. Derive selection rules.

(OR)

b) Explain Electrocyclic reactions by taking any one example through any one approach.

10. a) Explain Paterno – Buchi reaction and Norrish type – II reaction with an example.

(OR)

b) Draw & Explain Jablonski diagram.

11. a) Write retro synthetic analysis of Cyclohexene and Paracetamol.

(OR)

b) Describe the order of events in retro synthetic analysis. Write retrosynthetic analysis of 4 –nitro toluene.

12. a) Explain the mechanism of Suzuki coupling and Robinson annulation.

(OR)

b) Explain the mechanism of Wittig and Shapiro reactions.

13. a) Write the synthetic applications of PCC and NBS.

(OR)

b) Write the synthetic applications of $LiAlH_4$. Write the mechanism of reduction with $LiAlH_4$.

B. Sc	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course: 7A	Analysis of Organic Compounds	Hrs/Wk:4

Learning Outcomes:

Students after successful completion of the course will be able to:

1. Identify the importance of mass spectrometry in the structural elucidation of organic compounds.
2. Acquire the knowledge eon structural elucidation of organic compounds.
3. Understand various chromatography methods in the separation and identification of organic compounds.
4. Demonstrate the knowledge gained in solvent extraction for the separate the organic compounds.

Syllabus :*(Total Hours: 90 including Teaching, Lab, Field Skills Training, Unit tests etc.)*

Unit-1: Mass Spectrometry **10 hours**

A brief introduction to analysis of organic compounds

Basic principles, Instrumentation - Mass spectrometer, electron Ionization (Electron Impact ionization, EI), Molecular ions, metastable ions, Isotope abundance. Basic fragmentation types. Fragmentation patterns in Toluene, 2-Butanol, Butaldehyde, Propionic acid.

Unit-2: Structural elucidation of organic compounds using IR, NMR, mass spectral data- **8hours**

2, 2, 3, 3-Tetra methyl butane, Butane-2, 3-dione, Prop ionic acid and methyl propionate.

Unit-3: Structural elucidation of organic compounds using IR, NMR, Mass spectral data- **8 hours**

Phenyl acetylene, ace to phenomenon amici acid and p-nitro aniline.

Unit-4: Separation techniques-1 **12 hours**

1. Solvent extraction-Principle and theory, Batch extraction technique, application of batch extraction in the separation of organic compounds from mixture- acid & neutral, base &neutral.
2. Chromatography- Principle and theory, classification, types of adsorbents, eluents, $R_f$values and factors affecting $R_f$values.
3. Thin layer chromatography-principle, experimental procedure, advantages and applications.

Unit-5: Separation techniques-2 **12 hours**

1. Paper chromatography- Principle, experimental procedure, ascending, descending, radial and two dimensional, applications.
2. Column chromatography-Principle, classification, experimental procedure, applications.
3. HPLC-Principle, Instrumentation-block diagram and applications.

References

1. Organic Spectroscopy by William Kemp, Third Edition, Palgrave USA.
2. Introduction to Spectroscopy by Pavia, Lamp man, Kriz and Vyvyan, Fifth edition, Cen gage.
3. Organic Spectroscopy: Principles and Applications by Jag Mohan, Second edition, Alpha Science.
4. Spector's copy of Organic Compounds by P.S. Kalsi, Seventh edition, New Age International.
5. Spectroscopic Methods in Organic Chemistry by Ian Fleming and Dudley Williams, Seventh edition, Springer.
6. Fundamentals of Analytical Chemistry by F. James Holler, Stanley R Crouch, Donald M. West and Douglas A. Skoog, Ninth edition, Cen gage.
7. Analytical Chemistry by Gary D.Christian, Purnendu K.Dasgupta and Kevin A.Schug, Seventh edition, Wiley.
8. Quantitative analysis by R.A. Day Jr. and A.L. Underwood, Sixth edition, Pearson.
9. Text book of Vogel's Quantitative Chemical Analysis, Sixth edition, Pearson.

B. Sc	Semester – V (Skill Enhancement Course- Elective)	Credits: 1
Course: 7A	Analysis of Organic Compounds Lab	Hrs/Wk:2

Learning Outcomes:

On successful completion of this practical course, student shall be able to:

1. Prepare acetanilide using the green synthesis.
2. Demonstrate the preparation of anazodye.
3. Acquire skills in the separation of organic compounds in the given mixture using solvent extraction

Practical (Laboratory) Syllabus :(**30hrs**) (Max.50 Marks)

1. Identification of various equipment in the laboratory.
2. Acetylating of 1^0 amine by green method: Preparation of acetanilide
3. Rearrangement reaction in green conditions: Benzil - Benzilic acid rearrangement
4. Radical coupling reaction: Preparation of 1,1-bis -2-naphthol
5. Green oxidation reaction: Synthesis of adipic acid
6. Preparation and characterization of biodiesel from vegetable oil/ waste cooking oil
7. Photo reduction of Benzophenone to Benzopinacol in the presence of sunlight.
8. Separation of organic compounds in a mixture (acidic compound + neutral compound) using solvent extraction.
9. Separation of organic compounds in a mixture (basic compound +neutral compound) using solvent extraction.

Lab References:

1. Vogel A. I. Practical Organic Chemistry, Longman Group Ltd.
2. Bansal R.K. Laboratory Manual of Organic Chemistry, Wiley-Eastern.
3. Ahluwalia V. K. and Aggarwal R. Comprehensive Practical Organic Chemistry, Universitypress.
4. Mann F.G and Saunders B.C, Practical Organic Chemistry, Pearson Education.

Co-Curricular Activities:

a) **Mandatory:***(Lab/field training of students by teacher:(lab:10+field:05):*

5. **For Teacher**: Training of students by teacher in laboratory and field for not less than15 hours on the field techniques/skills of preparation of acetanilide, preparation of azodye, use of separating funnel for solvent extraction, separation of organic compounds in a mixture.
6. **For Student**: Student shall visit a related industry/chemistry laboratory in universities/research organizations/private sector facility and observe the techniques used for the separation of organic compounds. Write their observations and submit a handwritten fieldwork/project work report not exceeding10 pages in the given format to the teacher.
7. Max marks for Fieldwork/project work Report: 05.

4. Suggested Format for Fieldwork/project work**:** *Title page, student details, index page, details of place visited, observations, findings, and acknowledgements.*

5. Unit tests (IE).

b) **Suggested Co-Curricular Activities**

1. Training of students' by related industrial experts.
2. Assignments, Seminars and Quiz (on related topics), collection of videos and other material.
3. Visits of facilities, firms, research organizations etc.
4. Invited lectures and presentations on related topics by field/industrial experts.

MODEL QUESTION PAPER (Sem-end. Exam)

B. Sc DEGREE EXAMINATIONS
Semester - III

Course 7A: Analysis of Organic Compounds

Time: 3Hrs. **Max.Marks:75**

SECTION – A 5 x 5 = 25 M

Answer any **FIVE** questions. Each question carries 5 Marks

1. Explain Electron impact ionization.
2. Define Molecular ion. Give example.
3. Write IR spectral data for Propionic acid.
4. Write NMR spectral data for acetophenone and P-nitroaniline.
5. Write the principle and theory involved in solvent extraction.
6. Write the applications of TLC.
7. Write the principle and experimental procedure involved in Paper chromatography.
8. Write the experimental procedure involved in Column chromatography.

SECTION – B 5 x 10 = 50 M

Answer **ALL** the questions. Each question carries 10 M

9. a) i. Write significance of Isotopic abundance in Mass Spectrometry.

ii. What are metastable ions. Explain their characteristics.

(OR)

b) Write the Mass Spectral fragmentation patterns of Tolune, 2- Butanol and Propionic acid.

10. a) Predict the IR, NMR and Mass spectral analysis for 2,2,3,3- tetramethyl butane and methyl Propionate.

(OR)

b) Predict the IR, NMR and Mass spectral analysis of Propionic acid butane-2,3-dione.

11. a) Write the IR, NMR, and Mass spectral data for P-nitroaniline and phenyl acetylene.

(OR)

b) Write the IR, NMR and Mass spectral data for acetophenone and cinnamic acid.

12. a) What is Batch extraction. Explain the Solvent extraction technique for separation of mixture of acidic and neutal organic compounds.

(OR)

b) Write the Principle, experimental procedure and advantages of Thin Layer Chromatography.

13. a) Write the principle involved in HPLC. Draw and explain instrument diagram of HPLC.

(OR)

b) Explain ascending, descending, radial and two dimensional paper chromatography. Write its applications.

B. Sc	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course: 6B	Analytical Methods in Chemistry-1	Hrs/Wk:4

Learning Outcomes:

Students after successful completion of the course will be able to:

1. Identify the importance of solvent extraction and ion exchange method.
2. Acquire knowledge on the basic principles of volumetric analysis and gravimetric analysis.
3. Demonstrate the usage of common laboratory apparatus used in quantitative analysis.
4. Understand the theories of different types of titrations.
5. Gain knowledge on different types of errors and their minimization methods.

Syllabus:

(Total Hours: 90 including Teaching, Lab, Field Skills Training, Unit tests etc.)

Unit-1: Quantitative analysis-1 **8 hours**

1. A brief introduction to analytical methods in chemistry
2. Principles of volumetric analysis, concentration terms- Molarity, Molality, Normality, v/v, w/v, ppm and ppb, preparing solutions- Standard solution, primary standards and secondary standards.
3. Description and use of common laboratory apparatus- volumetric flask, burette, pipette, beakers, measuring cylinders.

Unit-2: Quantitative analysis-2 **12hours**

1. Principles of volumetric analysis: Theories of acid-base (including study of acid-base titration curves), redox, complex metric, iodometric and precipitation titrations-choice of indicators for the saturations.
2. Principles of gravimetric analysis: precipitation, coagulation, peptization, co precipitation, post precipitation, digestion, filtration, and washing of precipitate, drying and ignition.

Unit-3: Treatment of analytical data **8hours**

Types of errors- Relative and absolute, significant figures and its importance, accuracy - methods of expressing accuracy, errors- Determinate and indeterminate and minimization of errors, precision-methods of expressing precision, standard deviation and confidence interval.

Unit-4: separation techniques **12 hours**

1. Solvent Extraction: Introduction, principle, techniques, factors affecting solvent extraction, Batch extraction, continuous extraction and counter current extraction. Synergism. Application-Determination of Iron (III).
2. Ion Exchange method: Introduction, action of ion exchange resins, applications.

UNIT-5: Analysis of water **10hours**

Determination of dissolved solids, total hardness of water, turbidity, alkalinity, Dissolved oxygen, COD, determination of chloride using Mohr's method.

References

1. Fundamentals of Analytical Chemistry by F.James Holler, Stanley R Crouch, Donald M.Westand Douglas A.Skoog, Ninth edition, Cengage.
2. Analytical Chemistry by Gary D.Christian, Purnendu K.Dasgupta and KevinA.Schug,Seventh edition, Wiley.
3. Quantitative analysis by R.A.DayJr. And A.L.Underwood, Sixth edition, Pearson.
4. Text book of Vogel's Quantitative Chemical Analysis, Sixth edition, Pearson.
5. Text book of Environmental Chemistry and Pollution Control by S.S.Dara and D.D.Mishra, Revised edition, S Chand & CoLtd.

B. Sc	Semester – V (Skill Enhancement Course- Elective)	Credits: 1
Course: 6B	Analytical methods in Chemistry-1 Lab	Hrs/Wk:2

Learning Outcomes:

On successful completion of this practical course, student shall be able to:

1. Estimate Iron(II) using standard Potassium dichromate solution
2. Learn the procedure for the estimation of total hardness of water
3. Demonstrate the determination of chloride using Mohr's method
4. Acquire skills in the operation and calibration of pH meter
5. Perform the strong acid vs strong base titration using pH meter

c) **Practical (Laboratory)Syllabus**:(**30hrs**) (Max.50 Marks)

1. Estimation of Iron(II) using standard Potassium dichromate solution (using DPA indicator)
2. Estimation of total hardness of water using EDTA
3. Determination of chloride ion by Mohr's method
4. Study the effect on pH of addition of HCl/NaOH to solutions of acetic acid, sodium acetate and their mixtures.
5. Preparation of buffer solutions of different pH (i) Sodium acetate-acetic acid, (ii) Ammonium chloride-ammonium hydroxide.
6. pH metric titration of (i) strong acid vs. strong base, (ii) weak acid vs. strong base.
7. Determination of dissociation constant of a weak acid.

d) Lab References:

1. Text book of Vogel's Quantitative Chemical Analysis, Sixth edition, Pearson.

e) Co-Curricular Activities:

a) **Mandatory:***(Lab/field training of students by teacher:(lab:10+field:05):*

8. For Teacher: Training of students by the teacher in laboratory and field for not less than 15 hours on the field techniques/skills of calibration of pH meter, Strong acid vs strong base titration using pH meter, determination of chloride ion, estimation of water quality parameters and estimation of Iron(II).
9. For Student: Student shall visit a related industry/chemistry laboratory in universities/research organizations/private sector facility and observe various methods used for the analysis of water. Write their observations and submit a hand written fieldwork/project work report not exceeding10 pages in the given format to the teacher.
10. Max marks for Fieldwork/project work Report: 05.
4. Suggested Format for Fieldwork/project work**:** *Title page, student details, index page, details of place visited, observations, findings, and acknowledgements.*
5. Unit tests (IE).

b) **Suggested Co-Curricular Activities**

1. Training of students' by related industrial experts.
2. Assignments, Seminars and Quiz (on related topics).
3. Visits to facilities, firms, research organizations etc.
4. Invited lectures and presentations on related topics by field/industrial experts.

MODEL QUESTION PAPER (Sem-end. Exam)

B. Sc DEGREE EXAMINATIONS
Semester - III

Course 6B: Analytical methods in Chemistry-1

Time: 3Hrs. **Max.Marks:75**

SECTION – A 5 x 5 = 25 M

Answer any **FIVE** questions. Each question carries 5 Marks

1. Define Molarity and normality.
2. Write note on choice of indicators in titrations.
3. Explain Coagulation and peptization.
4. Define relative and absolute errors.
5. Explain the methods of expressing accuracy.
6. Explain the factors affecting Solvent extraction.
7. Write any two applications of solvent extraction.
8. How will you determine total hardness of water.

SECTION – B 5 x 10 = 50 M

Answer **ALL** the questions. Each question carries 10 M

9. a) What is Primary and Secondary standards. How will you prepare standard solution. Give an example.

(OR)

b) Explain Common laboratory apparatus used in quantitative analysis. Define Molality, ppm and ppb.

10. a) Explain redox, complexometric and iodometric titrations.

(OR)

b) What is Gravimetric analysis. Write principle & Explain the terms involved in it.

11. a) What are Significant figures. Explain its calculation and importance.

(OR)

b) What are determinate and indeterminate errors. Write the techniques for minimization of errors.

12. a) Explain Batch extraction, continuous extraction and counter current extraction.

(OR)

b) Write an essay on Ion exchange method and its applications.

13. a) How will you determine chloride using Mohr's method.

(OR)

b) Explain the determination of dissolved salts, Dissolved oxygen and COD.

B. Sc	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course: 7B	Analytical Methods in Chemistry-2	Hrs/Wk:4

Learning Outcomes:

Students after successful completion of the course will be able to:

1. Identify the importance of chromatography in the separation and identification of compounds in a mixture
2. Acquire a critical knowledge on various chromatographic techniques.
3. Demonstrate skills related to analysis of water using different techniques.
4. Understand the principles of spectro chemistry in the determination of metal ions.
5. Comprehend the applications of atomic spectroscopy.

Syllabus :*(Total Hours: 90 including Teaching, Lab, Field Skills Training, Unit tests etc.)*

Unit-1: Chromatography-Introduction and classification 10 hours

Principle, Classification of chromatographic methods, Nature of adsorbents, eluents, $R_f$values, factors affecting $R_f$values.

Unit-2: TLC and paper chromatography 12 hours

1. Thin layer chromatography: Principle, Experimental procedure, preparation of plates, adsorbents and solvents, development of chromatogram, detection of spots, applications and advantages.
2. Paper Chromatography: Principle, Experimental procedure, choice of paper and solvents, various modes of development- ascending, descending, radial and two dimensional, applications.

Unit -3: Column chromatography 12 hours

1. Column chromatography: Principle, classification, Experimental procedure, stationary and mobile phases, development of the Chromatogram, applications.
2. HPLC: Basic principles, instrumentation –block diagram and applications.

Unit -4: Spectrophotometry 8hours

Principle, Instrumentation: Single beam and double beam spectrometer, Beer-Lambert's law- Derivation and deviations from Beer-Lambert's law, applications of Beer-Lambert's law-Quantitative determination ofFe^{+2}, $Mn^{+2}$and Pb^{+2}.

Unit -5: Atomic spectroscopy 8hours

Types, atomizer, atomic absorption and emission and applications.

References

1. Fundamental so Analytical Chemistry by F.James Holler, Stanley R Crouch, Donald M.Westand Douglas A.Skoog, Ninth edition, Cengage.
2. Analytical Chemistry by Gary D.Christian, Purnendu K.Dasgupta and Kevin A.Schug, Seventh edition, Wiley.
3. Quantitative analysis by R.A.Day Jr. and A.L.Underwood, Sixth edition, Pearson.
4. Text book of Vogel's Quantitative Chemical Analysis, Sixth edition/ Pearson.

B. Sc	Semester – V (Skill Enhancement Course- Elective)	Credits: 1
Course: 7B	Analytical Methods in Chemistry-2 Lab	Hrs/Wk:2

Learning Outcomes:

On successful completion of this practical course, student shall be able to:

1. Perform the separation of a given dye mixture using TLC
2. Learn the preparation of TLC plates
3. Demonstrate the separation of mixture of amino acids using paper chromatography
4. Acquire skills in using column chromatography for the separation of dye mixture

Practical (Laboratory) Syllabus: (**30hrs**) (Max.50Marks)

1. Separation of a given dye mixture (methyl orange and methylene blue) using TLC (using alumina as adsorbent).
2. Separation of mixture of methyl orange and methylene blue by column chromatography.
3. Separation of given mixture of amino acids (glycine and phenyl alanine) using ascending paper chromatography.
4. Separation of food dyes using Column Chromatography
5. Separation of triglycerides using TLC
6. Verification of Beer lambert's law. (Using potassium permanganate solution) using colorimeter /spectrophotometer.

Lab References:

1. Text book of Vogel's Quantitative Chemical Analysis, Sixth edition, Pearson.
2. Vogel A. I. Practical Organic Chemistry, Longman Group Ltd.
3. Bansal R.K. Laboratory Manual of Organic Chemistry, Wiley- Eastern.
4. Ahluwalia V. K. and Aggarwal R. Comprehensive Practical Organic Chemistry, University press.
5. Mann F.G and Saunders B.C, Practical Organic Chemistry, Pearson Education.

Co-Curricular Activities:

a) **Mandatory:***(Lab/field training of students by teacher (lab:10+field:05):*

1. **For Teacher**: Training of students by the teacher in laboratory and field for not lessthan15 hours on the field techniques/skills of determination of hardness of water, using the calorimeter and or Spectrophotometer, preparation of TLC plate, identification of spots in TLC and Paper chromatographic techniques, loading of column, selection of solvent system, separation of amino acids and dyes mixture using chromatographic techniques.
2. **For Student**: Student shall visit a related industry/chemistry laboratory in universities/research organizations/private sector facility and observe the chromatographic techniques used for the separation of compounds. Write their observations and submit a hand written fieldwork/project work report not exceeding 10 pages in the given format to the teacher.
3. Max marks for Fieldwork/project work Report: 05.
4. Suggested Format for Fieldwork/project work**:** *Title page, student details, index page, details of place visited, observations, findings, and acknowledgements.*
5. Unit tests (IE).

b) **Suggested Co-Curricular Activities**

1. Training of students by related industrial experts.
2. Assignments, Seminars and Quiz (on related topics).
3. Visits to facilities, firms, research organizations etc.
4. Invited lectures and presentations on related topics by field/industrial experts.

MODEL QUESTION PAPER (Sem-end. Exam)

B. Sc DEGREE EXAMINATIONS
Semester - III

Course 7B: Analytical Methods in Chemistry-2

Time: 3Hrs. **Max.Marks:75**

SECTION – A 5 x 5 = 25 M

Answer any **FIVE** questions. Each question carries 5 Marks

1. What is Chromatography. Define Rf. Write its formula.
2. Explain development of chromatogram in TLC.
3. Explain experimental procedure of Paper Chromatography.
4. Write the Basic principle involved in HPLC.
5. Write the applications of column chromatography.
6. Define Beer – Lambert's law. Write applications of it.
7. Write the derivation and deviations of Beer Lambert's law.
8. What are the types of atomic spectroscopy.

SECTION – B 5 x 10 = 50 M

Answer **ALL** the questions. Each question carries 10 M

9. a) Write note on nature of adsorbents, eluents used in chromatography. Explain factors affecting Rf values.

(OR)

b) Write the principle involved in Chromatography. Write general applications of chromatography.

10. a) Explain various modes of development of Paper chromatogram- ascending, descending, radial and two dimensional chromatography.

(OR)

b) Explain the principle and experimental procedure of TLC.

11. a) Write the Principle, classification and experimental procedure of column chromatography.

(OR)

b) Draw the block diagram of instrument of HPLC. Explain the parts in it. Write its applications.

12. a) Explain the instrumentation of single and double beam spectrometers.

(OR)

b) Explain the quantitative determination of Fe^{2+} and Mn^{2+}

13. a) Write the principle and instrumentation of atomic emission spectroscopy.

(OR)

b) Write about different burners, fuel and oxidants in atomic absorption spectroscopy. Write its applications.

B. Sc	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course: 6C	Industrial Chemistry-1	Hrs/Wk:4

Learning Outcomes:

Students after successful completion of the course will be able to:

1. Identify the importance of different surface coatings.
2. Acquire a critical knowledge on manufacture of ceramics and cement.
3. Understand various steps in the manufacture of cane sugar.
4. Explain the manufacture of pulp and paper.

Syllabus :*(Total Hours: 90 including Teaching, Lab, Field Skills Training, Unit tests etc.)*

Unit-1: Fertilizers **10 hours**

A brief introduction to industrial chemistry

Different types of fertilizers. Manufacture of the following fertilizers: Urea, Ammonium nitrate, Calcium ammonium nitrate, Ammonium phosphates; Polyphosphate, Superphosphate, Compound and mixed fertilizers.

Unit-2: Silicates **10hours**

1. **Ceramics:** Important clays and Felds par. Ceramics-types, uses and manufacture. High technology ceramics and their applications.

2. **Cements:** Classification of cement, ingredients and their role, Manufacture of cement and the setting process, quick setting cements.

Unit-3: Surface Coatings **12 hours**

Objectives of coatings surfaces, preliminary treatment of surface, classification of surface coatings. Paints and pigments-formulation, composition and related properties. Oil paint, modified oils, Pigments, toners and lake pigments, fillers, thinners, enamels, emulsifying agents. Special paints (Heat retardant, Fire retardant, Eco-friendly paint, Plastic paint), Water and Oil paints.

Unit-4: Sugar Chemistry **08hours**

Introduction–Manufacture and recovery of cane sugar from molasses, manufacture of sucrose from beat root, testing and estimation of sucrose.

Unit-5: Paper Industry **10hours**

Pulp and Paper-Introduction, Manufacture of pulp, sulphate or Kraft pulp, soda pulp, sulphite pulp, rag pulp, beating, refining, filling, sizing and colouring of pulp, manufacture of paper.

References:

1. E.Stocchi: *Industrial Chemistry*, Vol-I, Ellis HorwoodLtd.UK
2. J.A.Kent: Riegel's *Hand book of Industrial Chemistry*, CBS Publishers, New Delhi.
3. P.C.Jain, M.Jain: *Engineering Chemistry*, Dhanpat Rai & Sons, Delhi.
4. R. Gopalan, D. Venkappayya, S. Nagarajan: *Engineering Chemistry*, Vikas Publications, NewDelhi.
5. B.K.Sharma: *Engineering Chemistry*, Goel Publishing House, Meerut
6. O. P. Vermani, A. K. Narula: *Industrial Chemistry*, Galgotia Publications Pvt. Ltd., New Delhi.

B. Sc	Semester – V (Skill Enhancement Course- Elective)	Credits: 1
Course: 6C	Industrial Chemistry - 1 Lab	Hrs/Wk:2

Lab work-Skills Outcomes:

On successful completion of this practical course, student shall be able to:

1. Determine free acidity in ammonium sulphate fertilizer.
2. Learn the procedure for the Estimation of Calcium in Calcium ammonium nitrate fertilizer.
3. Demonstrate skills on Estimation of phosphoric acid in superphosphate fertilizer.
4. Acquire skills in using colorimetry for the estimation of sucrose.

Practical(Laboratory)Syllabus:(**30hrs**) (Max.50 Marks)

5. Determination of free acidity in ammonium sulphate fertilizer.
6. Estimation of Calcium in Calcium ammonium nitrate fertilizer.
7. Estimation of phosphoric acid in superphosphate fertilizer.
8. Estimation of sucrose by colorimetry.

Lab References

1. Text book of Vogel's Quantitative Chemical Analysis, Sixth edition, Pearson.
2. Text book on Experiments and Calculations in Engineering Chemistry, S.S.Dara, S.Chand.
3. R.Gopalan, D.Venkappayya, S.Nagarajan: Engineering Chemistry, Vikas Publications.
4. B.K.Sharma: Engineering Chemistry, Goel Publishing House, Meerut

Co-Curricular Activities:

a) **Mandatory:***(Lab/field training of students by teacher:(lab:10+field:05):*

1. **For Teacher**: Training of students by the teacher in laboratory and field for not less than15 hours on field related skills in determination of free acidity, estimation of calcium and phosphoric acid in a fertilizer, use of colorimeter to estimate sucrose.

2. **For Student**: Student shall visit a related industry/chemistry laboratory in universities/research organizations/private sector facility and observe the surface coatings of surfaces used to prevent the corrosion. Write their observations and submit a hand written fieldwork/project work report not exceeding10 pages in the given format to the teacher.

3. Max marks for Fieldwork/project work Report: 05.

4. Suggested Format for Fieldwork/project work**:** *Title page, student details, index page, details of place visited, observations, findings, and acknowledgements.*

5. Unit tests (IE).

b) **Suggested Co - Curricular Activities**

1. Training of students by related industrial experts.
2. Assignments, Seminars and Quiz (on related topics).
3. Visits to facilities, firms, research organizations etc.
4. Invited lectures and presentations on related topics by field/industrial experts.

MODEL QUESTION PAPER (Sem-end. Exam)

B. Sc DEGREE EXAMINATIONS
Semester - III

Course 6C: Industrial Chemistry

Time: 3Hrs. **Max.Marks:75**

SECTION – A **5 x 5 = 25 M**

Answer any **FIVE** questions. Each question carries 5 Marks

1. What are different types of fertilizers.
2. What are mixed fertilizers. Give examples.
3. What are high technology ceramics.
4. Write the classification of cements and write constituents in it.
5. Write note on different types of paints.
6. What are water and oil paints.
7. How will you estimate sucrose.
8. Explain the manufacture of pulp.

SECTION – B **5 x 10 = 50 M**

Answer **ALL** the questions. Each question carries 10 M

9. a) How will you manufacture urea, calcium ammonium nitrate.

(OR)

b) How will you manufacture Ammonium phosphate and superphosphate.

10. a) What are ceramics. Write their types and manufacture process of Ceramics.

(OR)

b) How will you manufacture cement and explain setting process.

11. a) What are Heat retardant, eco friendly, fire retardant and plastic paints. Give examples and significance.

(OR)

b) What are objectives of coating surfaces. Explain preliminary treatment of surface and write classification of surface coatings.

12. a) Write in brief the manufacturing process of sugar.

(OR)

b) Explain the manufacturing process of sucrose from beet root.

13. a) Write in detail different steps in manufacturing of paper.

(OR)

b) Explain manufacture of soda pulp, sulphite pulp. Explain the refining and colouring of pulp.

B. Sc	Semester – V (Skill Enhancement Course- Elective)	Credits: 4
Course: 7C	Industrial Chemistry-2	Hrs/Wk:4

Learning Outcomes:

Students after successful completion of the course will be able to:

1. Identify the importance of industrial waste management.
2. Acquire a critical knowledge on the preparation and applications of organic polymers.
3. Demonstrate the analysis of water quality parameters.
4. Explain the sources of air pollution.

II. **Syllabus :***(Total Hours: 90 including Teaching, Lab, Field Skills Training, Unit tests etc.)*

Unit-1: Organic Polymers-1 **10 hours**

Basic definitions, degree of polymerization, classification of polymers- Natural and Synthetic polymers, Organic and In organic polymers, Thermoplastic and Thermo setting polymers, Plastics, Elastomers, Fibers and Resins, Linear, Branched and Cross-Linked polymers.

Unit-2: Organic Polymers-2 **10 hours**

Addition polymers and Condensation polymers, mechanism of polymerization- Free radical, ionic and Zeigler-Natta polymerization. Industrial manufacturing and applications of following polymers, Polystyrene, Poly acrylonitrile, Poly methacrylate, Poly methyl-methacrylate.

Unit-3: Air Pollution **8 hours**

Sources of air pollution, acid rain, photochemical smog, Greenhouse effect, Formation and depletion of ozone, sources and effects of various gaseous pollutants: NOx, SOx, SPM, CO, hydrocarbons, controlling methods of air pollution.

Unit-4: Analysis of water **10hours**

Determination of total hardness of water, Dissolved oxygen, BOD, COD, total dissolved solids, turbidity, alkalinity, determination of chloride using Mohr's method.

Unit-5: Industrial Waste Management **12hours**

Waste water treatment - primary, secondary & tertiary treatment. (All treatment methods in detail). Characteristics of solid wastes, methods of solid waste treatment and disposal, microbiology involved in solid waste disposal, methods of solid waste disposal-composting, sanitary landfilling- economic, aesthetic and environmental problems.

References:

1. E.Stocchi: *IndustrialChemistry*,Vol-I,EllisHorwoodLtd.UK
2. J.A.Kent: Riegel's *Handbook of Industrial Chemistry*, CBS Publishers, New Delhi.
3. P.C.Jain, M.Jain: *Engineering Chemistry*, DhanpatRai & Sons, Delhi.
4. R. Gopalan, D. Venkappayya, S. Nagarajan: *Engineering Chemistry*, Vikas Publications, New Delhi.
5. B.K.Sharma: *Engineering Chemistry*, Goel Publishing House, Meerut
6. O. P. Vermani, A. K. Narula: *Industrial Chemistry*, Galgotia Publications Pvt. Ltd., New Delhi.
7. A.K.De, *Environmental Chemistry*: New Age International Pvt, Ltd, New Delhi.
8. C.k.Varshney: *Water Pollution and Management*, Wiley Eastern Limited, Chennai.
9. S.S. Dara and D.D. Mishra: *Textbook of Environmental Chemistry and Pollution Control*, Revised edition, S.C.Hand &CoLtd.

B. Sc	Semester – V (Skill Enhancement Course- Elective)	Credits: 1
Course: 7C	Industrial Chemistry-2 Lab	Hrs/Wk:2

Lab work-Skills Outcomes:

On successful completion of this practical course, student shall be able to:

1. Learn the procedures for the determination of BOD and COD.
2. Demonstrate skills in the determination of chloride in the given water sample.
3. Acquire skills in determining the hardness of water.

Practical (Laboratory) Syllabus:(**30hrs**)

Determination of Hardness of water by EDTA titration.

1. Determination of Chemical Oxygen Demand (COD)
2. Determination of Biological Oxygen Demand (BOD)
3. Determination of chloride using Mohr's method.
4. Determination of pH, turbidity and total solids in water sample.
5. Determination of Ca^{+2} and Mg^{+2} in soil sample by flame photometry.
6. Determination of Ph in soil samples using pH-metry.

Lab References:

1. Textbook of Vogel's Quantitative Chemical Analysis, Sixth edition, Pearson.
2. Textbook on Experiments and Calculations in Engineering Chemistry, S.S.Dara, S.Chand.

Co-Curricular Activities

a) **Mandatory:***(Student training by teacher in field related skills: inlab:15, infield: 05 hours):*

1. **For Teacher**: Training of students by the teacher in laboratory and field for not less than15hours on the field related skills in determination of hardness of water, estimation of COD and BOD in water sample, determination chloride ion in water sample.
2. **For Student**: Student shall visit a related industry/chemistry laboratory in universities/research organizations/private sector facility and observe the measurement of water quality parameters. Write their observations and submit a hand written fieldwork/project work report not exceeding10 pages in the given format to the teacher.
3. Max marks for Fieldwork/project work Report: 05.
4. Suggested Format for Fieldwork/project work**:** *Title page, student details, index page, details of place visited, observations, findings, and acknowledgements.*
5. Unit tests (IE).

b) **Suggested Co-Curricular Activities**

1. Training of students by related industrial experts.
2. Assignments, Seminars and Quiz (on related topics).
3. Visits to facilities, firms, research organizations etc.
4. Invited lectures and presentations on related topics by field/industrial experts.

MODEL QUESTION PAPER (Sem-end. Exam)

B. Sc DEGREE EXAMINATIONS
Semester - III

Course 7C Industrial Chemistry-2

Time: 3Hrs. **Max.Marks:75**

SECTION – A **5 x 5 = 25 M**

Answer any **FIVE** questions. Each question carries 5 Marks

1. What are thermoplastic and thermosetting polymers.
2. Write applications of polystyrene, polyacrylonitrile.
3. Write industrial manufacturing of polymethacrylate.
4. Explain controlling methods of air pollution.
5. Explain green house effect.
6. Explain formation & depletion of ozone.
7. How will you determine Dissolved oxygen.
8. Write microbiology involved in solid waste disposal.

SECTION – B **5 x 10 = 50 M**

Answer **ALL** the questions. Each question carries 10 M

9. a) Classify polymers into Natural and Synthetic Polymers and Organic and Inorganic Polymers. Give examples.

(OR)

b) What are fibres, Resins, Linear, Branched and Cross linked polymers. Give examples.

10. a) Write the mechanism of ionic and Zeigler-Natta Polymerisation.

(OR)

b) Explain the industrial manufacturing of Polystyrene and polyacrylonitrile.

11. a) i. What are sources of air pollution. ii. Write about Acid rain and Photochemical smog.

(OR)

b) Write the sources and effects of NOx, SOx, CO.

12. a) How will you determine total hardness of water, BOD and COD.

(OR)

b) Define turbidity and alkalinity. Determine Chloride using Mohr's method.

13. a) Write in detail Primary, Secondary and Tertiary waste water treatment methods.

(OR)

b) What are characteristics of solid wastes. Write methods of solid waste treatment and disposal.

B. Sc	Semester – V (Skill Enhancement Course- Elective)	Credits: 4
Course: 6D	Environmental Chemistry	Hrs/Wk:4

Learning Outcomes:

Students after successful completion of the course will be able to:

1. Understand the environment functions and how it is affected by human activities.
2. Acquire chemical knowledge to ensure sustainable use of the world's resources and ecosystems services.
4. Engage in simple and advanced analytical tools used to measure the different types of pollution.
5. Explain the energy crisis and different aspects of sustainability.
6. Analyze key ethical challenges concerning biodiversity and understand the moral principles, goals and virtues important for guiding decisions that affect Earth's plant and animal life.

Syllabus :*(Total Hours: 90, including Teaching, Lab, Field Skills Training, Unit tests etc.)*

Unit-I Introduction **10h**

Environment Definition – Concept of Environmental chemistry- Scope and importance of environment in nowadays – Nomenclature of environmental chemistry – Segments of environment– Effects of human activities on environment – Natural resources–Renewable Resources–Solar and biomass energy and Nonrenewable resources – Thermal power and atomic energy – Reactions of atmospheric oxygen and Hydro logical cycle.

Unit -II

Air Pollution **10h**

Definition – Sources of air pollution – Classification of air pollution – Ambient air quality standards- Climate change – Global warming – Pollution from combustion systems- Acid rain – Photochemical smog – Greenhouse effect – Formation and depletion of ozone – Bhopal gas disaster–Instrumental techniques to monitor pollution – Controlling methods of air pollution.

Unit -III

Water pollution **10h**

Unique physical and chemical properties of water – Water quality standards and parameters – Turbidity- pH Dissolved oxygen – BOD, COD, Suspended solids, total dissolved solids, alkalinity– Hardness of water–Methods to convert temporary hard water in to soft water – Methods to convert permanent hard water into soft water – eutrophication and its effects –Industrial waste water treatment.

Unit -IV

Chemical Toxicology **10h**

Toxic chemicals in the environment – effects of toxic chemicals – cyanide and its toxic effects – pesticides and its biochemical effects – toxicity of lead, mercury, arsenic and cadmium- Solid waste management.

Unit -V

Ecosystem and biodiversity **10h**

Ecosystem

Concepts–structure–Functions and types of ecosystem–Abiotic and biotic components – Energy flow and Energy dynamics of ecosystem– Food chains – Food web– Tropic levels–Biogeochemical cycles (carbon, nitrogen and phosphorus)

Biodiversity

Definition – level and types of biodiversity – concept- significance – magnitude and distribution of biodiversity–trends-bio geographical classification of India–biodiversity at national, global and regional level.

List of Reference books:

1. Fundamentals of ecology by M.C.Dash
2. A Text book of Environmental chemistry by W. Moore and F.A. Moore
3. Environmental Chemistry by Samir k.Banerji
4. Water pollution, Lalude, MC Graw Hill
5. Environmental Chemistry, Anil Kumar De, Wiley Eastern ltd.
6. Environmental analysis, SM Khopkar (IIT Bombay)
7. Environmental Chemistry by BK Sharma & H Kaur, Goel publishing house.
8. Fundamentals of Environmental Chemistry, Manahan, Stanley. E
9. Applications of Environmental Chemistry, Eugene R. Wiener
10. Web related references suggested by teacher.

B. Sc	Semester – V (Skill Enhancement Course- Elective)	Credits: 1
Course: 6D	Environmental Chemistry Lab	Hrs/Wk:2

Lab work-Skills Outcomes:

On successful completion of this practical course, student shall be able to:

11. List out, identify and handle various equipment in Chemistry lab.
12. Learn the procedures of preparation of standard solutions.
13. Demonstrate skills in operating instruments.
14. Acquire skills in handling spectrophotometer.
15. Analyse water and soil samples.

Practical (Laboratory) Syllabus: (**30hrs**) (Max.50 Marks).

16. Identification of various equipment in the laboratory.
17. Determination of carbonate and bicarbonate in water samples by double titration method.
18. Determination of hardness of water using EDTA
    a) Permanent hardness b) Temporary hardness
19. Determination of Chlorides in water samples by Mohr's method.
20. Determination of pH, turbidity and total solids in water sample.
21. Determination of Ca^{+2} and Mg^{+2} in soil sample by flame photometry.
22. Determination of PH in soil samples using pH metry.

List of Reference books:

23. A Text Book of Quantitative Inorganic Analysis (3rd Edition)–A.I.Vogel
24. Water pollution, Lalude, MC Graw Hill
25. Environmental analysis, SM Khopkar (IIT Bombay)
26. Web related references suggested by teacher.

Co-Curricular Activities:

a) Mandatory: (Training of students by teacher on field related skills: 15hrs)

1. For Teacher: Skills training of students by the teacher in classroom, lab and field for not less than15 hours on field related quantitative techniques for the water quality parameters, soil pollution and air pollution.

2. For Student: Individual visit to any one of the local field agencies/research laboratories in universities/research organizations/private sector culminating writing and submission of a hand-written fieldwork/project work Report not exceeding 10 pages in the given format.

3. Max marks for Fieldwork/project work Report: 05.

4. Suggested Format for Fieldwork/project work: *Title page, student details, index page, details of places visited, observations, findings and acknowledgements.*

5. Unit tests (IE).

b) Suggested Co-Curricular Activities:

1. Training of students by related industrial experts.
2. Visits to research organizations and laboratories.
3. Invited lectures and presentations on related topics by field / industrial experts.
4. Assignments.
5. Seminars, Group discussions, Quiz, Debates etc. (on related topics).
6. Preparation of videos on tools, techniques and applications of spectrophotometry.

MODEL QUESTION PAPER (Sem-end. Exam)

B. Sc DEGREE EXAMINATIONS
Semester - III

Course 6D: Environmental Chemistry

Time: 3Hrs. **Max.Marks:75**

SECTION – A **5 x 5 = 25 M**

Answer any **FIVE** questions. Each question carries 5 Marks

1. Explain the scope and importance of environment in now a days.
2. Write about atomic energy.
3. What are acid rains.
4. Write a brief note on global warming
5. Explain the reasons for hardness of water.
6. Write note about solid waste management.
7. Write about functions and types of ecosystem.
8. Explain biodiversity at global level.

SECTION – B **5 x 10 = 50 M**

Answer **ALL** the questions. Each question carries 10 M

9. a) Write an essay on Renewable resources and non-renewable resources.

(OR)

b) Explain the reactions of atomospheric oxygen and Hydrological cycle.

10. a) Explain the formation and depletion of ozone. Write controlling methods of air pollution.

(OR)

b) Explain the instrumental techniques to monitor pollution.

11. a) Describe the methods used to convert permanent hard water to soft water.

(OR)

b) What are water quality standards and parameters. Define DO, BOD, COD.

12. a) What are toxic effects of cyanide on the environment.

(OR)

b) What are toxic effects of Pesticides, lead and mercury.

13. a) Outline the functions and types of ecosystem.

(OR)

b) Give a detailed account on biodeiversity.

B. Sc	Semester – V (Skill Enhancement Course- Elective)	Credits: 4
Course: 7D	Green Chemistry and Nanotechnology	Hrs/Wk:4

Learning Outcomes:

Students after successful completion of the course will be able to:

1. Understand the importance of Green chemistry and Green synthesis.
2. Engage in Microwave assisted organic synthesis.
3. Demonstrate skills using the alternative green solvents in synthesis.
4. Demonstrate and explain enzymatic catalysis.
5. Analyse alternative sources of energy and carry out green synthesis.
6. Carry out the chemical method of nanomaterial synthesis.

Syllabus: *Total Hours: 90, including Teaching, Lab, Field Training, Unit tests etc.)*

Unit-I Green Chemistry: Part- I **10 hrs**

Introduction-Definition of green Chemistry, Need for green chemistry, Goals of Green chemistry Basic principles of green chemistry. Green synthesis- Evaluation of the type of the reaction

i) Rearrangements (100% atom economic), ii) Addition reaction (100% atom economic). Organic reactions by Sonication method: apparatus required and examples of sonochemical reactions (Heck, Hunds dicker and Wittig reactions).

Unit- II Green Chemistry: Part- II **10 hrs**

A) Selection of solvent:

i) Aqueous phase reactions

ii) Reactions in ionic liquids, Heck reaction, Suzuki reactions, epoxidation.

Iii) Solid supported synthesis

B) Supercritical CO2: Preparation, properties and applications, (decaffeination, drycleaning)

C) Green energy and sustainability.

Unit-III Microwave and Ultrasound assisted green synthesis: **10 hrs**

Apparatus required, examples of MAOS (synthesis of fused anthroquinones, Leukart reductive amination of ketones) - Advantages and disadvantages of MAOS. Aldol condensation –Cannizzaro reaction- Diels-Alder reactions-Strecker's synthesis

Unit-IV Green catalysis and Green synthesis **10 hrs**.

Heterogeneous catalysis, use of zeolites, silica, alumina, supported catalysis - bio catalysis: Enzymes, microbes Phase transfer catalysis (micellar /surfactant)

1. Green synthesis of the following compounds: adipic acid, catechol, disodium menudo acetate (alternative Strecker's synthesis)

2. Microwave assisted reaction in water –Hoffmann elimination – methyl benzoate to benzoic acid – oxidation of toluene and alcohols–microwave assisted reactions in organic solvents. Diels-Alder reactions and decarboxylation reaction.

3. Ultrasound assisted reactions–sonochemical Simmons–Smith reaction (ultrasonic alternative to iodine)

Unit – V Nanotechnology in Green chemistry **10 hrs**

Basic concepts of Nano science and Nanotechnology – Bottom-up approach and Top-down approaches with examples – Synthesis of Nano materials – Classification of Nanomaterial – Properties and Application of Nanomaterial. Chemical and Physical properties of Nanoparticles – Physical synthesis of nanoparticles – Inert gas condensation - aerosol method - Chemical Synthesis of nanoparticles – precipitation and co-precipitation method, sol-gel method.

Lab work - Skills Outcomes:

On successful completion of this practical course, student shall be able to:

1. List out, identify and handle various equipment in the laboratory.
2. Learn the procedures of green synthesis.
3. Demonstrate skills in the preparation of Nanomaterials.
4. Acquire skills in Microwave assisted organic synthesis.
5. Perform some applications of Nanomaterials.

B. Sc	Semester – V (Skill Enhancement Course- Elective)	Credits: 1
Course: 7D	Green Chemistry and Nanotechnology Lab	Hrs/Wk:2

Practical (Laboratory) Syllabus: (30 hrs.) (Max.50 Marks).

1. Identification of various equipment in the laboratory.
2. Acetylation of 1^0 amine by green method: Preparation of acetanilide
3. Rearrangement reaction in green conditions: Benzil - Benzilic acid rearrangement
4. Radical coupling reaction: Preparation of 1,1-bis -2-naphthol
5. Green oxidation reaction: Synthesis of adipicacid
6. Preparation and characterization of biodiesel from vegetable oil/ waste cooking oil
7. Preparation and characterization of Nanoparticles of gold using tea leaves.
8. Benzoin condensation using Thiamine Hydrochloride as a catalyst instead of cyanide.
9. Photo reduction of Benzophenone to Benzopinacol in the presence of sunlight.

Reference books:

1. Green Chemistry Theory and Practical. P.T.Anatas and J.C. Warner
2. Green Chemistry V.K. Ahluwalia Narosa, New Delhi.
3. Real world cases in Green Chemistry M.C. Cann and M.E. Connelly
4. Green Chemistry: Introductory Text M.Lancaster: Royal Society of Chemistry (London)
5. Principles and practice of heterogeneous catalysis, Thomas J.M.,Thomas M.J., John Wiley
6. Green Chemistry: Environmental friendly alternatives R S Sanghli and M.M Srivastava, Narosa Publications
7. Nanotechnology: Health and Environmental Risks, Jo Anne Shatkin, CRC Press (2008).
8. Green Processes for Nanotechnology: From Inorganic to Bioinspired Nanomaterials, Vladimir A. Basiuk, Elena V. Basiuk Springer (2015)
9. Web related references suggested by teacher.

Co-Curricular Activities:

a) Mandatory: (*Training of students by teacher on field related skills: 15 hours*)

1. **For Teacher:** Training of students by the teacher in the classroom or in the laboratory for not less than 15 hours on field related quantitative techniques for Enzymatic catalysis, Microwave assisted organic synthesis, Biodiesel preparation etc.

2. **For Student:** Individual visit to any one of the local field agencies, research laboratories in universities/research organizations/private sector culminating writing and submission of a hand-written fieldwork/project work Report not exceeding 10 pages in the given format.

3. Max marks for fieldwork/project work Report: 05.

4. Suggested Format for fieldwork/project work: *Title page, student details, index page, details of places visited, observations, findings and acknowledgements.*

5. Unit tests (IE).

b) Suggested Co-Curricular Activities:

1. Training of students by related industrial experts.
2. Visits to research organizations and laboratories.
3. Invited lectures and presentations on related topics by field / industrial experts.
4. Assignments.
5. Seminars, Group discussions, Quiz, Debates etc. (on related topics).
6. Preparation of videos on tools, techniques and applications of Green chemistry and Nano synthesis.

MODEL QUESTION PAPER (Sem-end. Exam)

B. Sc DEGREE EXAMINATIONS
Semester - III

Course 7D: Green Chemistry and Nanotechnology

Time: 3Hrs. **Max.Marks:75**

SECTION – A **5 x 5 = 25 M**

Answer any **FIVE** questions. Each question carries 5 Marks

1. What is Green Chemistry. Write its goals.
2. Write note on green energy and sustainability.
3. Write Heck reaction using sonochemical method.
4. Explain Diel's Alder reaction.
5. Write note on phase transfer catalysis.
6. Write Simmons – smith reaction using ultrasound method.
7. Write a note on nanotechnology.
8. Write applications of nanomaterials.

SECTION – B **5 x 10 = 50 M**

Answer **ALL** the questions. Each question carries 10 M

9. a) Write the basic Principles of green chemistry.

(OR)

b) What are atom economy reactions. Explain wittig reaction using sonication method.

10. a) Write Suzuki reaction and epoxidation.

(OR)

b) Explain about Green energy and sustainability.

11. a) What are MAOS. Write its advantages and disadvantages.

(OR)

c) Explain Aldol Condensation and Cannizaro reaction.

12. a) Write Green Synthesis of Aidpic acid, Catechol and disodium monoiodo acetate.

(OR)

b) Explain microwave assisted Diel's - Alder reaction and decarboxylation reactions.

13. a) Explain Bottom up and Top Down approachs of synthesis of nanomaterials with examples.

(OR)

b) Write the classification, properties of nanoparticles. Explain Sol- gel method.

B. Sc	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course: 6E	Analytical Methods in Chemistry	Hrs/Wk:4

Learning Outcomes:

Students after successful completion of the course will be able to:

1. Understand the various methods involved in Quantitative analysis.
2. Acquire a critical knowledge on separation techniques.
3. Demonstrate skills related to Chromatographic techniques through hands on experience.
4. Able to engage in safe and accurate laboratory practices by handling laboratory glassware, Equipment and chemical reagents appropriately.
5. Comprehend the applications of Chromatographic techniques in different fields.

Syllabus: *Total Hours: 90, including Teaching, Lab, Field Skills Training, Unit tests etc.)*

Unit-1: Quantitative analysis (10hrs)

Importance in various fields of science, steps involved in chemical analysis**.** Principles of volumetric analysis: Theories of acid-base, redox, complex metric, iodometric and precipitation titrations Detection of end point in redox titration, choice of indicators for the saturations. Principles of gravimetric analysis: precipitation, coagulation, peptization, co-precipitation, post-precipitation, digestion, filtration and washing of precipitate, drying and ignition.

Unit-2: Treatment of analytical data: (10hrs)

Types of errors, significant figures and its importance, accuracy-methods of expressing accuracy, absolute and relative errors, error analysis and minimization of errors.

Precision - methods of expressing precision, standard deviation and confidence limit. The correlation coefficient.

Unit-3: Separation techniques in Chemical analysis: (10hrs)

Solvent Extraction: Introduction, principle, techniques, factors affecting solvent extraction, Batch extraction, continuous extraction and counter current extraction. Synergism. Application-Determination of Iron (III).

Ion Exchange: Introduction, action of ionex change resins, separation of inorganic mixtures, applications.

Unit– 4: Chromatography: Part - I (10hrs)

Classification of chromatography methods, principles of differential migration adsorption phenomenon, Nature of adsorbents, solvent systems, R_f values, factors effecting R_f values.

Paper Chromatography: Principles, R_f values, experimental procedures, choice of paper and solvent systems, developments of chromatogram-ascending, descending and radial. Two dimensional chromatography, applications.

Unit– 5: Chromatography: Part - II (10hrs)

Thin layer Chromatography (TLC): Advantages. Principles, factors effecting R_f values. Experimental procedures. Adsorbents and solvents. Preparation of plates. Development of the chromatogram. Detection of the spots. Applications.

Column Chromatography: Principles, experimental procedures, Stationary and mobile Phases, Separation techniques, Applications. HPLC: Basic principles and applications.

Lab work-Skills Outcomes:

On successful completion of this practical course, student shall be able to:

1. List out, identify and handle various equipment in Analytical Chemistry lab.
2. Learn the procedures of preparation of primary and secondary standard solutions.
3. Demonstrate skills in the preparation of Paper, Thin layer and column Chromatography.
4. Acquire skills in observing the Chromatogram.

B. Sc	Semester – V (Skill Enhancement Course- Elective)	Credits: 1
Course: 6E	Analytical Methods in Chemistry Lab	Hrs/Wk:2

5. Perform some separation techniques of Organic compounds.

Practical (Laboratory) Syllabus :(30hrs) (Max.50Marks).

1. Identification and handling of various laboratory equipment.
2. Determination of Zn(II)/ Mg(II) using EDTA
3. Determination of Fe (II) present in an Iron tablet using $KMnO_4$ -Redox titration.
4. Determination of Saponification value of oil and Iodine value of oil.
5. Paper chromatographic separation of $Fe3^+$, Al^{3+}, and Cr^{3+}.
6. Separation and identification of the monosaccharaides present in the given mixture (glucose & fructose) by paper chromatography. Reporting the Rf values.
7. Chromatographic separation of the active ingredients of plants, flowers and juices by TLC.
8. Separation by Column Chromatography – Mixture of Ortho and Para Nitro anilines.

List of Reference Books

1. Analytical Chemistry by Skoog and Miller
2. A text book of qualitative in organic analysis by A.I.Vogel
3. Nano chemistry by Geoffrey Ozin and Andre Arsenault
4. Stereo chemistry by D.Nasipuri
5. Organic Chemistry by Clayden
6. Analytical Chemistry by Gary D. Christian, 6^{th} edition
7. Chemistry experiments for instrumental methods, Donald T Sawyer William
8. Instrumental methods of analysis, Willard, Merit, Dean, 6^{th} edition.
9. Web related references suggested by teacher.

Co-Curricular Activities:

a) Mandatory: (training of students by teacher on field related skills: 15 hrs.**)**

1. For Teacher: Training of students by the teacher in laboratory and field for not less than 15 hours on field related Quantitative techniques like Separation techniques, preparation by Column, preparation of TLC and determination of the purity of the sample.

2. For Student: Individual visit to any one of the Field agency, research laboratories in universities/research organizations/private sector culminating writing and submission of a hand-written fieldwork/project work Report not exceeding 10 pages in the given format.

3. Max marks for Fieldwork/project work Report: 05.

4. Suggested Format for Fieldwork/project work**:** *Title page, student details, index page, details of places visited, observations, findings and acknowledgements.*

5. Unit tests (IE).

b) Suggested Co-Curricular Activities:

1. Training of students by related industrial experts.
2. Visitor research organizations and laboratories.
3. Invited lectures and presentations on related topics by field / industrial experts.
4. Assignments.
5. Seminars, Group discussions, Quiz, Debates etc. (on related topics).
6. Preparation of videos on tools, techniques and applications of chromatography.

MODEL QUESTION PAPER (Sem-end. Exam)

B. Sc DEGREE EXAMINATIONS

Semester - III

Course 6E: Analytical Methods in Chemistry

Time: 3Hrs. **Max.Marks:75**

SECTION – A **5 x 5 = 25 M**

Answer any **FIVE** questions. Each question carries 5 Marks

1. Write note on Complexometric titrations. Give example.
2. What are precipitation titrations. Give examples.
3. Write a note on types of errors.
4. What is solvent extraction. Explain with an example.
5. Write applications of ion exchange separations.
6. What is Chromatography. Write principle involved in it.
7. What is two dimensional chromatography.
8. Write the applications of HPLC.

SECTION – B **5 x 10 = 50 M**

Answer **ALL** the questions. Each question carries 10 M

9. a) What are acid base titrations. Explain in detail.

(OR)

b) Write a detailed note on Gravimetric analysis.

10. a) Discuss various types of errors with suitable examples.

(OR)

b) What is accuracy & precision. Write methods of expressing precession.

11. a) Explain batch extraction, continuous extraction and counter current extraction.

(OR)

b) What is Ion exchange chromatography. Write action of ion exchange resins. How will you separate inorganic mixtures using Ion exchangers.

12. a) Write the principle and experimental procedure involved in paper chromatography.

(OR)

b) Define Rf. Write the factors influencing Rf Values. Write about nature of adsorbents, solvents used in Chromatography.

13. a) Write the principle and applications of thin layer chromatography. Discuss the preparation of TLC plates.

(OR)

b) Discuss about column chromatography and write its applications.

ADIKAVI NANNAYA UNIVERISITY:: RAJAHMENDRAVARAM

B.Sc Chemistry Syllabus (w.e.f: 2020-21 A.Y)

B. Sc	Semester – V (Skill Enhancement Course- Elective)	Credits:4
Course: 7E	Cosmetics and Pharmaceutical Chemistry	Hrs/Wk:4

Learning Outcomes:

Students after successful completion of the course will be able to:

1. Explain the principles of formulation and application of Cosmetics & perfumes.
2. Acquire a critical knowledge on synthetic techniques of drugs.
3. Demonstrate the skills in various aspects of the fermentation technology and apply for production.
4. Comprehend the applications offer mentation.

Syllabus: *Total Hours: 90, including Teaching, Lab, Field Skills Training, Unit tests etc.)*

Unit- I Chemistry of Cosmetics (8hrs)

A general study including preparation and uses of the following: Hair dye, hair spray, shampoo, suntan lotions, face powder, lipsticks, talcum powder, nail enamel, creams (cold, vanishing and shaving creams), antiperspirants and artificial flavours.

Unit- II Chemistry of Perfumes (8hrs)

Essential oils and their importance in cosmetic industries with reference to Eugenol, Geranial, sandalwood oil, eucalyptus, rose oil, 2-phenyl ethyl alcohol, Jasmine, Civet one, Mascon.

Unit–III Drugs & Pharmaceuticals – I (10hrs)

Drug discovery, design and development; Basic Retrosynthetic approach. Synthesis of the representative drugs of the following classes: analgesics agents, antipyretic agents, anti- inflammatory agents (Aspirin, paracetamol, ibuprofen)

Unit–IV Drugs & Pharmaceuticals - II (12hrs)

Synthesis of the representative drugs of the following classes: Antibiotics (Chloramphenicol); antibacterial and antifungal agents (Sulphonamides; Sulphacetamide, Trimethoprim); antiviral agents (Acyclovir), Central Nervous System agents (Phenobarbital, Diazepam), Cardiovascular (Glycerol triturate), antilaprosy (Daps one), HIV-AIDS related drugs (AZT-Zidovudine).

Unit – V Fermentation (12hrs)

Aerobic and anaerobic fermentation. Production of (i) Ethyl alcohol and citric acid, (ii) Antibiotics; Penicillin, Cephalosporin, Chloromycetin and Streptomycin, (iii) Lysine, Glutamic acid, Vitamin B_2, Vitamin B_{12} and Vitamin C.

Lab work-Skills Outcomes:

On successful completion of this practical course, student shall be able to:

1. The ability to develop comprehensive product development programs to meet new product criteria and timing.
2. Acquire skills in the preparation of Cosmeceuticals.
3. Demonstrate proficiency in the experimental techniques for fermentation and microbial production of enzymes.
4. Carry out perfume testing with the knowledge of perfumes.
5. Learn the procedure of synthesis of drugs.
6. Critically develop, apply, report, interpret and reflect on strategies for collecting data in the lab and field.

B. Sc	Semester – V (Skill Enhancement Course- Elective)	Credits: 1
Course: 7E	Cosmetics and Pharmaceutical Chemistry Lab	Hrs/Wk:2

Practical (Laboratory) Syllabus :(**30hrs**)

Identification of various equipment in the laboratory

1. Preparation of talcum powder.
2. Preparation of shampoo.
3. Preparation of hair remover.
4. Preparation of face cream.
5. Preparation of nail polish and nail polish remover.
6. Preparation of Aspirin and it's analysis.
7. Preparation of Magnesium bisilicate (Antacid).
8. Fermentation process.

Reference Books:

1. A handbook of lndustrial Organic Chemistry by Samuel P Sadtler, JB Lippincott company.
2. Handbook Industrial Chemistry by Mohammad Farhat Ali Khan, First edition
3. Related online methods available.
4. Industrial Chemistry, E. Stocchi: Vol -I, Ellis Horwood Ltd. UK.
5. Engineering Chemistry P.C. Jain, M. Jain:,Dhanpat Rai & Sons, Delhi.
6. Industrial Chemistry, Sharma, B.K. & Gaur, , Goel Publishing House, Meerut(1996)
7. Introduction to Medicinal Chemistry, G.L. Patrick: Oxford University Press, UK.
8. Medicinal and Pharmaceutical Chemistry, Hakishan, V.K. Kapoor:, Vallabh Prakashan, Pitampura, New Delhi.
9. Principles of Medicinal Chemistry, William O. Foye, Thomas L., Lemke, David A. William: B.I. Waverly Pvt. Ltd. New Delhi.
10. Industrial Microbiology, 3rd Edition, JR Casida L.E. (2015New Age International (P) Limited Publishers, New Delhi, India.
11. Industrial Microbiology: An Introduction. 1st Edition, Waites M.J., Morgan N.L., Rockey J.S. and Higton G. (2001) Blackwell Science, London, UK.
12. Microbiology. 5th Edition, Pelczar M.J., Chan E.C.S. and Krieg N.R. (2003) Tata McGraw-Hill Publishing Company Limited, New Delhi.

Co-Curricular Activities:

a) **Mandatory :***(Training of students by teacher on field related skills: 15hrs)*

1. For Teacher: Training of students by the teacher in laboratory and field fornotlessthan15hoursonfield skills/techniques like purification of the crude, Separation techniques, synthesis of simple drugs etc.

2. For Student: Individual visit to any one of the related local agencies, cosmetic industry, pharmaceutical laboratories in universities / research organizations / private sector culminating writing and submission of a hand-written fieldwork/project work Report not exceeding 10 pages in the given format.

3. Max marks for Fieldwork/project work Report: 05.

4. Suggested Format for Fieldwork/project work**:** *Title page, student details, index page, details of places visited, observations, findings and acknowledgements.*

5. Unit tests (IE).

b) **Suggested Co-Curricular Activities**

1. Training of students by related industrial experts.
2. Assignments(including technical assignments like identifying tools in plant biotechnology and their handling, operational techniques with safety and security, IPR)
3. Seminars, Group discussions, Quiz, Debates etc. (on related topics).
4. Preparation of videos on tools and techniques in plant biotechnology.
5. Collection of material/figures/photos related to products of plant tissue culture, writing and organizing them in a systematic way in a file.
6. Visits to plant tissue culture/biotechnology facilities, firms, research organizations etc.
7. Invited lectures and presentations on related topics by field/industrial experts.

MODEL QUESTION PAPER (Sem-end. Exam)

B. Sc DEGREE EXAMINATIONS
Semester - III

Course 7E: Cosmetics and Pharmaceutical Chemistry

Time: 3Hrs. **Max.Marks:75**

Answer any **FIVE** questions. Each question carries 5 Marks

1. Give a detailed outline of the method of preparation of lipstick.
2. Differentiate between Vanishing and cold creams. Write their preparation.
3. What are essential oils. Write their importance.
4. Write a note on drug discovery and drug design.
5. Write synthesis of chloramphenicol.
6. What are CNS agents. Give examples.
7. Write about aerobic fermentation.
8. Write the production of ethyl alcohol and citric acid.

SECTION – B 5 x 10 = 50 M

Answer **ALL** the questions. Each question carries 10 M

9. a) Write the preparation and uses of Hair dye, hair spray and nail enamels

(OR)

b) Write the preparation and uses of Shampoo and face powder.

10. a) What do you mean by cosmetics. Explain with the help of suitable examples its various types.

(OR)

b) Write the importance of sandalwood oil, eucalyptus oil and rose oil in cosmetic industries.

11. a) Discuss the retrosynthetic approach in drug development by taking an example.

(OR)

b) Write the synthesis of aspirin and paracetamol.

12. a) Write the synthesis of any one antibiotic and antifungal agent.

(OR)

b) Write the synthesis of any one antilaprosy and HIV-AIDS related drugs.

13. a) Discuss the production of Cephalosporin in detailed.

(OR)

b) What is fermentation. Discuss how fermentation can be used for the industrial production of vitamin B^{12} and vitamin C.

UG PROGRAM (4 Years Honors)
CBCS - 2020-21

B.Sc
PHYSICS

Syllabus and Model Question Papers

TABLE OF CONTENTS

Note: BOS is to providefinal soft copy in PDF and word formats and four copies of hard copies in bounded form to the office of Dean Academic affairs.

1. Resolutions of the Board of Studies

Meeting held on: Dt.22.01.2021.....Time:10.00AM
At: ANUR, Convention Hall, Rjy

Agenda:

1. Adoption of vised-common program structure and revising/updating course-wise syllabi as per guidelines issued by APSHE.
2. Adoption of regulations on scheme of examination and marks/grading system of university UG programme.
3. Preparationof Model Courses in prescribed format.
4. List ofequipment/software requirement for each lab/ practical.
5. Eligiblity of student joining in the course.
6. Eligiblity of faculty for teaching the course.
7. Specific instructions to the teachers/ Course-setters / CS/ Course Evaluator.
8. List of Course-setters/ Course evaluators.

Members present:

1. Dr. K. Srinivas Rao Chairman, VSM College (A), Ramachandrapuram.Ao
2. Dr. S Rajya Laskhmi, Coordinator, ANUR, Rajahmundry.
3. Sri Ch Phani Kumar, Member, Aditya Degree College for Women, Rajamundry.

Resolutions:

1. Resolved to adopt the revised common program structure and verifying course wise syllabus as per guidelines issued by APSHE.
2. Resolved to continue the scheme of examination, pattern of examination external 75Marks and internal assessment 25Marks. However for all Practical LSC and SDC no internal assesment. All practical courses will be conducted for 50Marks and 3 Hrs duration. For evaluation of practical present system is followed.
3. Model Question Courses are prepared as per guidelines given by APSHE.
4. Also resolved to conduct piratical 2hrs per week and 4hrs theory per week. List of practical is revised.
5. Opinion of members taken into consideration for eligibility into course.
6. Resolved teaching staff eligibility as per guidelines.
7. By taking the recommendations of member guidelines are fomulated for question Courses setters and others.
8. List of Course setters is approved by BOS.
9. Panel of examiners is also approved by BOS.

UG Program (4 years Honors) Structure (CBCS)

2020-21 A. Y., onwards

BACHLOR OF SCIENCE

(3rd and 4th year detailed design will be followed as per APSCHE GUIDELINES)

Subjects/ Semesters		I		II		III		IV		V		VI			
		H/W	C	H/W	C	H/W	C	H/W	C	H/W	C	H/W	C		
Languages												THIRD PHASE of APPRENTICESHIP Entire 5th / 6th Semester		FIRST and SECOND PHASES (2 spells) of APPRENTICESHIP between 1st and 2nd year and between 2nd and 3rd year (two summer vacations).	
English		4	3	4	3	4	3								
Language (H/T/S)		4	3	4	3	4	3								
Life Skill Courses		2	2	2	2	2+2	2+2								
Skill Development Courses		2	2	2+2	2+2	2	2								
Core Papers															
M-1	C1 to C5	4+2	4+1	4+2	4+1	4+2	4+1	4+2 4+2	4+1 4+1						
M-2	C1 to C5	4+2	4+1	4+2	4+1	4+2	4+1	4+2 4+2	4+1 4+1						
M-3	C1 to C5	4+2	4+1	4+2	4+1	4+2	4+1	4+2 4+2	4+1 4+1						
M-1	SEC (C6,C7)									4+2 4+2	4+1 4+1				
M-2	SEC (C6,C7)									4+2 4+2	4+1 4+1				
M-3	SEC (C6,C7)									4+2 4+2	4+1 4+1				
Hrs/ W (Academic Credits)		30	25	32	27	32	27	36	30	36	30	0	12	4	4
Project Work															
Extension Activities (Non Academic Credits)															
NCC/NSS/Sports/Extra Curricular									2						
Yoga							1		1						
Extra Credits															
Hrs/W (Total Credits)		30	25	32	27	32	28	36	33	36	30	0	12	4	4

M= Major; C= Core; SEC: Skill Enhancement Courses

Marks & Credits distribution: UG-Sciences

Sl. No	Course type	No. of courses	Each course teaching Hrs/wk	Credit for each course	Total credits	Each course evaluation			Total marks
						Conti-Assess	Univ-exam	Total	
1	English	3	4	3	9	25	75	100	300
2	S.Lang	3	4	3	9	25	75	100	300
3	LS	4	2	2	8	0	50	50	200
4	SD	4	2	2	8	0	50	50	200
5	Core/SE -I	5+2	4+2	4+1	35	25	75+50	150	1050
	Core/SE -II	5+2	4+2	4+1	35	25	75+50	150	1050
	Core/SE -III	5+2	4+2	4+1	35	25	75+50	150	1050
6	Summer-Intern	2		4	8		100	200	200
7	Internship/ Apprentice/ on the job training	1		12	12		200	200	200
		38			**159**				**4550**
8	**Extension Activities (Non Academic Credits)**								
	NCC/NSS/Sports/ Extra Curricular			2	2				
	Yoga	2		1	2				
	Extra Credits								
	Total	**40**			**142**				

DETAILS OF COURSE TITLES & CREDITS

Sem	Course no.	Course Name	Course type (T/L/P)	Hrs./Week (Science: 4+2)	Credits (Science: 4+1)	Max. Marks Cont/ Internal/Mid Assessment	Max. Marks Sem-end Exam
I	1	Mechanics, Waves & Oscillations	T	4	4	25M	75M
	2	Practila course -1	L	2	1	0	50M
II	3	Wave Optics	T	4	4	25M	75M
	4	Practial Course - 2	L	2	1	0	50M
III	5	Heat & Thermodynamic	T	4	4	25M	50M
	6	Practial Course - 3	L	2	1	0	50M
IV	7	Electricity,Magnetism &Electronics	T	4	4	25M	50M
	8	Practical Course - 4	L	2	1	0	50M
	9	Modern Physics	T	4	4	25M	50M
	10	Practical Course -5	L	2	1	0	25M
V	6A	Optical Instruments andOptometry	T	4	4	25M	50M
		Optical Instruments and Optometry Lab	L	2	1	0	25M
	7A	Optical Imaging and Photography	T	4	4	25M	50M
		Optical Imaging and Photography Lab	L	2	1	0	25M
	OR						
	6B	Low Temperature Physics & Refrigeration	T	4	4	25M	50M
		Low Temperature Physics & Refrigeration Lab	L	2	1	0	25M
	7B	Solar Energy and Applications	T	4	4	25M	50M
		Solar Energy and Applications Lab	L	2	1	0	25M
	OR						
	6C	Applications of Electricity & Electronics	T	4	4	25M	50M
		Applications of Electricity & Electronics Lab	L	2	1	0	25M
	7C	Electronic Instrumentation	T	4	4	25M	50M
		Electronic Instrumentation Lab	L	2	1	0	25M

Note: *Course type code: T: Theory, L: Lab, P: Problem solving

Note 1: For Semester–V, for the domain subject **PHYSICS**, any one of the three pairs of SECs shall be chosen as courses 6 and 7, i.e., 6A & 7A or 6B & 7B or 6C & 7C. The pair shall not be broken (ABC allotment is random, not on any priority basis).

Note 2: One of the main objectives of Skill Enhancement Courses (SEC) is to inculcate field skills related to the domain subject in students. The syllabus of SEC will be partially skill oriented. Hence, teachers shall also impart practical training to students on the field skills embedded in the syllabus citing related real field situations.

Note 3: To insert assessment methodology for Internship/ on the Job Training/Apprenticeship under the revised CBCS as per APSCHE Guidelines.

- **First internship (After 1st Year Examinations):** Community Service Project. To inculcate social responsibility and compassionate commitment among the students, the summer vacation in the intervening 1st and 2nd years of study shall be for Community Service Project (the detailed guidelines are enclosed).
- **Credit For Course: 04**

- **Second Internship (After 2nd Year Examinations):** Apprenticeship / Internship / on the job training / In-house Project / Off-site Project. To make the students employable, this shall be undertaken by the students in the intervening summer vacation between the 2nd and 3rd years (the detailed guidelines are enclosed).
- **Credit For Course: 04**

- **Third internship/Project work (6th Semester Period):**
  During the entire 6th Semester, the student shall undergo Apprenticeship / Internship / On the Job Training. This is to ensure that the students develop hands on technical skills which will be of great help in facing the world of work (the detailed guidelines are enclosed).
- **Credit For Course:12**

a. Proposed combination subjects:

   Physics is one of the subject at Graduation in B.Sc (Mathematics, Physics and Chemistry,B Sc (Mathematics, Physics and Computer Science), B. Sc. (Mathematics, Physics and Electronics, B. Sc. (Mathematics, Physics and Geology), B. Sc. (Geology, Physics and Chemistry).

b. Student eligibility for joining in the course:
   PHYSICS is the one of the subject in Intermediate Physics.

c. Faculty eligibility for teaching the course
   PG in Physics as per UGC norms.

d. List of Proposed Skill enhancement courses with syllabus, if any --- NO ----

e. Any newly proposed Skill development/Life skill courses with draft syllabus and required resources
   ..... NO .....

f. Required instruments/software/ computers for the course (Lab/Practical course-wise required i.e., for a batch of 15 students)

Sem. No.	Lab/Practical Name	Names of Instruments/Software/ computers required with specifications	Brand Name	Qty Required
1	P. Course 1:	Travelling MicroScope, Fly Wheel, Aspirator bottle, Compound pendulum, Stop Watches, Sono meter, Melde's apparatus, Screw gauge, Tuning forks set	Micron[1], PISCO	Each 5
2	P. Course - 2	Spectrometer, Transmission Grating, Prisim, Polarimeter, Telescope, plane glass plates, sodium vapor lamp, Mercury lamp, Convex lenses and Mercury	Micron, PISCO	Each 5
3.	P.Course - 3	Joules calorimeter, Lees apparatus, Electrical Kettle, Thermocouple, Stefans constant appratus, CarryFosters bridge	Micron, PISCO	Each 5
4.	P. Course - 4	LCR kit, Power supply, Ammeter, Voltmeter, Digital Multi Meter, Stewart & Gee's apparatus, Transister charactersitics kit, Half adder & Full adder kit and barmagnets	Micron, PISCO	Each 5
5.	P. Course - 5	e/m kit, photo cell kit, energy band gap kit, thermister kit, GM Counter with source	Micron, PISCO	

g. List of Suitable levels of positions eligible in the Govt /Pvt organizations

Suitable levels of positions for these graduates either in industry/govt organization like., technical assistants/ scientists/ school teachers., clearly define them, with reliable justification

S.No	Position	Company/ Govt organization	Remarks	Additional skills required, if any
1.	Clerk	IBPS		Skill in functional English, and aptitude.
2.	SSC	Central Govt.		Skill in functional English, and aptitude with GK.

3.	Assit Programmer	MNC (Soft ware Companies)		Skill in functional English, and aptitude and expected domain skills
4.	Technical assistant	Pharma copanies,	Chemistry background student	Along with aptitude and English, domain skills.

h. List of Govt. organizations / Pvt companies for employment opportunities or internships or projects

S.No	Company/ Govt organization	Position type	Level of Position			
1	A V V V Prasad	Managing Director		Solar Systems Kakinada	944o573389	

i. Any specific instructions to the teacher /Course setters/Exam-Chief Superintendent
1. Follow the syllabus prescribed by BoS and see that no deviation.
2. Questions in Course should clear and there should no ambiguity.
3. In Translation into telugu care should be taken, some case question is entirely different in telugu and english.
4. Minimum importance should be given to numerical problemls,
5. Log tables and Calculators may be allowed

3. Program objectives, outcomes, co-curricular and assessment methods

B Sc	PHYSICS

1. Aim and objectives of UG program in Subject:
   To align with emerging and employment areas.
2. Learning outcomes of Subject
   Semester - 1: Mechanics, Waves & Oscillations:

On successful completion of this course, the students will be able to:

- Understand Newton's laws of motion and motion of variable mass system and its application to rocket motion and the concepts of impact parameter, scattering cross section.
- Apply the rotational kinematic relations, the principle and working of gyroscope and itapplications and the processional motion of a freely rotating symmetric top.
- Comprehend the general characteristics of central forces and the application of Kepler's laws to describe the motion of planets and satellite in circular orbit through the study of law of Gravitation.
- Understand postulates of Special theory of relativity and its consequences such as length contraction, time dilation, relativistic mass and mass-energy equivalence.
- Examine phenomena of simple harmonic motionand the distinction between undamped, damped and forced oscillations and the concepts of resonance and quality factor with reference to damped harmonic oscillator.
- Appreciate the formulation of the problem of coupled oscillations and solve them to obtain normal modes of oscillation and their frequencies in simple mechanical systems.
- Figure outthe formation of harmonics and overtones in a stretched string and acquire the knowledge on Ultrasonic waves, their production and detection and their applications in different fields.

Semester - 2: Wave Optics:

On successful completion of this course, the student will be able to:

- Understand the phenomenon of interference of light and its formation in (i) Lloyd's single mirror due to division of wave front and (ii) Thin films, Newton's rings and Michelson interferometer due to division of amplitude.
- Distinguish between Fresnel's diffraction and Fraunhoffer diffraction and observe the diffraction patterns in the case of single slit and the diffraction grating.
- Describe the construction and working of zone plate and make the comparison of zone plate with convex lens.
- Explain the various methods of production of plane, circularly and polarized light and their detection and the concept of optical activity..
- Comprehend the basic principle of laser, the working of He-Ne laser and Ruby lasers and their applications in different fields.3
- Explain about the different aberrations in lenses and discuss the methods of minimizing them.
- Understand the basic principles of fibreoptic communication andexplore the **field of**

Holography and Nonlinear optics and their applications.

Semester - 3 : Heat and Thermodynamics:

On successful completion of this course, the student will be able to:

- Understand the basic aspects of kinetic theory of gases, Maxwell-Boltzman distribution law, equipartition of energies, mean free path of molecular collisions and the transport phenomenon in ideal gases
- Gain knowledge on the basic concepts of thermodynamics, the first and the second lawof thermodynamics, the basic principles of refrigeration,the concept of entropy,the thermodynamic potentials and their physical interpretations.
- Understand the working of Carnot's ideal heat engine, Carnot cycle and its efficiency
- Develop critical understanding of concept of Thermodynamic potentials, the formulation of Maxwell's equations and its applications.
- Differentiate between principles and methods to produce low temperature and liquefyair and also understand the practical applications of substances at low temperatures.
- Examine the nature of black body radiations and the basic theories.

Semester - 4 : Electricity, Magnetism and Electronics:

On successful completion of this course, the students will be able to:

- ❖ Understand the Gauss law and its application to obtain electric field in different cases and formulate the relationship between electric displacement vector, electric polarization, Susceptibility, Permittivity and Dielectric constant.
- ❖ Distinguish between the magnetic effect of electric current and electromagnetic induction and apply the related laws in appropriate circumstances.
- ❖ Understand Biot and Savart's law and Ampere's circuital law to describe and explain the generation of magnetic fields by electrical currents.
- ❖ Develop an understanding on the unification of electric and magnetic fields and Maxwell's equations governing electromagnetic waves.
- ❖ Phenomenon of resonance in LCR AC-circuits, sharpness of resonance,Q- factor,Power factor and the comparative study of series and parallel resonant circuits.
- ❖ Describe the operation of p-n junction diodes, zener diodes, light emitting diodes and transistors
- ❖ Understand the operation of basic logic gates and universal gates and their truth tables.

Semester - 4: Modern Physics :

On successful completion of this course, the students will be able to:

- ❖ Develop an understanding on the concepts of Atomic and Modern Physics, basic elementary quantum mechanics and nuclear physics.
- ❖ Develop critical understanding of concept of Matter waves and Uncertainty principle.

- ❖ Get familiarized with the principles of quantum mechanics and the formulation of Schrodinger wave equation and its applications.
- ❖ Examine the basic properties of nuclei, characteristics of Nuclear forces, salient features of Nuclear models and different nuclear radiation detectors.
- ❖ Classify Elementary particles based on their mass, charge, spin, half life andinteraction.
- ❖ Get familiarized with the nano materials, their unique properties and applications.
- ❖ Increase the awareness and appreciation of superconductors and their practical applications.

3. Recommended Skill enhancement courses: (Titles of the courses given below and details of the syllabus for 4 credits (i.e., 2 units for theory and Lab/Practical) for 5 hrs class-cum-lab work

..... NO .....

4. Recommended Co-curricular activities:(Co-curricular Activities should not promote copying from text book or from others' work and shall encourage self/independent and group learning)

A. Measurable:

1. Assignments on:

2. Student seminars (Individual presentation of Courses) on topics relating to:
   Quiz Programmes on: RIndividual Field Studies/projects: Motion of Rocket,SHM applications
3. Group discussion on:
4. Group/Team Projects on:

B General

1. Collection of news reports and maintaining a record of Course-cuttings relating to topics covered in syllabus
2. Group Discussions on:
3. Watching TV discussions and preparing summary points recording personal observations etc., under guidance from the Lecturers
4. Any similar activities with imaginative thinking.

5. Recommended Continuous Assessment methods:

Details of course-wise Syllabus

B. Sc	Semester I	Credits: 4
Course: 1	Mechanics, Waves and Oscillations	Hrs/Wk: 4

Learning outcomes:

- To understand basic theories related with properties of matter and its applications to determine values of various physical quantities associated with matter.
- Be able to apply knowledge of the properties of matter to explain natural physical processes and related technological advances.
- To learn about fundamentals of verbal and mathematical concepts of waves and oscillations
- We should make the students to know their skills required to get the information from the syllabus and use them in a proper way

UNIT I:

Mechanics of Particles: Review of Newton's Laws of Motion, Motion of variable mass system, Motion of a rocket, Multistage rocket, Concept of impact parameter, scattering cross-section, Rutherford scattering-Derivation.

Mechanics of Rigid bodies: Rigid body, rotational kinematic relations, Equation of motion for a rotating body, Angular momentum and Moment of inertia tensor, Euler equations, Precession of a spinning top, Gyroscope, Precession of the equinoxes

UNIT II:

Motion in a Central Force Field: Central forces, definition and examples, characteristics of central forces, conservative nature of central forces, Equation of motion under a central force, Kepler's laws of planetary motion- Proofs, Motion of satellites, Basic idea of Global Positioning System (GPS), weightlessness, Physiological effects of astronauts

UNIT III:

Relativistic Mechanics: Introduction to relativity, Frames of reference, Galilean transformations, absolute frames, Michelson-Morley experiment, negative result, Postulates of Special theory of relativity,Lorentz transformation, time dilation, length contraction, variation of mass with velocity, Einstein's mass-energy relation.

UNIT IV:

Undamped, Damped and Forced oscillations: Simple harmonic oscillator and solution of the differential equation, Damped harmonicoscillator, Forced harmonic oscillator – Their differential equations and solutions, Resonance,Logarithmic decrement, Relaxation time and Quality factor.

Coupled oscillations: Coupled oscillators - introduction , Two coupled oscillators, Normal coordinates and Normal Modes.

UNIT V:

Vibrating Strings: Transverse wave propagation along a stretched string, General solution of wave equation and its significance, Modes of vibration of stretched string clamped at ends, Overtones andHarmonics.

Ultrasonic's: Ultrasonics, General Properties of ultrasonic waves, Production of ultrasonics by piezoelectric and magnetostriction methods, Detection of ultrasonics, Applications of ultrasonic waves, SONAR

REFERENCE BOOKS:

1. Sc. Physics, Vol.1, Telugu Academy, Hyderabad
2. Fundamentals of Physics Vol. I - Resnick, Halliday, Krane ,Wiley India 2007
3. College Physics-I. T. Bhimasankaram and G. Prasad. Himalaya Publishing House.
4. University Physics-FW Sears, MW Zemansky& HD Young,Narosa Publications,Delhi
5. Mechanics, S.G.Venkatachalapathy, Margham Publication, 2003.
6. Waves and Oscillations. N. Subramanyam and Brijlal, VikasPulications.
7. Unified Physics - Waves and Oscillations, Jai PrakashNath&Co.Ltd.
8. Waves & Oscillations. S.Badami, V. Balasubramanian and K.R. Reddy, OrientLongman.
9. The Physics of Waves and Oscillations, N.K.Bajaj, Tata McGraw Hill
10. Science and Technology of Ultrasonics- Baldevraj, Narosa, New Delhi,2004

B Sc	Semester I	Credits: 1
Course: 1	Mechanics, Waves and Oscillations Lab	Hrs/Wk: 2

Details of Lab/Practical/Experiments/Tutorials syllabus:

Minimum of 6 experiments to be done and recorded:

1. Young's modulus of the material of a bar (scale) by uniform bending
2. Young's modulus of the material a bar (scale) by non- uniform bending
3. Surface tension of a liquid by capillary rise method
4. Viscosity of liquid by the flow method (Poiseuille's method)
5. Bifilar suspension –Moment of inertia of a regular rectangular body.
6. Fly-wheel -Determination of moment of inertia
7. Rigidity modulus of material of a wire-Dynamic method (Torsional pendulum)
8. Volume resonator experiment
9. Determination of 'g' by compound/bar pendulum
10. Simple pendulum- normal distribution of errors-estimation of time period and the error of the mean by statistical analysis
11. Determination of the force constant of a spring by static and dynamic method.

11. Recommended Co-curricular activities:(Co-curricular Activities should not promote copying from text book or from others' work and shall encourage self/independent and group learning)

A. Measurable:

1. Assignments on: Motion of a rocket, Multistage rocket, Rutherford scattering-Derivation. Precession of a spinning top, Gyroscope, Precession of the equinoxes, Kepler's laws of planetary motion-Proofs, Motion of satellites, Michelson-Morley experiment, negative result, Postulates of Special theory of relativity, Lorentz transformation, Simple harmonic oscillator and solution of the differential equation, Damped harmonic oscillator, Forced harmonic oscillator – Their differential equations and solutions, Transverse wave propagation along a stretched string, Production of ultrasonics by piezoelectric and magnetostriction methods, Detection of ultrasonics, Coupled Oscillators

2. Student seminars (Individual presentation of Courses) on topics relating to: Motion of variable mass system, Motion of a rocket, Multistage rocket, Rutherford scattering-Derivation. Rigid body, rotational kinematic relations, Equation of motion for a rotating body. Central Forces- Kepler's laws, Special theory of relativity, Michelson Morley experiment, Lorentz transformation, Simple Harmonic Motion, Coupled Oscillators, Ultrasonics,

Quiz Programmes on: Rutherford Scattering, Mechanics of rigid bodies,Keplers laws, Special theory of relativity,SHM,Ultrasonics

3. Individual Field Studies/projects:
4. Group discussion on: Newtons Laws of Motion, Motion of satellites, Basic idea of Global Positioning System (GPS),Special theory of relativity, SHM
5. Group/Team Projects on: Motion of a rocket, Multistage rocket, Concept of impact parameter, Central forces, Kepler's laws of planetary motion-Proofs, Motion of satellites, Basic idea of Global Positioning System (GPS), weightlessness. Ultrasonics, General Properties of ultrasonic waves, Production of ultrasonics by piezoelectricand magnetostriction methods, Detection of ultrasonics

B. General

1. Collection of news reports and maintaining a record of Course-cuttings relating to topics covered in syllabus
2. Group Discussions on:
3. Watching TV discussions and preparing summary points recording personal observations etc., under guidance from the Lecturers
4. Any similar activities with imaginative thinking.

12. Recommended Continuous Assessment methods:

B Sc	Semester II	Credits: 4
Course: 2	Wave Optics	Hrs/Wk: 4

Student able to Learning:

- Understand the nature of light and principles of Laser and holography.
- Analyse the intensity variation of light due to interference, diffraction and polarization.
- Solve problems in Optics by selecting the appropriate equations and performing numerical or analytical calculations.
- Student can able to operation of optical devices including polarizers, interferometers,and Lasers.

UNIT I: Interference of light: (12hrs)

Introduction, Conditions for interference of light, Interference of light by division of wave front and amplitude,Phase change on reflection- Stokes' treatment, Lloyd's single mirror, Interference in thin films: Plane parallel and wedge- shaped films, colours in thin films, Newton's rings in reflected light-Theory and experiment, Determination of wavelength of monochromatic light, Michelson interferometer anddetermination of wavelength.

UNIT II: Diffraction of light:(12hrs)

Introduction, Types of diffraction: Fresnel and Fraunhoffer diffractions, Distinction between Fresnel and Fraunhoffer diffraction,Fraunhoffer diffraction at a single slit, Plane diffraction grating,Determination of wavelength of light using diffraction grating, Resolving power of grating, Fresnel's half period zones, Explanation of rectilinear propagation of light, Zone plate, comparison of zone plate with convex lens.

UNIT III: Polarisation of light:(12hrs)

Polarized light: Methods of production of plane polarized light, Double refraction, Brewster's law, Malus law, Nicol prism, Nicol prism as polarizer and analyzer, Quarter wave plate, Half wave plate, Plane, Circularly and Elliptically polarized light-Production and detection, Optical activity, Laurent's half shade polarimeter: determination of specific rotation.

UNIT IV: Aberrations and Fibre Optics: (12hrs)

Monochromatic aberrations, Spherical aberration, Methods of minimizing spherical aberration, Coma, Astigmatism and Curvature of field, Distortion; Chromatic aberration-the achromatic doublet; Achromatism for two lenses (i) in contact and (ii) separated by a distance. **Fibre optics:** Introduction to Fibers, different types of fibers, rays and modes in an optical fiber, Principles of fiber communication (qualitative treatment only), Advantages of fiber optic communication.

UNIT V: Lasers and Holography:(12hrs)

Lasers: Introduction, Spontaneous emission, stimulated emission, Population Inversion, Laser principle, Einstein coefficients, Types of lasers-He-Ne laser, Ruby laser, Applications of lasers; Holography: Basic principle of holography, Applications of holography

REFERENCE BOOKS:

1. BSc Physics, Vol.2, Telugu Akademy, Hyderabad
2. A Text Book of Optics-N Subramanyam, L Brijlal, S.Chand& Co.
3. Optics-Murugeshan, S.Chand& Co.
4. Unified Physics Vol.IIOptics, Jai PrakashNath&Co.Ltd., Meerut
5. Optics,F.A. Jenkins and H.G.White, McGraw-Hill
6. Optics, AjoyGhatak,TataMcGraw-Hill.
7. Introduction of Lasers – Avadhanulu, S.Chand& Co.
8. Principles of Optics- BK Mathur, Gopala Printing Press, 1995

B Sc	Semester II	Credits: 1
Course: 2	Wave Optics Lab	Hrs/Wk: 2

Details of Lab/Practical/Experiments/Tutorials syllabus:

Minimum of 6 experiments to be done and recorded

1. Determination of radius of curvature of a given convex lens-Newton's rings.
2. Resolving power of grating.
3. Study of optical rotation –polarimeter.
4. Dispersive power of a prism.
5. Determination of wavelength of light using diffraction grating-minimum deviationmethod.
6. Determination of wavelength of light using diffraction grating-normal incidencemethod.
7. Resolving power of a telescope.
8. Refractive index of a liquid-hallow prism
9. Determination of thickness of a thin wire by wedge method
10. Determination of refractive index of liquid-Boy's method.
11. Determination of cauchy's constants (Using prisim A and B).

Recommended Co-curricular activities:(Co-curricular Activities should not promote copying from text book or from others' work and shall encourage self/independent and group learning)

C. Measurable:

5. Assignments on: Lloyd's single mirror, Interference in thin films: Plane parallel and wedge-shaped films, colours in thin films, Newton's rings in reflected light-Theory and experiment, Determination of wavelength of monochromatic light, Michelson interferometer and determination of wavelength. Distinction between Fresnel and Fraunhoffer diffraction,Fraunhoffer diffraction at a single slit, Plane diffraction grating,Determination of wavelength of light using diffraction grating, Zone plate, comparison of zone plate with convex lens. Brewster's law, Malus law, Nicol prism, Nicol prism as polarizer and analyzer, Quarter wave plate, Half wave plate, spherical aberration, Coma, Astigmatism and Curvature of field, Distortion; Chromatic aberration-the achromatic doublet; Achromatism for two lenses (i) in contact and (ii) separated by a distance. Laser principle, Einstein coefficients, Types of lasers-He-Ne laser, Ruby laser, Applications of lasers; Holography:

6. Student seminars (Individual presentation of Courses) on topics relating to:Intereference, Abberations, Opticalfiber communicaton, Holography, Diffraction,Polarization, Lasers.
7. Quiz Programmes on: Interference, Diffraction,Polarization, Optical fibers, Lasers, Abberations
8. Individual Field Studies/projects:
9. Group discussion on:Interefernce, Diffraction, Polarization
10. Group/Team Projects on: Lasers, Optical fibers

D. General

1. Collection of news reports and maintaining a record of Course-cuttings relating to topics covered in syllabus
2. Group Discussions on:
3. Watching TV discussions and preparing summary points recording personal observations etc., under guidance from the Lecturers
4. Any similar activities with imaginative thinking.

Recommended Continuous Assessment methods:

B Sc	Semester III	Credits: 4
Course: 3	Heat and thermodynamics	Hrs/Wk: 4

Student able to Learning:

- Students will be able to Perform experiments and interpret the results of observation, including making an assessment of experimental uncertainties.
- They develop the ability to apply the knowledge acquired in the classroom and laboratories to specific problems in theoretical and experimental Physics.
- To apply the theories learnt and the skills acquired to solve real time problems
- To understand the concepts and significance of the various physical phenomena

UNIT I: Kinetic Theory of gases: (12 hrs)

Kinetic Theory of gases-Introduction, Maxwell's law of distribution of molecular velocities (qualitative treatment only) and its experimental verification,Mean free path, Degrees of freedom, Principle of equipartition of energy (Qualitative ideas only), Transport phenomenon in ideal gases: viscosity, Thermal conductivity and diffusion of gases.

UNIT II: Thermodynamics: (12hrs)

Introduction- Isothermal and Adiabatic processes, Reversible and irreversible processes, Carnot's engine and its efficiency, Carnot's theorem, Thermodynamic scale of temperature and its identity with perfect gas scale, Second law of thermodynamics: Kelvin's and Clausius statements, Principle of refrigeration, Entropy, Physical significance, Change in entropy in reversible and irreversible processes; Entropy and disorder-Entropy of Universe; Temperature-Entropy (T-S) diagram and its uses ; change of entropy when ice changes into steam.

UNIT III: Thermodynamic Potentials and Maxwell's equations: (12hrs)

Thermodynamic potentials-Internal Energy, Enthalpy, Helmholtz Free Energy, Gibb's Free Energy and their significance, Derivation of Maxwell's thermodynamic relations from thermodynamic potentials, Applications to (i) Clausius-Clayperon's equation (ii) Value of C_P-C_V (iii) Value of C_P/C_V (iv) Joule-Kelvin coefficient for ideal gases.

UNIT IV: Low temperature Physics:(12hrs) Methods for producing very low temperatures, Joule Kelvin effect, Porous plug experiment , Joule expansion, Distinction between adiabatic and Joule Thomson expansion, Expression for Joule Thomson cooling, Liquefaction of air by Linde's method, Production of low temperatures by adiabatic demagnetization (qualitative), Practical applications of substancesat low temperatures.

UNIT V: Quantum theory of radiation: (12 hrs) Blackbody and its spectral energy distribution of black body radiation, Kirchoff's law, Wein'sdisplacement law, Stefan-Boltzmann's law and Rayleigh-Jean's law (Noderivations), Planck's law of black body radiation-Derivation, Deduction of Wein's law and Rayleigh-Jean's law from Planck's law, Solar constant and its determination using Angstrompyroheliometer, Estimation of surface temperature of Sun.

REFERENCE BOOKS:

1. BSc Physics, Vol.2, Telugu Akademy, Hyderabad
2. Thermodynamics, R.C.Srivastava, S.K.Saha&AbhayK.Jain, Eastern Economy Edition.
3. Unified Physics Vol.2, Optics & Thermodynamics, Jai PrakashNath&Co.Ltd., Meerut
4. Fundamentals of Physics. Halliday/Resnick/Walker.C. Wiley India Edition 2007
5. Heat and Thermodynamics -N BrijLal, P Subrahmanyam, S.Chand& Co.,2012
6. Heat and Thermodynamics- MS Yadav, Anmol Publications Pvt. Ltd, 2000
7. University Physics, HD Young, MW Zemansky,FW Sears, Narosa Publishers, New Delhi

B Sc	Semester III	Credits: 1
Course: 3	Heat and thermodynamics Lab	Hrs/Wk: 2

Details of Lab/Practical/Experiments/Tutorials syllabus:

Minimum of 6 experiments to be done and recorded

1. Specific heat of a liquid –Joule's calorimeter –Barton's radiation correction
2. Thermal conductivity of bad conductor-Lee's method
3. Thermal conductivity of rubber.
4. Measurement of Stefan's constant.
5. Specific heat of a liquid by applying Newton's law of cooling correction.
6. Heating efficiency of electrical kettle with varying voltages.
7. Thermoemf- thermo couple - Potentiometer
8. Thermal behavior of an electric bulb (filament/torch light bulb)
9. Measurement of Stefan's constant- emissive method
10. Study of variation of resistance with temperature - Thermistor.
11. Calculation of temperature coefficient of given material using Carry Fosters bridge.

9. Recommended Co-curricular activities:(Co-curricular Activities should not promote copying from text book or from others' work and shall encourage self/independent and group learning)

E. Measurable:

Assignments on: Maxwell's law of distribution of molecular velocities, Transport phenomenon in ideal gases: viscosity, Thermal conductivity and diffusion of gases. Introduction- Isothermal and Adiabatic processes, Reversible and irreversible processes, Carnot's engine and its efficiency, Carnot's theorem, Thermodynamic scale of temperature, Thermodynamic potentials-Internal Energy, Enthalpy, Helmholtz Free Energy, Gibb's Free Energy and their significance, Derivation of Maxwell's thermodynamic relations fromthermodynamic potentials, Joule Kelvin effect, Porous plug experiment ,Joule expansion, Distinction between adiabatic and Joule Thomson expansion, Expression forJoule Thomson cooling, Liquefaction of air by Linde's method, Production of lowtemperatures by adiabatic demagnetization

10. Student seminars (Individual presentation of Courses) on topics relating to: Kinetic Theory of Gases, Carnots Engine and its efficiency, Carnot Theorem, Entropy, Maxwell Thermodynamic Equations, Joule Kelvin effect, Production of low temperatures, Plank Radiation law, Weins law,Pyrometers,
11. Quiz Programmes on: Kinetic theory of gases, Heat and Temperature entropy, Isothermal and Adiabatic process,Thermodynamic Potentials, Low temperature Physics , Thermal Radiation.
12. Individual Field Studies/projects: Carnots Engine, Pyrometers, Adaibatic demagnetization, Porus plug experiment. Liquification of gases.
13. Group discussion on:Kinetic theory of gases, Quantum theory of Radiation, Low temperature physics and thermodynamic potentials,
14. Group/Team Projects on: Carnots Engine, Pyrometers, Adaibatic demagnetization, Porus plug experiment. Liquification of gases.

F. General

5. Collection of news reports and maintaining a record of Course-cuttings relating to topics covered in syllabus
6. Group Discussions on:
7. Watching TV discussions and preparing summary points recording personal observations etc., under guidance from the Lecturers
8. Any similar activities with imaginative thinking.

Recommended Continuous Assessment methods:

B Sc	Semester IV	Credits: 4
Course: 4	Electricity, Magnetism & Electronics	Hrs/Wk: 4

Student Able learn:

- To learn about Gauss law and solve the electric field and magnetic field for various geometric objects and to learn basic electronic concepts in analog and digital theory.
- To be Explain all the topics of Experiments, Concepts and Derivations to the student
- Apply the principles of electronics in day to day life.
- Encourage all the students to study higher educational courses in reputed institutes and to enrich the students with creative, logical and analytical skills and to motivate the students towards research side

UNIT I:

Electrostatics: (6hrs) : Gauss's law-Statement and its proof, Electric field intensity due to (i) uniformly charged solid sphere and (ii) an infinite conducting sheet of charge, Deduction of Coulomb's law from Gauss law, Electrical potential–Equipotential surfaces, Potential due to a uniformly charged sphere.

Dielectrics: (6 hrs): Dielectrics-Polar and Non-polar dielectrics- Effect of electric field on dielectrics,Dielectric strength, Capacitance of a parallel plate condenser with dielectric slab between the plates, Electric displacement D, electric polarization P,Relation between D, E and P, Dielectric constant and electric susceptibility.

UNIT II:

Magnetostatics: (6 hrs): Biot-Savart's law and its applications: (i) circular loop and (ii) solenoid, Ampere's Circuital Law and its application to Solenoid, Hall effect, determination of Hall coefficient and applications.

Electromagnetic Induction: (6 hrs): Faraday's laws of electromagnetic induction, Lenz's law, Self induction and Mutual induction,Self inductance of a long solenoid, Mutual inductance of two coils, Energy stored in magnetic field, Eddy currents.

UNIT III:

Alternating currents: (6 hrs): Alternating current - Relation between current and voltage in L,C, R, LR and CR circuits, Phasor and Vector diagrams, LCR series and parallel resonant circuit, Q – factor, Power factor.

Electromagnetic waves-Maxwell's equations:(6 hrs) : Idea of displacement current,Maxwell's equations-Derivation, Maxwell's wave equation (with derivation), Transverse nature of electromagnetic waves, Poynting theorem (Statement andproof). Velocity of wave equation using maxwells relations in vaccume.

UNIT IV:

Basic Electronic devices: (12 hrs): PN junction diode, Zenerdiode andLight Emitting Diode (LED) and their I-V characteristics, Zener diode as a regulator- Transistors and its operation, CB, CE and CC configurations, Input and output characteristicsofa transistor in CE mode, Relation between alpha, beta and gamma; Transistor as an amplifier.

UNIT-V:

Digital Electronics: (12 hrs): Number systems, Conversion of binary to decimal system and vice versa, Binary addition & Binary subtraction (1's and 2's complement methods), Laws of Boolean algebra, DeMorgan's laws-Statements and Proofs, Basic logic gates, NAND and NOR as universal gates, Exclusive-OR gate, Half adder and Full adder circuits.

REFERENCE BOOKS

1. BSc Physics, Vol.3, Telugu Akademy, Hyderabad.
2. Electricity and Magnetism, D.N. Vasudeva. S. Chand & Co.
3. Electricity and Magnetism, B.D.Duggal and C.L.Chhabra. Shobanlal& Co.
4. Electricity, Magnetism with Electronics, K.K.Tewari, R.Chand& Co.,
5. Electricity and Magnetism, R.Murugeshan, S. Chand & Co.
6. Principles of Electronics, V.K. Mehta, S.Chand& Co.,
7. Digital Principles and Applications, A.P. Malvino and D.P.Leach, McGrawHill Edition.

B Sc	Semester IV	Credits: 1
Course: 4	Electricity, Magnetism & Electronics Lab	Hrs/Wk: 2

Details of Lab/Practical/Experiments/Tutorials syllabus:

Minimum of 6 experiments to be done and recorded

1. Figure of merit of a moving coil galvanometer.
2. LCR circuit series/parallel resonance, Q factor.
3. Determination of ac-frequency –Sonometer.
4. Verification of Kirchoff's laws and Maximum Power Transfer theorem.
5. Field along the axis of a circular coil carrying current-Stewart & Gee's apparatus.
6. PN Junction Diode Characteristics
7. Zener Diode –V-I Characteristics
8. Zener Diode as a voltage regulator
9. Transistor CE Characteristics- Determination of hybrid parameters
10. Logic Gates- OR,AND,NOT and NAND gates. Verification of Truth Tables.
11. Verification of De Morgan's Theorems.
12. Construction of Half adder and Full adders-Verification of truth tables
13. Universal gates construction and verification of truth tables.

Recommended Reference books:

14. Recommended Co-curricular activities:(Co-curricular Activities should not promote copying from text book or from others' work and shall encourage self/independent and group learning)

G. Measurable:

1. **Assignments on**: Gauss's law-Statement and its proof, Electric field intensity due to uniformly charged solidsphere and Potential due to a uniformly charged sphere.
2. **Student seminars (Individual presentation of Courses) on topics relating to**:
3. Biot-Savart's law and its applications: (i) circular loop and (ii) solenoid, Ampere's Circuital Law and its application to Solenoid, Hall effect, determination of Hall coefficient and applications
4. **Quiz Programmes on**: PN junction diode, Zenerdiode andLight Emitting Diode (LED) and their I-V characteristics, Zener diode as a regulator- Transistors and its operation, CB, CE and CC configurations
5. **Individual Field Studies/projects**: Maxwell's equations-Derivation, Maxwell's wave equation (with derivation), Transverse nature of electromagnetic waves, Poynting theorem (Statement andproof)
6. **Group discussion on:** Number systems, Conversion of binary to decimal system and vice versa, Binary addition & Binary subtraction (1's and 2's complement methods), Laws of Boolean algebra
7. **Group/Team Projects on**: Alternating current - Relation between current and voltage in L,C, R, LR and CR circuits, Phasor and Vector diagrams, LCR series and parallel resonant circuit, Q –factor, Power factor.

H. General

8. Collection of news reports and maintaining a record of Course-cuttings relating to topics covered in syllabus
9. Group Discussions on:
10. Watching TV discussions and preparing summary points recording personal observations etc., under guidance from the Lecturers
11. Any similar activities with imaginative thinking.

Recommended Continuous Assessment methods:

B Sc	Semester IV	Credits: 4
Course: 5	Modern Physics	Hrs/Wk: 4

Student able learn:

- To Create awareness on the topics of Atomic & Molecular Physics, Quantum mechanics, Nuclear Physics, and Solid state physics.
- To be Explain all the topics of Experiments, Concepts and Derivations to the student.
- Explain the basic principles of quantum mechanics and apply to Atomic, Molecular structure of energy levels etc..
- Motivate all the students to pursue PG courses in reputed institutes and to endow the students with creative and analytical skills; this will equip them to become entrepreneurs.

UNIT I :

Atomic and Molecular Physics:(12 hrs): Vector atom model and Stern-Gerlach experiment, Quantum numbers associated with it,Angular momentum of the atom, Coupling schemes, Spectral terms and spectral notations, Selection rules, Intensity rules, Fine structure of Sodium D-lines, Zeeman effect, Experimentalarrangement to study Zeeman effect; Raman effect, Characteristics of Raman effect. Experimental arrangement to study Raman effect, Quantum theory of Raman effect, Applications of Raman effect.

UNIT II:

Matter waves &Uncertainty Principle:(12 hrs): Matter waves, de Broglie's hypothesis, Wave length of matter waves, Properties of matter waves, Davisson and Germer's experiment, Phase and group velocities, Heisenberg's uncertainty principle for position and momentum& energy and time, Illustration of uncertainty principle using diffraction of beam of electrons and photons (Gamma ray microscope),Bohr's principle of complementarity.

UNIT III:

Quantum (Wave) Mechanics:(12 hrs): Basic postulates of quantum mechanics, Schrodinger time independent and time dependent wave equations-Derivations, Physical interpretation of wave function, Eigen functions, Eigen values, Application of Schrodinger wave equation to (i) one dimensional potential box of infinite height(InfinitePotential Well) and (ii) three dimensional box - tunneling effect.

UNIT IV:

Nuclear Physics:(12 hrs): *Nuclear Structure*: General Properties of Nuclei, Mass defect, Binding energy; *Nuclear forces*:Characteristics of nuclear forces- Yukawa's meson theory; *Nuclear Models*: Liquid drop model, The Shell model, Magic numbers; *Nuclear Radiation detectors*: G.M. Counter, Cloud chamber, Solid State detector; *Elementary Particles*: Elementary Particles and their classification.

UNIT-V:

Nano materials:(7hrs): Nanomaterials – Introduction, Electron confinement, Size effect, Surface to volume ratio, Classification of nano materials– (0D, 1D, 2D); Quantum dots, Nano wires, Fullerene, CNT, Graphene(Mention of structures and properties),Distinct properties of nano materials (Mention-*mechanical,optical, electrical, and magnetic properties*); Mention of applications of nano materials: (*Fuel cells,Phosphors for HD TV).*

Superconductivity: (5 hrs): Introduction to Superconductivity, Experimental results-critical temperature, critical magnetic field, Meissner effect , Isotope effect,Type I and Type II superconductors, BCS theory (elementary ideas only),Applications of superconductors

REFERENCE BOOKS

1. BSc Physics, Vol.4, Telugu Akademy, Hyderabad
2. Atomic Physics by J.B. Rajam; S.Chand& Co.,
3. Modern Physics by R. Murugeshan and Kiruthiga Siva Prasath. S. Chand & Co.
4. Concepts of Modern Physics by Arthur Beiser. Tata McGraw-Hill Edition.
5. Nuclear Physics, D.C.Tayal, Himalaya Publishing House.
6. S.K. Kulkarni, Nanotechnology: Principles & Practices (Capital Publ.Co.)
7. K.K.Chattopadhyay&A.N.Banerjee, Introd.to Nanoscience and Technology(PHI LearningPriv.Limited).
8. Nano materials, A K Bandopadhyay. New Age International Pvt Ltd (2007)
9. Textbook of Nanoscience and Nanotechnology, BS Murthy, P Shankar, BaldevRaj,BB Rath and J Murday-Universities Press-IIM

B Sc	Semester IV	Credits: 1
Course: 5	Modern Physics Lab	Hrs/Wk: 2

Details of Lab/Practical/Experiments/Tutorials syllabus:

Minimum of 6 experiments to be done and recorded

1. e/m of an electron by Thomson method.
2. Determination of Planck's Constant (photocell).
3. Verification of inverse square law of light using photovoltaic cell.
4. Determination of the Planck's constant using LEDs of at least 4 different colours.
5. Determination of work function of material of filament of directly heated vacuumdiode.
6. Study of absorption of α-rays.
7. Study of absorption of β-rays.
8. Determination of Range of β-particles.
9. Determination of M & H.
10. Analysis of powder X-ray diffraction pattern to determine properties of crystals.
11. Energy gap of a semiconductor using junction diode.
12. Energy gap of a semiconductor using thermistor
13. GM counter characteristics
14. Study of photo cell characteristics.

Recommended Reference books:

9. Recommended Co-curricular activities:(Co-curricular Activities should not promote copying from text book or from others' work and shall encourage self/independent and group learning)

I. Measurable:

Assignments on: Stern-Gerlach experiment, Quantum numbers associated with it, Angular momentum of the atom, Coupling schemes, Experimental arrangement to study Zeeman effect; Raman effect, Characteristics of Raman effect. Experimental arrangement to study Raman effect, Applications of Raman effect, Wave length of matter waves,; *Nuclear Radiation detectors*: G.M. Counter, Cloud chamber, Solid State detector, Classification of nano materials– (0D, 1D, 2D); Quantum dots, Nano wires, Fullerene, CNT, Graphene(Mention of structures and properties),

Student seminars (Individual presentation of Courses) on topics relating to: Stern-Gerlach experiment, Zeeman effect, Raman effect. Davisson and Germer's experiment, , Heisenberg's uncertainty principle Schrodinger time independent and time dependent wave equations-Derivations, , The Shell model, Magic numbers;,

8. **Quiz Programmes on**: Zeeman effect, Matter waves, de Broglie's hypothesis, Heisenberg's uncertainty principle for position and momentum& energy and time, Schrodinger time independent and time dependent wave equations-Derivations.
9. **Individual Field Studies/projects**: *Nuclear Radiation detectors*: G.M. Counter, Cloud chamber, Solid State detector, Liquid drop model, Distinct properties of nano materials
10. **.Group discussion on:** Properties of matter waves, Davisson and Germer's experiment, Eigen functions, Eigen values, Application of Schrodinger wave equation to (i) one dimensional potential box of infinite height(InfinitePotential Well), Liquid drop model, The Shell model, Magic numbers
11. **Group/Team Projects on**: Basic postulates of quantum mechanics, Schrodinger time independent and time dependent wave equations-Derivations, Physical interpretation of wave function

J. General

12. Collection of news reports and maintaining a record of Course-cuttings relating to topics covered in syllabus
13. Group Discussions on:
14. Watching TV discussions and preparing summary points recording personal observations etc., under guidance from the Lecturers
15. Any similar activities with imaginative thinking.

Recommended Continuous Assessment methods:

B Sc	**Semester V (**Skill Enhancement Course -Elective)	**Credits: 4**
Course: 6A	**Optical Instruments and Optometry**	**Hrs/Wk: 4**

Learning Outcomes: Students at the successful completion of the course will be able to:

1. Understand the construction and working principles of various optical instruments usedin daily life.
2. Acquire a critical knowledge on the various defects of eye and their correcting methodswith suitable lenses.
3. Demonstrate skills of using biological microscope through hands on experience.
4. Understand the various techniques used in optometry and computer based eye testing.
5. Comprehend the various applications of microscopes and telescopes.

Syllabus: *(Total Hours: 90 including Teaching, Lab, Field Training, Unit tests etc.)*

UNIT I: OPTICAL MICROSCOPES (10hrs)

Introduction to Microscopes**,** Need of a Microscope**,** Different types of microscopes and their uses, Simple microscope-Construction, Magnifying power, normal adjustment; Compound microscope-Construction, Magnifying power, normal adjustment, Phase contrast microscope-Operating principle, Travelling microscope-Construction, workingand uses

UNIT II: TELESCOPES (10hrs)

Introduction to Telescopes**,** Different types of Telescopes and their uses, Refracting Telescopes and Reflecting telescopes, Construction, working and magnifying power of Astronomical Telescope and Terrestrial Telescopes, Binoculars – working principle and applications.

UNIT III: APPLICATIONS OF OPTICAL INSTRUMENTS (10hrs)

Introductory ideas and applications of various microscopes *viz*., (i) Optical microscopes (Compound microscope, Stereo microscope, Confocal microscope) (ii) Electron microscopes (TEM, SEM), (iii) Scanning Probe microscope (iv) Scanning Acoustic microscope and (v) X-ray microscope.

Introductory ideas and applications of various telescopes *viz*., (i) Optical telescopes (ii) Radio telescopes (iii) Solar telescopes (iv) Infrared telescope (v) Ultraviolet telescope (vi) X-ray telescope and (vii) Gamma ray telescope

UNIT IV:OPTICAL VISION (10hrs)

Introduction to optical Vision, Eye as an optical instrument, Formation of image in the eye and the camera, Ophthalmic lenses, Power of the lenses, Far point and near points, Myopia and Hypermetropia defects, Removal of defects in vision using ophthalmic lenses, Contact lenses-Working principle, Different types of Contact lenses.

UNIT V: OPHTHALMIC TECHNIQUES AND OPTOMETRY (10hrs)

Ophthalmoscope and keratometer and their working principles, Evaluation of eye disorders, Guidelines for standardized eye chart preparation, Simple phoropter and its working principle and its uses, Checking the power of lenses, Principles of Computer based eye testing

REFERENCES BOOKS:

1. Optics and Optical Instruments: An Introduction by B. K. Johnson, Dover Publications.
2. Modern Optical Instruments and their construction by or ford Henry-Publisher: Biblio Life, LLC.
3. A Text Book of Optics by Brj Lal and N.Subramanyam, S.Chand & Co.
4. Practical Optics by Menn Naftly, Elsevier Science Publishing.
5. Applications of Optics in daily life | CK-12 Foundation. https://flexbooks.ck12.org ›
6. Web sources suggested by the teacher concerned and the college librarian including Reading material.

B Sc	Semester V (Skill Enhancement Course -Elective)	Credits: 1
Course: 6A	Optical Instruments and Optometry Lab	Hrs/Wk: 2

PRACTICAL SYLLABUS *(30 Hrs. Max Marks: 50)*

Learning Outcomes: On successful completion of this practical course, student shall beable to:

1. List out, identify and handle various equipments like binoculars, telescopes and microscopes.
2. Learn the procedures of operation of various optical instruments.
3. Demonstrate skills on testing the power of lenses, improving the resolution of telescopes and microscopes.
4. Acquire skills in observing and measuring the power, focal length and different refractive errors of eye.
5. Perform some techniques related to testing the blood and other biological samples.
6. Understand the technique of operation of Computer eye testing and evaluation.

Practical (Laboratory) Syllabus: *(30 hrs*)

1. Evaluation of magnifying power of simple microscope.
2. Measurement of reflection and transmission coefficient of certain materials using a microscope.
3. Resolving power of telescope
4. Determination of radii of different capillary tubes using travelling microscope.
5. Refractive index of a liquid (water) using (i) concave mirror and (ii) convex lens and a plane mirror.
6. Removal of refractive errors of eye using combination of lenses.
7. Determination of power of a convex lens by finding its focal length.

LAB REFERENCES:

1. A Practical Guide to Experimental Geometrical Optics byYuriy A. Garbovskiy-Cambridge Univ. Press
2. https://physics.columbia.edu/sites/default/files/content/Lab%20Resources/1292%20Lab%20Manual.pdf
3. https://www.lnmiit.ac.in/Department/Physics/uploaded_files/lab-manual.pdf
4. Basic Optics Experiments -http://www.phys.unm.edu › Optics Lab › Basics
5. A Practical Guide to Experimental Geometrical Optics by Yuriy A. Garbovskiy,Anatoliy V. Glushchenko, Cambridge Univ. Press
6. Web sources suggested by the teacher concerned. http://www.phy.olemiss.edu/~thomas/weblab/Optics_lab_Items/Telescope_Microscope_PROCED_Spring_2018.pdf

Co-Curricular Activities

(a) Mandatory: (*Training of students by teacher in field related skills: (lab:10 + field: 05*)

1. **For Teacher**: Training of students by the teacher (if necessary, by a local expert) in laboratory/field for a total of not less than 15 hours on the field techniques/skills on the familiarization of various optical instruments available in the laboratory; construction of different types of telescopes and their comparison in construction, operation and their utility and limitations; the details of construction of eye and various defects in the eye sight, emerging techniques in the design of eye lenses including contact lenses and making the student to understand on the testing of a biological sample using a clinical microscope

For Student: Students shall (individually) visit and observe the functioning of optical instruments at any one of the following places /centres like (a) pathological laboratory **or** (b) a local ophthalmologist **or** (c) a local optician to understand the various types of eye lenses **or** (d) a local computer based eye testing centre**or** (e) an optician, who fixes contact lenses **or** (f) a local cinema theatre **or** (g) a planetarium.Student shall write the observations and submit a hand-written Fieldwork/Project work not exceeding 10 pages in the given format to the teacher.

2. Max marks for Fieldwork/Project work: 05.
3. Suggested Format for Fieldwork/Project work: *Title page, student details, index page, details of place visited, observations, findings and acknowledgements*.
4. Unit tests (IE).

(b) <u>Suggested Co-Curricular Activities</u>

1. Training of students by related industrial experts.
2. Assignments (including technical assignments like identifying tools in the lens grinding, frame fitting, lens cleaning culture and other operational techniques with safety and security, IPR)
3. Seminars, Group discussions, Quiz, Debates etc. (on related topics).
4. Preparation of videos on tools and techniques in optical instruments and optical lenses, contact lenses.
5. Making a model microscope and measuring its magnification.
6. Making a simple astronomical telescope using two convex lenses.
7. Checking the power of your spectacles or lenses at home.
8. Students shall take up making their own (i) Telescope and (ii) Binoculars with the accessories available at home.

https://paksc.org/pk/science-experiments/physics-experiments/how-to-make-astronomical-telescope

https://kids.nationalgeographic.com/nature/article/make-a-telescope

https://learning-center.homesciencetools.com/article/how-to-make-a-telescope-optical-science-project/

http://scipop.iucaa.in/Amateurs/telemaking.html

9. Collection of material/figures/photos related to various types of lenses and theirpower.
10. Visit to any eye research laboratories, if available
11. Invited lectures and presentations on related topics by field/industrial experts

B Sc	Semester V (Skill Enhancement Course -Elective)	Credits: 4
Course: 7A	OPTICAL IMAGING AND PHOTOGRAPHY	Hrs/Wk: 4

Learning Outcomes: Students after successful completion of the course will be able to:

1. Identify the different types of cameras and camera lenses according to different purposes.
2. Identify and understand the focal length of the different types of lenses
3. Acquire a critical knowledge on natural and artificial sources of light and their application in photography.
4. Demonstrate skills of camera usage especially Digital Cameras.
5. Understand the various Image development and editing techniques.
6. Comprehend the concept of different types of common shooting techniques.

Syllabus: *(Total Hours: 90 including Teaching, Lab, Field Training, Unit tests etc.)*

UNIT I: INTRODUCTION TO PHOTOGRAPHY: **(10 hrs)**

Photography-Introduction, Working principle of a camera, Image formation in simple camera and human eye, Types of cameras , Pin-hole camera , Single Lens Reflex (SLR) camera, Twin Lens Reflex (TLR) camera , Digital Single-lens reflex camera (DSLR), Digital camera, Drone flying cameras, Care and maintenance of camera, Factors influencing choice of camera

UNIT II: DIGITAL PHOTOGRAPHY: **(10 hrs)**

Different types of Digital cameras and their parts, Working of DSLR camera, Types of lenses-Normal, Wide angle, telephoto, Zoom lenses, Digital Image formation, Digital camera image sensors, Size of the image, Depth of focus, Depth of field, Exposure time, Aperture, Shutter speed, ISO, filters, knowledge on pixels and their uses , resolution, Camera accessories

UNIT III: PHOTOGRAPHIC LIGHT SOURCES: **(10 hrs)**

Need for the light in photography, Light sources- Natural light, Sun light, Moon light,Ambient light, Artificial light sources-Flood light, Spot light, Halogen light, Halogen flash light, Digital lights, Exposure, Studio photography

UNIT IV: PHOTOGRAPHIC SHOOTING TECHNIQUES: **(10 hrs)**

Significance and role of Camera lens in photo shooting, Arrangement of lenses in a Camera-Positioning, Techniques involved in the use of DSLR cameras, Usage of Filters, Techniques of Photomicrography, High speed Photography with motor driven camera, Basic ideas on Underwater Photography, Medical Photography, Astronomical Photography, Infra-Red (IR) Photography, Ultra Violet (UV) Photography and Forensic Photography.

UNIT V : PHOTO MANIPULATION : **(10 hrs)**

Developing and printing the photographs, equipment and materials used in developing and printing, image mixing and printing, Image editing through image editing software's like Adobe Photoshop – Adjustment of Brightness, Contrast, Tonal and Colour Values, Factors influencing quality of digital image, Methods of storing and processing, Image transportation through Pendrive, CD, HDD and CLOUD [Internet]

REFERENCE BOOKS:

1. Object and image; An introduction to photography by George M Craven, PHI
2. An Introduction to Digital Photo Imaging Agfa, 1994
3. Advance Photography by M. Langford.
4. Digital Photography-A hands on Introduction by Phillip Krejcarek, Delmer Publishers
5. Multimedia – An Introduction by John Villamil, PHI
6. https://www.adobe.com/in/creativecloud/photography/discover/dslr-camera.html
7. Web sources suggested by the teacher concerned and the college librarian including reading material.

B Sc	Semester V (Skill Enhancement Course -Elective)	Credits: 1
Course: 7A	Optical Imaging and Photography Lab	Hrs/Wk: 2

PRACTICAL SYLLABUS *(30 Hrs, Max Marks: 50)*

Learning Outcomes: On successful completion of this practical course, student shall beable to:

1. List out, identify and understand various image formation techniques including Eye.
2. Learn the procedures of using Analog and Digital cameras.
3. Demonstrate the focusing techniques of Analog and Digital cameras.
4. Acquire skills in the editing and development of photos and videos.
5. Perform some experimental skills related to images, videos using the equipment availablein the lab or in a local studio.

Practical (Laboratory) Syllabus: *(30 hrs*)

1. Construction of a simple pin hole Camera and study it's working.
2. Capture an image using a Digital Camera and apply editing techniques.
3. Understanding various image formats and convert one image format in to other (For ex: JPEG to BMP)
4. Convert a video stream into image stream by using a suitable editingsoftware.
5. Evaluate the number of pixels and size of digital Image.
6. Comparison of the quality of a 8-bit, 16-bit and 32 bit images.
7. Perform the reduction and enlargement of a given Digital Image.
8. Change the appearance of an image by applying the filters (For ex: from the IR image of the given digital Image by suitable IR filter)

LAB REFERENCES:

1. DSLR Photography for Beginners by Brian Black
2. The Art of Photography by Bruce Barnbaum
3. Photoshop for Photographers by John Slavio
4. https://www.youtube.com/channel/UCwWyFRy2l6aUFMsRemP51Sw. You Tube resource.
5. https://www.udemy.com/course/complete-photography-course/
6. Web sources suggested by the teacher concerned.

Co-Curricular Activities

(a) Mandatory:(*Training of students by teacher in field related skills: (lab:10 + field: 05*):

1. **For Teacher**: Training of students by the teacher (if necessary, by a local expert) in laboratory/field for not less than 15 hours on the field techniques/skills of Image formation by using lenses and mirrors. Also to make students to understand the construction, operation and the Physics principles involved in a normal Camera and Digital Camera.

2. **For Student**: Students shall (individually) visit a local Photo studio or any such facility in a university/research organization/private and observe
   (i) the operation of different digital cameras, compact and SLR and in taking photographs using different types of lenses by varying aperture, shutter speed for still camera, video camera, CCTV and spy camera
   or (ii) the use of natural light, tungsten light, fluorescent light, electronic flash reflectors, exposure meters, studio flash and its accessories

   or (iii) the usage of various lighting techniques for different lenses and will do practice on special

areas of photography in outdoor and indoor conditions

or (iv) the different processes viz., audio video recording, mixing, editing, dubbing of sound, using different types of microphones

or (v) the handling of the digital video cameras, DVD, HDD, accessories and exposure to take different common shots, dimension of images and movements as per requirement

or (v) the computer system by digital editing software, printing the photographs taken by digital cameras and the image transportation to the storage media, sending photographs through E- mail and Scanning the photographs, capture frames and analysis of images and record their observations and submit a hand-written Fieldwork/Project work not exceeding 10 pages in the given format to the teacher.

3. Max marks for Fieldwork/Project work: 05.
4. Suggested Format for Fieldwork/Project work: *Title page, student details, index page, details of place visited, observations, findings and acknowledgements*.
5. Tests (IE).

(b) Suggested Co-Curricular Activities:

1. Training of students by a related skilled person from a Photo studio.
2. Assignments (including technical assignments like identifying the tools &techniques involved in photography and handling, operational techniques of different Cameras with safety and security)
3. Seminars, Group discussions, Quiz, Debates etc. (on related topics).
4. Preparation of videos on tools and techniques related to Image formation and Photographic Techniques.
5. Practice taking outdoor photographs with a digital camera in (i) Black & White and (ii) Colour in the following conditions**:**
   Landscapes – Street / Building – Sculpture – Insect / Animal movement – Industrial plant (outside view) – Children, birds (close up / long shot / model photography)- slow and fast moving objects-Night photography etc.
6. Shooting of different areas and topics such as sports, wildlife, modeling, drama, documentary, serial, story board making, news, interview, seminar/ workshop, industrial, live broadcasting, musical event, advertisement, etc.
7. Collection of material/figures/photos related to various components of a Camera, writing and organizing them in a systematic way in a file.
8. Visits to any local Photo Studio or any Lab in universities, research organizations, private firms, etc.
9. Invited lectures and presentations on related topics by field/industrial experts.

B Sc	**Semester V (**Skill Enhancement Course -Elective)	**Credits: 4**
Course: 6B	**Low Temperature Physics & Refrigeration**	**Hrs/Wk: 4**

Learning Outcomes: Students after successful completion of the course will be able to

1. Identify various methods and techniques used to produce low temperatures in the Laboratory.
2. Acquire a critical knowledge on refrigeration and air conditioning.
3. Demonstrate skills of Refrigerators through hands on experience and learns about refrigeration components and their accessories.
4. Understand the classification, properties of refrigerants and their effects on environment.
5. Comprehend the applications of Low Temperature Physics and refrigeration.

Syllabus: *(Total Hours: 90 including Teaching, Lab, Field Training, Unit tests etc.)*

UNIT I: PRODUCTION OF LOW TEMPERATURE (10 hrs)

Production of low temperatures-Introduction, Freezing mixtures, Joule-Thomson effect, Regenerative cooling, Different methods of liquefaction of gases, liquefaction of air, Production of liquid hydrogen and nitrogen, Adiabatic demagnetization, Properties of materials at low temperatures, Superconductivity

UNIT II: MEASUREMENT OF LOW TEMPERATURE (10 hrs)

Gas thermometer and its correction and calibration, Secondary thermometers, resistance thermometers, thermocouples, Vapour pressure thermometers, Magnetic thermometers, Advantages and drawbacks of each type of thermometer.

UNIT III: PRINCIPLES OF REFRIGERATION (10 hrs)

Introduction to Refrigeration- Natural and artificial refrigeration , Stages of refrigeration, Types of refrigeration - Vapor compression and vapor absorption refrigeration systems, Refrigeration cycle and explanation with a block diagram, Introductory ideas on air- conditioning.
Refrigerants-Introduction, Ideal refrigerant, Properties of refrigerant, Classification of refrigerants, commonly used refrigerants, Eco-friendly refrigerants

UNIT IV: COMPONENTS OF REFIGERATOR (10 hrs)

Refrigerator and its working, Block diagram, Coefficient of Performance (COP), Tons of refrigeration (TR) and Energy Efficiency Ratio (EER), Refrigerator components: Types of compressors, evaporators and condensers and their functional aspects, defrosting in a refrigerator, Refrigerant leakage and detection

UNIT V: APPLICATIONS OF LOW TEMPERATURE & REFRIGERATION (10 hrs.)

Applications of Low temperatures: Preservation of biological material, Food freezing, liquid nitrogen and liquid hydrogen in medical field, Superconducting magnets in MRI- Tissue ablation (cryosurgery) - Cryogenic rocket propulsion system.
Applications of refrigeration: Domestic refrigerators, Water coolers, Cold storages, Ice plants, Food preservation methods, Chemical and Process industries, Cold treatment of metals, Construction field, Desalination of water, Data centers.

REFERENCE BOOKS:

1. Heat and Thermodynamics by Brij Lal &N.Subramanyam, S.Chand Publishers.
2. Thermal Physics by S C Garg, R M Bansal & C K Ghosh, McGrawHill Education,India
3. Heat and Thermodynamics by M MZemansky,McGrawHill Education (India).
4. Low-Temperature Physics by Christian E. & Siegfried H., Springer.
5. Thermal Engineering by S. Singh, S.Pati, Ch:18 Introduction to Refrigeration.
6. The Physics Hyper Text Book. Refrigerators.https://physics.info/refrigerators/
7. Refrigeration and Air Conditioning by Manohar Prasad, New age international (P) limited, New Delhi
8. A course in Refrigeration and Air Conditioning by S.C. Arora and S. Domkundwar, Dhanpatrai and sons, Delhi
9. https://trc.nist.gov/cryogenics/Papers/Review/2017-Low_Temperature_Applications_and_Challenges.pdf
10. https://nptel.ac.in/content/storage2/courses/112105129/pdf/RAC%20Lecture%203.pdf
11. Other Web sources suggested by the teacher concerned and the reading material. https://nptel.ac.in

B Sc	**Semester V (**Skill Enhancement Course -Elective)	**Credits: 1**

Course: 6B	Low Temperature Physics & Refrigeration Lab	Hrs/Wk: 2

PRACTICAL SYLLABUS *(30 Hrs. Max Marks: 50)*

Learning Outcomes: On completion of practical course, student shall be able to

1. List out, identify and handle equipment used in refrigeration and low temperature lab.
2. Learn the procedures of preparation of Freezing Mixtures.
3. Demonstrate skills on developing various Freezing mixtures and materials and their applications in agriculture, medicine and day to day life.
4. Acquire skills in observing and measuring various methodologies of very low temperatures
5. Perform some techniques related to Refrigeration and Freezing in daily life.

Practical (Laboratory) Syllabus: *(30 hrs. Max marks: 50)*)

1. Record the Principles and applications of Refrigerators and Freezers.
2. Measure the temperatures below Melting point of Ice using a thermometer available in the Lab.
3. Make a freezing mixture by adding different salts viz., Sodium chloride, Potassium Hydrate (KOH), Calcium chloride to ice in different proportions and observe the temperature changes.
4. Study the operation of a refrigerator and understand the working of different parts.
5. Study the properties of refrigerants like chlorofluorocarbons-hydrochlorofluoro- carbons and record the lowest temperatures obtained.
6. Consider a simple faulty refrigerator and try to troubleshoot the simple problems by understanding its working.
7. Understand the practical problem of filling the Freon Gas into the Refrigerator.
8. Get the Liquid Nitrogen or Liquid Helium from nearby Veterinary Hospital and measure their temperatures using chromel-alumel thermocouple or mercury thermometer and observe their physical properties like colour, smell etc and precautions to be taken for their safe handling.
9. Preparation of freeze drying food with Dry ice and liquid nitrogen
10. Preparation of freeze drying food with liquid nitrogen

Lab References:

1. Experimental techniques in low temperature physics by Guy White, PhilipMeeson.
2. Experimental low-temperature physics by A. Kent, Macmillan physical science series
3. Physics and Chemistry at Low Temperatures by Leonid Khriachtchev. https://www.routledge.com/Physics-and-Chemistry-at-Low-Temperatures /Khriachtchev/p/book/9789814267519
4. Practical Cryogenics .http://research .physics illinois.edu /bezryadin /links/practical %20 Cryogenics.pdf
5. Freeze-Drying, 3rd Edition by Peter Haseley, Georg-Wilhelm Oetjen, Wiley (e-Book)
6. Web sources suggested by the teacher concerned.

Co-Curricular Activities:

(a) Mandatory:(*Training of students by teacher in field related skills: (lab:10 + field: 05*)

1. **For Teacher**: Training of students by the teacher in the in the laboratory/field for a total of not less than 15 hours on the techniques/skills of Low Temperature Production, methods used and applications of Low temperatures and refrigeration in day to day life and other applications in medicine and industry.
2. **For Student**: Student shall (individually) visit (i) a small ice plant or a cold storage plant (ii) Air Conditioner (AC) repair shop or (iii) Refrigerator repair shop to understand the construction, working principle and the trouble shooting of these devices after interacting with the technicians. **Or** Student shall observe the various thermodynamic processes taking place while working with the refrigerator and observe the leak detection in refrigeration system by different methods, air removal and charging of a refrigeration unit and testing of a refrigeration system to find out the Refrigerating capacity/Ton of refrigeration (TR) and the Power input. **Or** Student shall identify the refrigerant cylinder by color coding and standing pressure. **Or** Student shall visit the freezer aisle of a supermarket and observes the bags of different frozen fruits. Student shall write the observations and submit a hand-written Fieldwork/Projectwork not exceeding 10 pages in the given format to the teacher.
3. Max marks for Fieldwork/Project work: 05.
4. Suggested Format for Fieldwork/Project work: *Title page, student details, index page, details of place visited, observations, findings and acknowledgements*.
5. Unit tests (IE).

(b) <u>Suggested Co-Curricular Activities</u>

1. Training of students by related Factory, industrial experts.
2. Assignments (including technical assignments like identifying tools in Refrigerators, Freezers and their handling, operational techniques with safety and security)
3. Seminars, Group discussions, Quiz, Debates etc. (on related topics).
4. Preparation of videos on tools and techniques in Low Temperatures and applications.
5. Collection of material/figures/photos related to substances used in Freezing Mixtures, their Properties and availability etc., writing and organizing them in a systematic way in a file.
6. Visits to Ice plants and labs in universities, research organizations, private firms, etc.
7. Making your own mini refrigerator at home
8. Build your own water cooler with the materials available at home.
9. Making hand launched liquid nitrogen rockets
10. Experiments with Liquid nitrogen and strawberry/ banana/ lemon/ onion/ mushroom/ egg etc. (*To be tried under professional supervision only*).
11. Invited lectures and presentations on related topics by field/industrial experts
12. Identification of different Ozone-depleting substances (ODS) that damage the ozone layer in the upper atmosphere.
13. Demonstration to illustrate the greenhouse effect and the role of carbon dioxide as a greenhouse gas using plastic water bottles, flood light lamp, beakers and temperature sensors and observe the temperature changes.
    https://edu.rsc.org/experiments/modelling-the-greenhouse-effect/1543.article
    https://sealevel.jpl.nasa.gov/files/archive/activities/ts1hiac1.pdf

B Sc	**Semester V (**Skill Enhancement Course -Elective)	**Credits: 4**
Course: 7B	**Solar Energy and Applications**	**Hrs/Wk: 4**

Learning Outcomes: After successful completion of the course, the student will be able to:
1. Understand Sun structure, forms of energy coming from the Sun and its measurement.
2. Acquire a critical knowledge on the working of thermal and photovoltaic collectors.
3. Demonstrate skills related to callus culture through hands on experience
4. Understand testing procedures and fault analysis of thermal collectors and PV modules.
5. Comprehend applications of thermal collectors and PV modules.

Syllabus: *(Total Hours: 90 including Teaching, Lab, Field Training, Unit tests etc.)*

UNIT I: BASIC CONCEPTS OF SOLAR ENERGY (10HRS)

Spectral distribution of solar radiation, Solar constant , zenith angle and Air-Mass, standard time, local apparent time, equation of time, direct, diffuse and total radiations. Pyrheliometer - working principle, direct radiation measurement, Pyrometer-working Principle, diffuse radiation measurement, Distinction between the two meters.

UNIT II: SOLAR THERMAL COLLECTORS (10hrs)

Solar Thermal Collectors-Introduction, Types of Thermal collectors, Flat plate collector – liquid heating type, Energy balance equation and efficiency, Evacuated tube collector, collector overall heat loss coefficient, Definitions of collector efficiency factor, collector heat-removal factor and collector flow factor, Testing of flat-plate collector, solar water heating system, natural and forced circulation types. Concentrating collectors, Solar cookers, Solar dryers, Solar desalinators.

UNIT III: FUNDAMENTALS OF SOLAR CELLS (10Hrs)

Semiconductor interface, Types, homo junction, hetero junction and Schottky barrier, advantages and drawbacks, Photovoltaic cell, equivalent circuit, output parameters, conversion efficiency, quantum efficiency, Measurement of I-V characteristics, series and shunt resistance, their effect on efficiency, Effect of light intensity, inclination and temperature on efficiency

UNIT IV: TYPES OF SOLARCELLS AND MODULES (10 hrs)

Types of solar cells, Crystalline silicon solar cells, I-V characteristics, poly-Si cells, Amorphous silicon cells, Thin film solar cells-CdTe/CdS and CuInGaSe2/CdS cell configurations, structures, advantages and limitations, Multi junction cells – Double and triple junction cells. Module fabrication steps, Modules in series and parallel, Bypass and blocking diodes

UNIT V: SOLAR PHOTOVOLTAIC SYSTEMS (10hrs)

Energy storage in PV systems, Energy storage modes, electrochemical storage, Batteries, Primary and secondary, Solid-state battery, Molten solvent battery, lead acid battery and dry batteries, Mechanical storage – Flywheel, Electrical storage – Super capacitor

REFERENCES BOOKS:

1. Solar Energy Utilization by G. D. Rai, Khanna Publishers
2. Solar Energy- Fundamentals, design, modelling and applications by G.N. Tiwari, NarosaPublications, 2005.
3. Solar Energy-Principles of thermal energy collection & storage by S.P. Sukhatme, Tata Mc-Graw Hill Publishers, 1999.
4. Science and Technology of Photovoltaics, P. Jayarama Reddy, CRC Press (Taylor & Francis Group), Leiden &BS Publications, Hyderabad, 2009.
5. Solar Photovoltaics- Fundamentals, technologies and applications, Chetan Singh Solanki, PHI Learning Pvt. Ltd.,
6. Web sources suggested by the teacher concerned and the college librarian including reading material.
   (a) https://courses.edx.org/c4x/DelftX/ET.3034TU/asset/solar_energy_v1.1.pdf
   (b) https://www.sku.ac.ir/Datafiles/BookLibrary/45/John%20A.%20Duffie,%20William%2 0A.%20Beckman(auth.)-Solar%20Engineering%20of%20Thermal%20Processes,%20Fourth%20Edition%20(2013).pdf

B Sc	Semester V (Skill Enhancement Course -Elective)	Credits: 1
Course: 7B	Solar Energy and Applications Lab	Hrs/Wk: 2

Practical (lab) work *(30 hrs, Max Marks:50)*

Learning Outcomes : On successful completion of this practical course, studentshall be able to:

1. List out and identify various components of solar thermal collectors and systems, solarphotovoltaic modules and systems.
2. Learn the procedures for measurement of direct, global and diffuse solar radiation, I -V characteristics and efficiency analysis of solar cells and modules.
3. Demonstrate skills acquired in evaluating the performance of solar cell / module inconnecting them appropriately to get required power output.
4. Acquire skills in identification and elimination of the damaged panels without affectingthe output power in a module / array.
5. Perform procedures and techniques related to general maintenance of solar thermal andphotovoltaic modules.

Practical (Laboratory) Syllabus: (**30 hrs**) (Max.50 Marks)

1. Measurement of direct radiation using pyrheliometer.
2. Measurement of global and diffuse radiation using pyranometer.
3. Evaluation of performance of a flat plate collector
4. Evaluation of solar cell / module efficiency by studying the I – V measurements.
5. Determination of series and shunt resistance of a solar cell / module.
6. Determination of efficiency of two solar cells / modules connected in series.
7. Determination of efficiency of two solar cells / modules connected in parallel.
8. Study the effect of input intensity on the performance of solar cell / module.
9. Study the influence of cell / module temperature on the efficiency.
10. Study the effect of cell / module inclination on the efficiency.

LAB REFERENCES:

1. Solar Photo voltaic- Alab training manual, C.S. Solanki et al., Foundation Books Publishers,2012.
2. Laboratory Manual on Solar thermal experiments, HP Garg, TC Kandpal, Narosa Publishing House 2000.
3. Web sources suggested by the teacher concerned.
   https://renewablelab.niu.edu/experiments/solarPanel Development of simple solar hot water collector: https://www.youtube.com/watch?v=WP8H5IOTwYU
   https://www.instructables.com/Solar-Water-Heater-From-Scratch/

Co-curricular Activities:

(a) Mandatory: (*Training of students by teacher in field related skills: (lab:10 + field: 05*)

1. **For Teacher**: Training of students by the teacher in the in the laboratory/field for not less than 15 hours on the field techniques/skills related to measurement of direct, diffused and global solar radiation; demonstration of procedures used in the performance evaluation of solar flat plate collectors, solar photovoltaic cells and modules measurement of different parameters in the calculation of efficiency.

2. **For Student**: Students shall visit to solar thermal and photovoltaic laboratories in universities/research organizations/ nearby industries to observe and understand the techniques and procedures used for evaluation of solar collector, solar cell and module efficiencies. They shall write their observations and submit to the teacher hand-written Fieldwork/Project work not exceeding 10 pages in the given format.
3. Max marks for Fieldwork/Project work: 05.
4. Suggested Format for Fieldwork/Project work: *Title page, student details, index page, details of place visited, observations, findings and acknowledgements*.
5. Unit tests (IE).

(b) Suggested Co-Curricular Activities

1. Training of students by related industrial/ technical experts using guest lectures/ invited talks.
2. Assignments (including technical assignments like identifying components of a solar hot water and solar photovoltaic systems and their handling, operational techniques and maintenance procedures with safety and security)
3. Seminars, Group discussions, Quiz, Debates etc. on related topics.
4. Preparation of videos on thermal and photovoltaic systems and technical procedures.
5. Collection of brochures/figures/photos related to products and applications of solar energy and organizing them in a systematic way in a file.
6. Making a (i) solar panel (ii) solar light (iii) solar cooker (iv) solar oven (v) solar inverter atHome.
7. Visits to nearby solar thermal system as well as solar photovoltaic power stations, firms,research organizations etc.

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B Sc	**Semester V (**Skill Enhancement Course -Elective)	**Credits: 4**
Course: 6C	**Applications of Electricity & Electronics**	**Hrs/Wk: 4**

Learning Outcomes: Students after successful completion of the course will be able to:

1. Identify various components present in Electricity& Electronics Laboratory.
2. Acquire a critical knowledge of each component and its utility (like resistors, capacitors, inductors, power sources etc.).
3. Demonstrate skills of constructing simple electronic circuits consisting of basic circuit elements.
4. Understand the need & Functionality of various DC & AC Power sources.
5. Comprehend the design, applications and practices of various electrical & Electronic devices and also their trouble shooting.

Syllabus: *(Total Hours: 90 including Teaching, Lab, Field Training, Unit tests etc.)*

UNIT I: INTRODUCTION TO PASSIVE ELEMENTS (10 hrs.)

Passive and Active elements-Examples, **Resistor**-Types of Resistors, Color coding - Applications of a Resistor as a heating element in heaters and as a fuse element. **Capacito**r-Types of Capacitors, Color coding, Energy stored in a capacitor, Applications of Capacitor in power supplies, motors(Fans) etc.**, Inductor**-Types of Inductors, EMF induced in an Inductor, Applications of Inductor, Application of choke in a fan and in a radio tuning circuit, Series resonance circuit as a Radio tuning circuit.

UNIT II: Power Sources (Batteries) (10 hrs.)

Types of power sources-DC & AC sources, Different types of batteries, Rechargeable batteries –Lead acid batteries, Ni-MH batteries, Li-ion batteries- Li-PO batteries, Series, Parallel& Series-Parallel configuration of batteries, Constant Voltage source-Constant Current Source-Applications of Current sources & Voltage sources, SMPS used in computers.

UNIT III: Alternating Currents (10 hrs)

A.C Power source-Generator, Construction and its working principle, Transformers-Construction and its working principle, Types of Transformers-Step-down and Step-up Transformers, Relation between primary turns and secondary turns of the transformer with emf., Use of a Transformer in a regulated Power supplies, Single phase motor –working principle, Applications of motors(like water pump, fan etc.).

UNIT IV: Power Supplies (Skill Based) (10 hrs.)

Working of a DC regulated power supply, Construction of a 5 volts regulated power supply, Design of a step-down (ex: 220-12V) and step-up (ex: 120-240V) transformers- Simple Design of FM Radio circuit using LCR series resonance (tuning) circuit, Checking the output voltage of a battery eliminator using a MultiMate.(Trouble shooting), Design of a simple 5 volts DC charger, Power supply for computers(SMPS)

UNIT V: Applications of Electromagnetic Induction (10 hrs.)

DC motor –Construction and operating principle, Calculation of power, voltage and current in a DC motor, Design of a simple Motor (for example Fan) with suitable turns of coil-DC generator-Construction, operating principle and EMF equation, Construction of a simple DC generator, Difference between DC and AC generators

REFERENCES BOOKS:

1. Grob's Basic Electronics by Mitchel Schultz , TMH or McGraw Hill
2. Electronic and Electrical Servicing by Ian Robertson Sinclair, John Dunton, Elsevier Publications
3. Troubleshooting Electronic Equipment by R.S.Khandapur , TMH
4. Web sources suggested by the teacher concerned and the college librarian including reading material.

B Sc	Semester V (Skill Enhancement Course -Elective)	Credits: 1
Course: 6C	Applications of Electricity & Electronics Lab	Hrs/Wk: 2

PRACTICAL SYLLABUS *(30 hrs, Max Marks:50)*

Learning Outcomes: On successful completion of this practical course, studentshall be able to:

1. List out, identify and handle various equipment in Electrical & Electronics laboratory.
2. Learn the procedures of designing simple electrical circuits.
3. Demonstrate skills on the utility of different electrical components and devices.
4. Acquire the skills regarding the operation, maintenance and troubleshooting of variousDevices in the lab.
5. Understand the different applications of Electromagnetic induction.

Practical (Laboratory) Syllabus: *(30 hrs, Max marks:50*)

1. Acquainting with the soldering techniques
2. Design and Construction of a 5 Volts DC unregulated power supply
3. Construction of a Step down Transformer and measurement of its output voltage. And to compare it with the calculated value.
4. Connect two or three resistors or capacitors or inductors and measure the Series, Parallel Combination values using a Multimeter and compare the values with theCalculated values.
5. Use the Digital Multimeter and Analog Multimeter to measure the output voltage of an AC &DC power supply and also the voltage and frequency of a AC signal using CRO.
6. Use the Multimeter to check the functionality of a Diode and Transistor. Also test whether the given transistor is PNP or NPN.
7. Construct a series electric circuit with R, L and C having an AC source and study the frequency response of this circuit. Find the Resonance Frequency.
8. Construct a Parallel electric circuit with R, L & C having an AC source and study the frequency response of this circuit .Find the resonant frequency.
9. Test whether a circuit is a Open circuit or Short Circuit by measuring continuity with a Multimeter and record your readings.

Lab References:

1. Laboratory Manual for Introductory Electronics Experiments by Maheshwari, L.K. Anand, M.M.S., New Age International (P) Ltd.
2. Electricity-Electronics Fundamentals: A Text-lab Manual by Paul B. Zbar,Joseph Sloop, & Joseph G. Sloop , McGraw-Hill Education
3. Laboratory Manual Basic Electrical Engineering by Umesh Agarwal, Notion Press
4. Basic Electrical and Electronics Engineering by S.K. Bhattacharya , Pearson Publishers.
5. Web sources suggested by the teacher concerned.

Co-Curricular Activities:

(a) Mandatory:(*Training of students by teacher in field related skills: (lab:10 + field: 05*)

1. **For Teacher**: Training of students by the teacher (if necessary, by a local expert) in laboratory/field for not less than 15 hours on the understanding of various electronic &electrical components and devices. And also understand the functional knowledge of these components and devices so that the student can safely handle these electronic components.

2. **For Student**: Students shall (individually) visita local Radio, TV or Mobile repair shop to understand the testing and soldering techniques and different electronic components in the devices that we use daily life. And also to understand the troubleshooting and working of domestic appliances such as cell phone chargers, fan, electric iron, heater, inverter, micro oven, washing machine etc.(Or)Students shall also visit the Physics/Electronics or Instrumentation Labs of nearby local institutions and can get additional knowledge by interacting with the technical people working there. (Or)Students shall also visit the local motor winding shop to understand the motor winding and working of different types of motors. After the observations, a hand- written Fieldwork/Project work not exceeding 10 pages in the given format to be submitted to the teacher.
3. Max marks for Fieldwork/Project work: 05.
4. Suggested Format for Fieldwork/Project work: *Title page, student details, index page,details of place visited, observations, findings and acknowledgements*.
5. Unit tests (IE).

(b) Suggested Co-Curricular Activities

1. Training of students by related industrial experts.
2. Assignments (including technical assignments like identifying various electrical and electronic components &devices and their handling, operational techniques with safety and security)
3. Seminars, Group discussions, Quiz, Debates etc. (on related topics).
4. Preparation of videos on tools and techniques in Electrical & Electronic Appliances indaily life.
5. Collection of material/figures/photos related to Electrical products like Heaters, Motors, Fans etc. and writing and organizing them in a systematic way in a file.
6. Visits to nearby electrical or electronic industries or laboratories in universities, research organizations, private firms, etc.
7. Invited lectures and presentations on related topics by field/industrial experts

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B Sc	**Semester V (**Skill Enhancement Course -Elective)	**Credits: 4**
Course: 7C	**Electronic Instrumentation**	**Hrs/Wk: 4**

Learning Outcomes: Students after successful completion of the course will be able to:

1. Identify various facilities required to set up a basic Instrumentation Laboratory.
2. Acquire a critical knowledge of various Electrical Instruments used in the Laboratory.
3. Demonstrate skills of using instruments like CRO, Function Generator, Multimeter etc. through hands on experience.
4. Understand the Principle and operation of different display devices used in the display systems and different transducers
5. Comprehend the applications of various biomedical instruments in daily life like B.P. meter, ECG, Pulse oxymeter etc. and know the handling procedures with safety and security.

Syllabus: *(Total Hours: 90 including Teaching, Lab, Field Training, Unit tests etc.)*

UNIT I: INTRODUCTION TO INSTRUMENTS (10 hrs)

Types of electronic Instruments- Analog instruments & Digital Instruments, DC Voltmeter and AC Voltmeter, Construction and working of an Analog Multimeter and Digital Multimeter (Block diagram approach),Sensitivity, 3½display and 4½ display Digital multimeters, Basic ideas on Function generator

UNIT II: OSCILLOSCOPE (10 hrs)

Cathode Ray Oscilloscope-Introduction, Block diagram of basic CRO, Cathode ray tube, Electron gun assembly, Screen for CRT, Time base operation, Vertical deflection system, Horizontal deflection system, Use of CRO for the measurement of voltage (DC and DC), frequency, phase difference, Different types of oscilloscopes and their uses, Digital storage Oscilloscope

UNIT III: TRANSDUCERS (10 hrs)

Classification of transducers, Selection of transducers, Resistive, capacitive & inductive transducers, Resistive and capacitive touch screen transducer used in mobiles, Displacement transducer-LVDT, Piezoelectric transducer, Photo transducer, Digital transducer, Fibre optic sensors

UNIT IV: DISPLAY INSTRUMENTS (10 hrs)

Introduction to Display devices, LED Displays, Seven Segment Displays, Construction and operation (Display of numbers),Types of SSDs(Common Anode &Common Cathode type), Limitations of SSDs, Liquid Crystal Displays, Principle and working of 2x16 display and 4x16 LCD modules, Applications of LCD modules.

UNIT V: BIOMEDICAL INSTRUMENTS (10 hrs)

Basic operating principles and uses of (i) Clinical thermometer (ii) Stethescope (iii) Sphygmomanometer (iv) ECG machine (v) Radiography (vi) Ophthalmoscope (vii) Ultrasound scanning (viii) Ventilator (ix) Pulse oxymeter (x) Glucometer, Basic ideas of CT scan and MRI scan

REFERENCE BOOKS:

1. Electronic Instrumentation by H.S.Kalsi , TMH Publishers
2. Electronic Instrument Hand Book by Clyde F. Coombs , McGraw Hill
3. Introduction to Biomedical Instrumentation byMandeep Singh, PHI Learning.
4. Biomedical Instrumentation and Measurements by Leslie Cromwell ,Prentice HallIndia.
5. Electronic Measurements and Instrumentation by Kishor, K Lal, Pearson, New Delhi
6. Electrical and Electronic Measurements by Sahan, A.K., Dhanpat Rai, New Delhi
7. Electronic Instruments and Measurement Techniques by Cooper, W.D. Halfrick, A.B., PHI Learning, New Delhi
8. Web sources suggested by the teacher concerned and the college librarian including reading material.

B Sc	**Semester V (**Skill Enhancement Course -Elective)	**Credits: 1**
Course: 7C	**Electronic Instrumentation Lab**	**Hrs/Wk: 2**

PRACTICAL SYLLABUS : *(30 Hrs. Max Marks: 50)*

Learning Outcomes: On successful completion of this practical course, student shall beable to:

1. List out, identify and handle various equipment in Instrumentation Laboratory or Electronic Laboratory.
2. Learn the construction, operational principles of various instruments.
3. Demonstrate skills on handling, Maintenance & trouble shooting of different instruments used in the Labs.
4. Acquire skills in observing and measuring various electrical and electronic quantities.
5. Perform some techniques related to Biomedical Instrumentation and measurement of Certain physiological parameters like body temperature, B.P. and sugar levels etc.

Practical (Laboratory) Syllabus: *(30 hrs. Max marks: 50*)

1. Familiarisation of digital multimeter and its usage in the measurements of (i) resistance (ii) current, (iii) AC & DC voltages and for (i) continuity test (ii) diode test and (iii) transistor test
2. Measure the AC and DC voltages, frequency using a CRO and compare the values Measured with other instruments like Digital multimeter.
3. Formation of Sine, Square wave signals on the CRO using Function Generator and measure their frequencies. Compare the measured values with actual values.
4. Display the numbers from 0 to 9 on a single Seven Segment Display module by Applying voltages.
5. Display the letters **a** to **h** on a single Seven Segment Display module by applying voltages.
6. Measurement of body temperature using a digital thermometer and list out the error and corrections.
7. Measurement of Blood Pressure of a person using a B.P. meter and record your values and analyze them.
8. Get acquainted with an available ECG machine and study the ECG pattern to understand the meaning of various peaks
9. Observe and understand the operation of a Digital Pulse oxymeter and measure the pulse rate of different people and understand the working of the meter.

LAB REFERENCES:

1. Electronic Measurement and Instrumentation by J.P. Navani. ,S Chand & Co Ltd
2. Principles of Electronic Instrumentation by A De Sa, Elsevier Science Publ.
3. Electronic Measurements and Instrumentation by S.P.Bihari, YogitaKumari, Dr. Vinay Kakka, Vayu Education of India .
4. Laboratory Manual For Introductory Electronics Experiments by Maheshwari, New Age International (P) Ltd., Publishers.
5. Electricity-Electronics Fundamentals: A Text-lab Manual by Paul B. Zbar ,Joseph Sloop, & Joseph G. Sloop, McGraw-Hill Education.
6. Web sources suggested by the teacher concerned.

Co-Curricular Activities

(a) Mandatory:(*Training of students by teacher in field related skills: (lab:10 + field:05*)

1. **For Teacher**: Training of students by the teacher in the in the laboratory/field for not less than 15 hours on the field techniques/skills of understanding the operation, Maintenance and utility of various electrical and electronic instruments both in the Laboratory as well as in daily life.

   For Student: Students shall (individually)visit a local electrical and electronics shop or small firm to familiarize with the various electrical and electronic instruments available in the market and also to understand their functionality, principle of operation and applications as well as the troubleshooting of these instruments.(Or) Student shall visit a diagnostic centre and observe the ECG machine and the ECG pattern(Or) Student shall visit a diagnostic centre and observe the CT scan and MRI scan.(Or) Student shall visit a mobile smart phone repair shop and observe the different components on the PCB(Motherboard), different ICs (chips) used in the motherboard and trouble shooting of touch screen in smart phones.

   Observations shall be recorded in a hand-written Fieldwork/Project work not exceeding 10pages in the given format to be submitted to the teacher.
2. Max marks for Fieldwork/Project work: 05.
3. Suggested Format for Fieldwork/Project work: *Title page, student details, index page,details of place visited, observations, findings and acknowledgements*.
4. Unit tests (IE)

(b)Suggested Co-Curricular Activities

1. Training of students by related industrial / technical experts.
2. Assignments (including technical assignments like identifying different measuring instruments and tools and their handling, operational techniques with safety and security.
3. Seminars, Group discussions, Quiz, Debates etc. (on related topics).
4. Making your own stethoscope at home.
5. Making seven segment display at home.
6. Preparation of videos on tools and techniques in various branches of instrumentation.
7. Collection of material/figures/photos related to products of Measuring Instruments,

Display Modules and Biomedical Instruments and arrange them in a systematic way in a file.

8. Visits to Instrumentation Laboratories of local Universities or Industries like Cement, Chemical or Sugar Plants etc. or any nearby research organizations, private firms, etc.
9. Invited lectures and presentations on related topics by Technical /industrial experts

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MODEL QUESTION PAPER (Sem - End)

B.Sc DEGREE EXAMINATION
Semester – I
Paper 1: MECHANICS,WAVES AND OSCILLATIONS

Time: 3 hrs **Maximum Marks : 75**

Section A

Answer Any Five Questions **5X5=25M**

1. Impact Parameters
2. అభిఘాతా పరామితి
3. Write a short note on Gyroscope
4. గైయిరోస్కోప్ ను వివరింపుము
5. Show the conservative nature of central forces
6. కేంద్రీయ బలాల యొక్క నిత్యత్వమును చూపుము
7. Give brief idea about GPS
8. GPS గురించి క్లుప్తంగా వ్రాయుము
9. If a Rod travels with a speed with V=0.6c along its length , calculate the percentage of contraction
10. 0.6 వేగముతో చాలించుచున్న కడ్డీ యొక్క సంకుచిత్వాత్వము యొక్క శాతమునును కనుగొనుము
11. What is the fundamental frequency of piezo-electric crystal if $y = 8*10^8$ pa , $p= 2.5 *10^3$ m k g /m^3 and vibrating length is 3 x10^3 .
12. స్పయిజో స్ఫటికము యొక్క పౌన:పుణ్యమును కనుగొనుము
13. Find the fundamental frequency of longitudinal wave in rod of 1m length fixed at the mid point with both the ends being free .given the velocity of the sound in the bar V=3000m/s and the density of the material of the bar p=8600kg/ m3.
14. మధ్యన బిగించబడిన మీటర్ కడ్డిలోని అనుదైర్ఘ్య తరంగ ప్రాథమిక పౌన: పుణ్యము కనుగొనుము కడ్డిలో ధ్వని వేగము V=3000m/s కడ్డీ లోహ సాంద్రత p=8600kg/ m3.
15. Write five applications of Ultrasonic
16. అతిధ్వనుల యొక్క అనువర్తనాలు ఐదు వ్రాయుము

Section B

Answer ALL The Questions. **5X10 = 50M**

17. a) Explain the principle of motion of a rocket and derive for its velocity at any instant when it is moving under constant gravitational field
18. రాకెట్ గమన నియమమును వివరించుము . స్థిర గురుత్వాకర్షణ కక్షలోతిరుగుతున్నప్పుడు ఏదైనా ఒక సమయంలో దాని వాగమును రాబట్టుము
19. (OR)
20. b) Derive Euler equations

21. యూలర్ సూత్రమును రాబట్టుము

22. a) Define Central forces and show that they are conservative in nature.

23. కేంద్రీయ బలాలను వివరించి వాటి నిత్యత్వంను నిరూపించుము

24. (OR)

25. b) State and prove Kepler's laws of planetary motion.

26. కెప్లర్ గృహక నియమాలను వ్రాసి నిరూపించుము

27. a) Describe Michelsons- morleys experiment. Explain negative result.

28. మాక్స్వెల్ - మార్లేప్రయోగమును వివరించి , రుణ ఫలితమును నిరూపించుము

29. (OR)

30. b) Explain Einsteins mass energy relation.

31. ఐనస్టీన్ యొక్క ద్రవ్యరాశి - శక్తి నియమాన్ని వివరింపుము

32. a) Solve the differential equation of damped Harmonic Oscillator and discuss the critical damping.

33. సందిగ్ద తీగలో విరుద్ధ డోలనాల అవకలన సమీకరణాలను సాధింపుము

34. (OR)

35. b) Discuss about two coupled oscillator and derive expression for normal modes.

36. ద్వంద యుగ్మత డోలనాల సమీరణాలను సాధింపుము

37. a) Derive an equation for the propagation of transvers waves along string. Discuss the case of string clamped at both ends.

38. సాగతీయబడిన తీగలో తిర్యక్ తరంగ సమీకరణమును రాబట్టుము ఇరువైపులా బిగించబడిన తీగలోని కంపాలానాను వివరింపుము

39. (OR)

40. b) Explain the production of Ultrsonics using Piezo electric method.

41. పైజో విద్యుత్ పద్దతి ద్వారా అతిధ్వనులు ఉత్పాదనము విరింపుము

MODEL QUESTION PAPER (Sem - End)
B.Sc DEGREE EXAMINATION
Semester – II
Paper 2: Wave Optics

Time: 3 hrs **Maximum Marks : 75**

Section A

Answer Any Five Questions **5X5=25M**

1. Explain the defects coma and astigmatism in a lens. How are they minimized?
   బిందు విస్తరణ మరియు కేంద్రక ఆవరణ వివరింపుము. వాటిని ఆడామగా తొలగించవచ్చును
2. Distinguish between Fresnel and Fraunhoffer diffractions
   ప్రేనల్ మరియు ప్రాన్ హెపర్ వివర్తనముల విత్యాసమును వివరిముంపుము
3. What are quarter and half wave plates?
   ఆర్డతరంగా మరియు క్వార్టాసు తరంగ పలక వివరింపుము
4. What is holography? Mention its uses.
   హెలోగ్రఫీ అనగానేమి దాని ఉపయోగాలు వ్రాయండి
5. A double convex lens has radii of 40 cm and 10 cm. If the refractive indices for violet and red colours are 1.52 and 1.51 respectively, what is the longitudinal chromatic aberration for an object at infinity?
   ద్వంద కుంభాకార కటకం యొక్క వాసర్ధాలు 40 cm & 10 cm ఎరుపు మరియు ఉదరంరంగు గల వక్రీభవన గుణకములు 1.52 మరియు 1.51 వస్తువు అనంతదూరంలో ఉన్నపుడు అనుదెయిర్గ్య వర్ణ విపాదనము కనుగొనుము
6. A lens of thickness of 2cm and refractive index 1.5 placed in air has radii of curvature 8 cm and 8 cm. Find the system matrix and focal length.
   2cm మందము 1.5 వక్రీభవన గుణకములు గల కటకం గాలిలో ఉన్నపుడు దాని వక్రతల వ్యాసార్ధము 8cm నాభ్యంతరము మరియు మాత్రికను కనుగొనుము
7. A 15 cm tube containing cane sugar solution shows optical rotation 7_0. Calculate the strength of the solution.
   2 చక్కెర ద్రావణము 15cm గొట్టంలో దృశ్య 7^0 చూపగా ఆ ద్రావణము యొక్క సామర్ధ్యమును లెక్కించుము
8. In Newton's rings arrangement the radius of curvature of the curved surfaces is 50 cm. The radii of the 9^{th} and 16th dark rings are 0.18 cm and 0.2235 cm. Calculate the wave length of the source of light.
   లెన్యూట్టాన్ వలయాల ప్రయోగంలో 9 మరియు 16వ చీకటి వలయాల వ్యాసార్ధం 0.18cm&0.2235cm వక్రతల వ్యాసార్ధం 50cm అయినచో కాంతి యొక్క తరంగ ధెయిర్గ్య ము లెక్కించుము

Section B

Answer ALL The Questions. **5X10 = 50M**

9. a) What is chromatic aberration? Obtain an expression for the chromatic aberration of a lens.
   వరణ విపదనము అనగానేమి ? ఒక కటకం యొక్క వర్ణవిపదమును యొక్క సామ్,అర్ధ్యము వివరింపుము

(OR)

b) Explain spherical aberration. Describe minimization techniques

గోళీయ విపదనము అనగానేమి . దానిని ఏట్లు నివారించవచ్చును

10. a) How are Newton's rings formed? Describe Newton's rings experiment to determine the wave length of a monochromatic light with necessary theory.
న్యూటన్ వలయాలు ఏల ఏర్పడతాయి. ఏకవర్ణకాంతి తరంగాధేయిర్ఘ్యాన్ని న్యూటన్ వలయాల ద్వారా ఏల కనుగొందురు

(OR)

b) Explain how to determine thickness of given thin wire by forming wedge shaped film.

వెడ్జ్ విధానము అనుసరించి ఇచ్చిన తీగ మందమును ఏలా కనుగొందువు

11. a) What is a zone plate? Describe its action. Explain how a zone plate acts like a convergent lens having multiple foci.
మండల పలకము అనగానేమి ? దాని క్రియను వివరించి మండల పలకము అనేక న్యాబ్యాంతరముల కల కుంభాకార కతకుము వలె పనిచేయును అని చూపుము

(OR)

b) Explain diffraction of light due to single slit.

ఏకరీతి చీలిక వల్ల ఏర్పడు వివర్తనమును వివరింపుము

12. a) Describe the construction and working of a Nicol prism. Give any method of producing plane polarized light.
నికాల్ పట్టక నిర్మాణమును మరియు పనిచేయు విధానమును విరింపుము ఏకరీతి ద్రావిత కాంతిని పొందు ఒక విధానమును వివరింపుము

(OR)

b) Define optical activity. Describe how the specific rotation of given optically active substance using laurant's half schade polarimeter.
ద్రావణా తలా భ్రమణము అనగానేమి లారెంట్ అర్ధచాయా ధ్రువణమాపకము ద్వారా బ్రహ్మకమును ఏల కనుగొందువు

13. a) Explain construction and working of He-Ne laser.

హీలియం -నియాన్ లేజర్ యొక్క నిర్మాణము మరియు పనిచేయు విధానము వివరింపుము

(OR)

b) A double convex lens has radii of 40 cm and 10 cm. If the refractive indices for violet and red colours are 1.52 and 1.51 respectively, what is the longitudinal chromatic aberration for an object at infinity?
ద్వంద కుంభాకార కటకం యొక్క వాసర్ధాలు 40 cm & 10 cm ఎరుపు మరియు ఉదరంరంగు గల వక్రీభవన గుణకములు 1.52 మరియు 1.51 వస్తువు అనంతదూరంలో ఉన్నపుడు అనుదెయిర్ఘ్య వర్ణ విపాదనము కనుగొనుము

MODEL QUESTION PAPER (Sem - End)

B.Sc DEGREE EXAMINATION
Semester – III
Paper 3: Heat &Thermodynamic

Time: 3 hrs **Maximum Marks : 75**

Section A

Answer Any Five Questions **5X5=25M**

1. Derive an expression for the coefficient of viscosity of a gas on the basis of kinetic theory of gases.
   వాయుస్నిగ్ధతాగుణకమును అణు చలన సిద్దాంతము ద్వారా వివరింపుము
2. What are pyrometers? Describe disappearing filament optical pyrometer.
   మాయమైపోయే తీగ దృశా పిరోమీటర్ నిర్మాణమును వివరింపుము
3. What are pyrometers? Describe disappearing filament optical pyrometer
   కార్నడ్ సిద్దాంతమును వ్రాసి వివరించుము
4. Obtain clausius- clapeyron equation from Maxwell's equations
   మాక్స్వెల్ సమీకరణం ద్వారా క్లాసియస్ -క్లాపిరాన్ సమీకరణాని ఉత్పాదించుము
5. Discuss the effects of Chloro and fluoro carbons on ozone layer
   ఓజోన్ పొరమీద క్లోరో - ఫ్లోరో కార్బన్ ల యొక్క చర్యను విరింపుము
6. What is Entropy. And explain how it changes in a reversible process
   ఎంట్రోపిని వివరింపుము. ఉత్క్రమినియా ప్రక్రియలో దాని మార్పునుము విరింపుము
7. The efficiency of a Cornot's engine is 60%. Calculate the increase in temperature of the source so that the efficiency becomes 70%.
   కార్నో ఇంజను యొక్క సామర్థ్యం60%. దాని సామర్థ్యం 0% అయితే దాని ఉత్పదక లోని ఉష్ణోగ్రత పెరుగుదల ఎంత
8. Calculate the surface temperature of the Sun, given the radius of the Sun = 7.04 x 10^5 Km, distance of the Sun from the earth = 14.72 x 10^7 Km, solar constant = 1400 W/m^2 and Stefan's constant = 5.7 x 10^{-8} $Wm^{-2}K^{-4.}$
   సూర్యుని ఉపరితల ఉష్ణోగ్రతను లెక్కించుము60%.. సూర్యుని వ్యాసార్ధం 7.04 x 10^5 Km భూమినుండి సూర్యునికి గల దూరం 14.72 x 10^7 Km సౌర సిద్దాంతం 1400 W/m^2 మరియు స్థేపాన్ స్థిరాంకం

Section B

Answer ALL The Questions. **5X10 = 50M**

9. a) Derive Maxwell's distribution law of velocities.
   మాక్స్వెల్ వేగా వితరణ సూత్రాన్ని రాబట్టండీ

   (OR)

   b) Define coefficient of viscosity and thermal conductivity and derive the relation between them using Kinetic theory of gasses.
   స్నిగ్ధతాగుణము మరియు ఉష్ణ వాహకత్వముయు నిర్వహించి వాటి మధ్య సంబంధమును వ్రాయు అణు చలన సిద్దాంతము ద్వారా రాబట్టుము

10. a) Derive Plank's law of radiation. Derive an expression for energy distribution?
ప్లాంక్ వికిరణ సూత్రాన్ని రాబట్టుము , శక్తి వితరణ సత్రాన్ని వివరింపుము
(OR)
b) Explain the construction and working of PyroHelio meter.
పైరోహేలియో మీటర్ యొక్క నిర్మాణము మరియు పనితనం వ్రాయుము
11. a) Describe the working of Cornot's engine and derive the expression for its efficiency
కార్నో ఇంజను పనితనం మరియు దాని సామర్థ్యమును ఉత్పాదించుము
(OR)
b) Explain T-S diagram and derive expression for effiency
T-S పఠమను విఅరిచి దాని సామర్థ్యమును ఉత్పాదించుము
12. a) What are thermodynamic potentials? Derive Maxwell's thermodynamic relations.
ఉష్ణగతిక శక్మాలను నిర్వచించుము, తద్వారా మాక్స్వెల్ ఉష్ణగతిక సమీకరణాన్ని రాబట్టండి
(OR)
b) Define Joule Thomson effect and derive and expression for cooling
జౌల్ - థామ్సన్ ఫలితము వివరింపుము , జౌల్ - థామ్సన్ శీతలీకణానికి సమీకరణని వివరింపుము
13. **a)** Describe how low temperatures are produced by adiabatic demagnetization. Give the theory of the experiment.
స్థిరోష్ణ నిరయస్కాంతీకరణం ద్వారా అల్ప ఉష్ణోగ్రతలను ఏ విధంగా పొందవచునో వివరింపుము
(OR)
b) Explain the liquification of air by Linde's methode.
లిండే పద్దతి ద్వారా వ్రాయుద్రువీకరణము వివరింపుము

MODEL QUESTION PAPER (Sem - End)

B.Sc DEGREE EXAMINATION
Semester – IV
Paper 4: Electricity, Magnetism &Electronics

Time: 3 hrs **Maximum Marks : 75**

Section A

Answer Any Five Questions **5X5=25M**

1. Derive expression for the potential due to a point charge.
   బిందు ఆవేశము వలన కలిగే పొటెన్సీల్ ఉత్పేదించుము
2. What is Hall Effect? Write the applications of Hall Effect.
   హాల్ ఎఫెక్ట్ ఫలితము అనగానేమి దాని అనువర్తనాలను వ్రాయండి
3. Write the integral and differential forms of Maxwell's equations.
   మాక్స్వెల్ నియమాల ఇంటెగ్రల్ మరియు సంకలన రూపాలను వ్రాయుము
4. Derive the relation among D, E and P.
   D, E and P మధ్య గల సంబంధము వ్రాయుము
5. Calculate the resonance frequency of a LCR series circuit with a resistance 10&!, inductance 20mH and a capacitance of 0.02μF
   LCR వలయం యొక్క అనువాద పౌనపుణ్యంను కనుగొనుము నిరోధము వోమ్ 10 &! ఇండక్టన్స్ మరియు కెపాసిటన్స్ 20mH, 0.02μF.
6. For a transistor α =0.95 and its emitter current is 1mA. Find its base and collector currents.
   ట్రాన్సిస్టర్ యొక్క α =0.95 మరియు ఉద్గార విద్యుత్ 1mA అయితే ఆధార మరియు కలక్టర్ విద్యుత్ విలువ ఎంత.
7. Convert the following binary numbers into equivalent decimal number
   i. 101010101 ii. 1111001
   ఈ క్రింది ద్వి సంఖ్యా మానంలోని సంఖ్యలను దశాంశ సంఖ్యలుగా వ్రాయుము
   i. 101010101 ii. 1111001
8. Perform the following subtraction using 2's compliment method
   i. 101101 – 011110 ii. 11110111 – 00001100
   ఈ క్రింది వ్యత్యాసములను 2' కాంప్లీమెంట్ పద్ధతి ద్వారా కనుగొనుము
   i. 101101 – 011110 ii. 11110111 – 00001100

Section B

Answer ALL The Questions. **5X10 = 50M**

9. a) State and prove Gauss's law.
   గాస్ నియమమును వ్రాసి నిరూపించుము

(OR)

b) Derive expression for the capacitance of parallel plate capacitor with dielectric slab

సమాంతర పలకల మధ్య నిరోధమును ఉంచినప్పుడు కెపాసిటెన్స్ ని ఉత్పాదించుము

10. a) State and explain Biot - Savart's law. Derive an expression for the magic induction at a point on the axis of a current carrying solenoid.
బయోడ్ - స్టావర్ట్ నియమమును వివరించుము ? సొలినాయిడ్ లో విద్యుత్ ప్రవహిస్తునట్లుగా దాని అక్షం మీద ఉన్న బిందువు వద్ద అయస్కాంత తీవ్రతను వివరింపుము.

(OR)

b) Explain Faraday's laws of electromagnetic induction. Derive expression for coefficient of coupling.
ఫెరాడేస్ విద్యుత్ అయస్కాంత నియమమును వ్రాయుము ? కంపీలింగ్ విధానాన్ని ఉత్పాదించుము

11. a)Describe the behavior of series LCR circuit when an alternating voltage is applied to it. Explain the condition for resonance.
LCR విలయానికి ఏ. సి వోల్టేజి ఇచ్చినప్పుడు దాని ప్రవర్తన వ్రాయుము మరియు అనువాద నియమము వివరింపుము

(OR)

b) Derive the equation of electromagnetic wave and hence determine the velocity of propagation of electromagnetic wave in free space.
విద్యుత్ అయస్కాంత తరంగ సమీకరణమును ఉత్పాదించుము ? తరంగ ప్రవాహ వేగము రాబట్టుము

12. a) What is transistor? Explain the working of PNP and NPN Transistor.
PNP మరియు NPN ట్రాన్సిస్టర్ యొక్క పనితనం వివరింపుము.

(OR)

b) Deduce relation between alpha, beta and gamma.
ఆల్ఫా, బీటా మరియు గామా ల మధ్య గల సంబంధము వ్రాయుము

13. a) Explain the functioning of a Half Adder and a Full Adder along with respective truth tables.
అర్ధ సంకలన కారిణి (హాఫ్ యాడారు) మరియు ఫుల్ యాడర్ ల యొక్క నిజ పట్టీల ద్వారా వీటి యొక్క పనితనం వివరింపుము

(OR)

b) State and prove Demorgan's laws. Realize AND, OR and NOT gates from NAND logic.
డీ - మార్గన్ సిద్ధాంతము నిర్వచించుము ? నాండ్(NAND) ద్వారము ద్వారా అండ్ (AND) , ఆర్ (OR) మరియు నాట్ (NOT) ద్వారాలను రాబట్టుము.

MODEL QUESTION PAPER (Sem - End)

B.Sc DEGREE EXAMINATION
Semester – IV
Paper 5: MODERN PHYSICS

Time: 3 hrs **Maximum Marks : 75**

Section A

Answer Any Five Questions **5X5=25M**

1. Explain L-S and J-J coupling schemes.
   L -S మరియు J - J కప్లింగ్ పద్ధతులను వివరించండి .
2. State and explain Zeeman effect.
   జీమన్ ఫలితాన్ని వివరించండి.
3. How inter nuclear distance in a molecule can be determined
   న్యూక్లియర్ అంతర్గత దూరం ఎలా కనుగొనవచును.
4. Define Binding energy of nucleus. Calculate binding energy of nucleus
   కేంద్రక బంధన శక్తిని విరింపుము , దానిని ఏవిధంగా లెక్కగడతారో తెలుపుము.
5. What are properties of nuclear forces.
   కేంద్రక బలాల ధర్మాలను తెలుపుము.
6. Write about Geiger-Nuttal law.
   గైగర్ .. నట్టల్ నియమాన్ని వివరించండి .
7. Briefly explain the principle of solid state detector.
   సలాడ్ స్టేట్ డిటెక్టర్ పని చేయు విధానాన్ని వివరించండి.
8. The mass of $_{17}Cl^{35}$ is 34.98 a.m.u. Find the binding energy per nucleon. Mass of neutron is 1.008665 a.m.u and mass of proton is 1.007665 a.m.u.
   $_{17}Cl^{35}$ యొక్క ద్రవ్యరాసి 34.98 a.m.u. న్యుట్రాన్స్ ద్రవ్యరాసి 1.008665 a.m.u మరియు ప్రొటాన్స్ ద్రవ్యరాసి 1.007665 a.m.u. బంధన శక్తి ప్రతి న్యూక్తియాన్ ను కనుగొనుము.

Section B

Answer ALL The Questions. **5X10 = 50M**

9. a) Describe the Stern Gerlach experiment and indicate the importance of the results obtained.
   స్టెర్న్ గేర్లక్ ప్రయోగము వివరించి ప్రాధాన్యతను తెలపండి

(OR)

b) Explain Raman effect. Describe experimental arrangement to observe Raman effect.
   రామన్ ప్రయోగ ఫలితాన్ని ప్రయోగ పూర్వకంగా రాయండి

10. a) Describe Davision and Germer Experiment.
    డేవిసన్ మరియు జర్మన్ ప్రయోగ ఫలితాన్ని తెలుపండి

(OR)

b) Describe Heisenbergs Uncertanity relation. Derive Energy – time uncertainty.

ఇసన్ బర్గ్ అన్నిశ్చిత సూత్రాన్ని వివరించి శక్తి, కాలముల అన్నిశ్చిత సూత్రాన్ని నిరూపించండి

11. a) Derive an expression for energy levels of particle in box which is 3-D motion.
పెట్టెలో 3-D చలనం కలిగిన కణం యొక్క శక్తి సూత్రాన్ని ఉత్పాదన చేయండి.

(OR)

b) Derive Schodinger time dependent wave equation.
స్కాండిజర్ కాల సమీకరణాన్ని ఉత్పాదించండి

12. a) Explain Liquid drop model of nuclus.
ద్రవ బిందు నమూనా గురించి వివరించండి

(OR)

b) Explain the construction and working of GM counter.
కౌంటర్ నిర్మాణము పనిచేయు విధానాన్ని తెలపండి

13. a) Explain about type -1 and type -2 superconductors and write brief about BCS theory.
1 - వ రకం 2 - వ రకం అట్టి వాహక పద్దార్థాల గురించి వివరించి BCS సిద్దాంతమును వ్రాయండి
(OR)
b) Explain the distinct properties of nano materials.
నానో పదార్థాల యొక్క ధర్మాలను వివరించండి

MODEL QUESTION PAPER (Sem - End)

B.Sc DEGREE EXAMINATION
Semester – V (Skill Enhancement Course -Elective)
Paper-6A-Optical Instruments And Optometry

Time: 3 hrs **Maximum Marks : 75**

Section A

Answer Any Five Questions **5X5=25M**

1. Explain the operating principle of Phase Contrast Microscope
2. Explain the terms : Magnifying power and Normal Adjustment of a Simple Microscope
3. Explain the working principle and applications of Binoculars
4. Write a short note on various types of telescopes
5. Give various applications of Scanning Electron Microscope
6. Give any five applications of Radio Telescopes
7. Explain the optical defects : Myopia and Hypermetropia
8. Explain the applications of Phoropter

Section B

Answer ALL The Questions. **5 x 10 = 50M**

9. (a) Explain the Construction, Magnifying power and normal adjustment of a Compound microscope

(OR)

(b) Explain Construction, working and uses of a Travelling microscope

10. (a) Explain the Construction, working and Magnifying power of a Refracting Telescope

(OR)

(b) Explain the working principle and uses of an Astronomical telescope

11.(a) Explain about a Transmission Electron Microscope and give its applications

(OR)

(b) Explain about Infrared and Ultraviolet telescopes and give their applications

12.(a) Explain the Removal of defects in vision using ophthalmic lenses

(OR)

(b) Explain the working principle and Mention various types of Contact lenses

13.(a) Describe the working principles of an opthalmoscope and Keratometer

(OR)

(b) Explain the various principles of computer based eye testing

MODEL QUESTION PAPER (Sem - End)

B.Sc DEGREE EXAMINATION
Semester – V (Skill Enhancement Course -Elective)
Paper-7A– Optical Imaging And Photography

Time: 3 hrs **Maximum Marks : 75**

SECTION – A

Answer any FIVE Questions **5X5 = 25M**

1. Write a short note on Single lens Reflex camera (SLR).
2. Explain about various factors influencing Choice of Camera.
3. Write a brief note on Digital image formation.
4. Explain the terms : (a) Size of the image (b) Depth of focus and (c) Depth of field.
5. Write a short note on any two light sources in photography.
6. Explain about the usage of filters in photographic Shooting.
7. Explain about the factors influencing the quality of digital
8. Describe the various methods of storing and Processing images in photography

SECTION – B

Answer ALL the Questions **5X10M = 50M**

9.(a) Give a brief on Various types of Cameras and Explain about : (i) Twin Reflex (TLR) Camera and (ii) Digital Single-lens reflex Camera (DSLR)

(OR)

(b) Give a note on the Working principle of a Camera and Explain (i) Image formation in Simple Camera and (ii) Image formation in Human eye.

10. (a) Explain about Various Artificial light sources

(OR)

(b) Describe the need for the light in photography and Explain about Various light sources in photography.

11. (a) Explain the Working of a DSLR Camera. Also give a brief note on Wid angle and telephoto lenses.

(OR)

(b) Explain about the terms : (i) Exposure time (ii)Aperture (iii)Shutter speed (iv) Resolution

12. (a) Explain about (i) Techniques of Photomicrography and (ii) High speed photography with motor drivn Camera

(OR)

(b) Describe about the basic understanding of :i) Under Water photography(ii) Astronomical photography.

13. (a) Describe about the Various equipment and materials used in developing and priting photography

(OR)

(b) Explain about the terms : (i) Adjustment of Brightness in photoshop (ii) Adjustment of Contrast (iii) Tonal and Color values

MODEL QUESTION PAPER (Sem - End)

B.Sc DEGREE EXAMINATION
Semester – V (Skill Enhancement Course -Elective)
PAPER-6B – Low Temperature physics and Refrigeration

Time: 3 hrs **Maximum Marks : 75**

SECTION – A

Answer any FIVE Questions **5X5M = 25M**

1. Explain about various properties of materials at low temperatures
2. Give a short note on different methods of liquefaction of gases
3. Give a brief note on Vapour pressure thermometers
4. Explain the Concepts of Correction and Calibration in Gas thermometer
5. Explain the terms : Natural refrigeration and Artificial refrigeration
6. Explain various properties of refrigerant.
7. Give a short note on Refrigerant leakage and detection
8. Explain about the role of refrigeration in Desalination of Water.

SECTION - B

Answer ALL the Questions **5X10M = 50M**

9. (a) Describe the production mechanism involved in the production of
(i) Liquid Hydrogen and (ii) Liquid Nitrogen

(OR)

(b) What is Adiabatic Demagnetization ? Give it's theory and Working.

10. (a) Write a note on (i) 'Resistance Thermometers and
(ii) Magnetic Thermometers with their advantages and drawbacks.

(OR)

(b) Explain about the types of Refrigeration Systems
(i) Vapour compression and (ii) Vapour Absorption

11. (a) Explain Refrigeration Cycle along with its Block diagram

(OR)

(b)Explain about the Classification of refrigerants

12. (a) What is a Refrigeration ? Explain about it's working with the help of a Block diagram

(OR)

(b) Explain about Various types of : (i) Compressors (ii) Evaporators
(iii) Condensers in Refrigerators

13. (a) Explain about Cryogenic rocket propulsion system

(OR)

(b) Explain the applications of refrigeration in :
(i) Food preservation methods
(ii) Chemical and process Industries
(iii) Cold treatment of metals

MODEL QUESTION PAPER (Sem - End)

B.Sc DEGREE EXAMINATION
Semester – V (Skill Enhancement Course -Elective)
Paper-7B – Solar Energy And Applications

Time: 3 hrs **Maximum Marks : 75**

SECTION – A

Answer any FIVE Questions **5X5M = 25M**

Explain about the Spectral distribution of Solar radiation

1. Explain the terms : (a) direct (b) diffuse and (c) total
2. Give a short note on thermal collectors radiations
3. Write a short note on Solar desalinators
4. Explain about : (a) homo junction and (b) hetero junction Concepts in semiconductor interfaces.
5. Give a short note on various types of Solar cells
6. Explain about the advantages and limitations of Thin film solar cells.
7. Explain about energy storage modes in PV Systems
8. Explain about the semiconductor interfaces.

SECTION - B

Answer ALL the Questions **5X10= 50M**

9. (a) Explain the principle of Working and direct radiation measurement in Pyrheliometer

(OR)

(b) What is Pyrometer ? Explain the Working principle and direct radiation measurement involved in it.

10. (a) Explain about a Flat plate collector of liquid heating type and obtain Energy balance Equation and Efficiency

(OR)

(b) Explain the Solar Water heating system involving natural and forced circulation types

11. (a) What is a photovoltaic call ? Draw it's equivalent circuit and Explain about : (i) output parameters (ii) Conversion Efficiency and (iii) Quantum Efficiency

(OR)

(b) Explain the following Effects of (i) Series and shunt resistance (ii) light intensity (iii) inclination and (iv) temperature on the Efficiency of solar cells.

12. (a) Explain the configuration, structure, advantages and limitations of CdTe / Cds Thin film solar cell

(OR)

(b) Explain the concepts of (i) Solar module fabrication steps anD (ii) modules in series and Paralle

13. (a) Explain about Various primary storage Batteries

(OR)

(b) Explain about Various Secondary storage mechanisms (i) Fly wheel and (ii) Supercapacitor

MODEL QUESTION PAPER (Sem - End)

B.Sc DEGREE EXAMINATION

Semester – V (Skill Enhancement Course -Elective)

PAPER-6C – Applications of Electricity & Electronics

Time: 3 hrs **Maximum Marks : 75**

SECTION – A

Answer any FIVE Questions **5X5M = 25M**

1. Give a brief note on Energy Stored in a Capacitor
2. Explain about Various types of inductors
3. Write a short note on Lead acid batteries
4. Write Various applications of current and voltage sources
5. Write Various applications of motors
6. Write a short note on SMPS Power supply for computers
7. Write the differences between DC and AC generators
8. Give a brief note on types of transformers

SECTION – B

Answer ALL the Questions **5X10= 50M**

9. (a) What are Active and Passive circuit Elements ? Give examples and Explain Various types of Resistors with application as a fuse Element

(OR)

(b) Explain about various types of Capacitors and give a note on colour coding along with their applications in power supplies

10.(a) Explain about the Rechargeable Batteries :
(i) Ni-MH batteries (ii) Li-ion batteries and (iii) Li-Po Batteries

(OR)

(c) Explain about various configurations of batteries

11. (a) What is a Generator? Explain it's Construction and Working principle

(OR)

(b) What is a Single phase motor? Explain it's principle and Working

12. (a) Explain the Working of DC-regulated power supply and also give the steps involved in the Construction of a 5V regulated power supply

(OR)

(b) Explain the Designing of a FM Radio circuit using LCR series resonance Circuit

13.(a) What is a DC Motor? Explain the Construction and operating principle Involved in it.

(OR)

(b) What is a DC Generator? Explain the Construction and operating principle Involved Also obtain the EMF equation

MODEL QUESTION PAPER (Sem - End)

B.Sc DEGREE EXAMINATION
Semester – V (Skill Enhancement Course -Elective)
PAPER-7C– Electronic Instrumention

Time: 3 hrs **Maximum Marks : 75**

SECTION – A

Answer any FIVE Questions **5X5M = 25M**

1. Distinguish between DC Voltmeter and AC Voltmeter
2. Write a short note on Function Generator
3. Write various uses of Oscilloscopes
4. Give a brief note on vertical and horizontal deflection systems
5. What is a Transducer ? Give the Classification of transducers
6. Write a short note on Fibre optic sensor
7. Give the applications of LCD modules
8. Write the basic operating principle involved in ECG machine and give it's uses.

SECTION – B

Answer ALL the Questions **5X10M= 50M**

9. (a) Explain the Construction and Working of a Digital multi meter, with Block Diagram

(OR)

(b)Write about the Construction and Working of an Analog multi meter

10. (a)What is a CRO? Explain the operation of a Basic CRO with the help of a Block Diagram

(OR)

(b)Explain about Various types of Oscilloscopes and give a short note on Digital storage Oscilloscope

11.(a) Explain about : (a) Piezoelectric (b) Photo transducer

(OR)

(b)Explain about the Resistive and Capacitive touch screen transducers used in mobile phones.

12.(a) Describe the Construction and Working of a Seven Segment Display

(OR)

(b) Explain about various types of SSDs and also give their limitations.

13. (a) Describe the basic operating principles and uses of :
(i) Radiography and
(ii) Ultrasound Scanning

(OR)

(b) Write about a pulse oxy meter and give a brief idea of MRI Scan.

UG PROGRAM (4 Years Honors)

CBCS-2020-21

B.Sc.
Computer Science

Syllabus and Model Question Papers

TABLE OF CONTENTS

Note: BOS is to provide final soft copy in PDF and word formats and four copies of hard copies in bounded form to the office of Dean Academic affairs.

RESOLUTIONS OF THE BOARD OF STUDIES

Meeting held on: 22.01.2021.Time:10 A.MAt: Adikavi Nannaya University, RJY

Agenda:

1. Adoption of revised-common program structure and revising/updating course - wise syllabi (in the prescribed format) as per the guidelines issued by APSCHE.
2. Adoption of regulations on scheme of examination and marks/grading system of the University UG programs.
3. Preparation of Model question papers in prescribed format.
4. List of equipment/software requirement for each lab/practical
5. Eligibility of student for joining the course
6. Eligibility of faculty for teaching the course
7. List of paper-setters/paper evaluators with phone, email-id in the prescribed format

Members present:

Dr. P.Venkateshwara Rao	Chairman, Dept. of CSE, ANUR.
Sri.D.V.S.Suryanarayana	Member, MVNJS & RVRCollege of A&S, Malkipuram
Mr.D.Dasu	Coordinator, Dept. of CSE,ANUR

Resolutions:

2. Resolved to adopt the revised-common program structure and revising/updating course-wise syllabi (in the prescribed format) as per the guidelines issued by APSCHE.
3. Resolved to adopt the regulations on scheme of examination and marks/gradingsystem of the University UG programs.
4. Resolved to prepare the Model question papers in prescribed format.
5. Resolved to give the list of equipment/software requirement for each lab/practical
6. Resolved the eligibility of student for joining the course
7. Resolved the eligibility of faculty for teaching the course
8. Resolved to give the list of paper-setters/paper evaluators with phone, email-id in the prescribed format

UG Program (4 years Honors) Structure (CBCS)

2020-21 A. Y., onwards

BACHLOR OF SCIENCE

(3rd and 4th year detailed design will be followed as per APSCHE GUIDELINES)

Subjects/ Semesters		I		II		III		IV		V		VI			
		H/W	C	H/W	C	H/W	C	H/W	C	H/W	C	H/W	C		
Languages												THIRD PHASE of APPRENTICESHIP Entire 5th / 6th Semester		FIRST and SECOND PHASES (2 spells) of APPRENTICESHIP between 1st and 2nd year and between 2nd and 3rd year (two summer vacations).	
English		4	3	4	3	4	3								
Language (H/T/S)		4	3	4	3	4	3								
Life Skill Courses		2	2	2	2	2+2	2+2								
Skill Development Courses		2	2	2+2	2+2	2	2								
Core Papers															
M-1	C1 to C5	4+2	4+1	4+2	4+1	4+2	4+1	4+2 4+2	4+1 4+1						
M-2	C1 to C5	4+2	4+1	4+2	4+1	4+2	4+1	4+2 4+2	4+1 4+1						
M-3	C1 to C5	4+2	4+1	4+2	4+1	4+2	4+1	4+2 4+2	4+1 4+1						
M-1	SEC (C6,C7)									4+2 4+2	4+1 4+1				
M-2	SEC (C6,C7)									4+2 4+2	4+1 4+1				
M-3	SEC (C6,C7)									4+2 4+2	4+1 4+1				
Hrs/ W (Academic Credits)		30	25	32	27	32	27	36	30	36	30	0	12	4	4
Project Work															
Extension Activities (Non Academic Credits)															
NCC/NSS/Sports/Extra Curricular									2						
Yoga							1		1						
Extra Credits															
Hrs/W (Total Credits)		30	25	32	27	32	28	36	33	36	30	0	12	4	4

M= Major; C= Core; SEC: Skill Enhancement Courses

Marks & Credits distribution: UG-Sciences

Sl. No	Course type	No. of courses	Each course teaching Hrs/wk	Credit for each course	Total credits	Each course evaluation			Total marks
						Conti-Assess	Univ-exam	Total	
1	English	3	4	3	9	25	75	100	300
2	S.Lang	3	4	3	9	25	75	100	300
3	LS	4	2	2	8	0	50	50	200
4	SD	4	2	2	8	0	50	50	200
5	Core/SE -I	5+2	4+2	4+1	35	25	75+50	150	1050
	Core/SE -II	5+2	4+2	4+1	35	25	75+50	150	1050
	Core/SE -III	5+2	4+2	4+1	35	25	75+50	150	1050
6	Summer-Intern	2		4	8		100	200	200
7	Internship/ Apprentice/ on the job training	1		12	12		200	200	200
		38			**159**				**4550**
8	**Extension Activities (Non Academic Credits)**								
	NCC/NSS/Sports/ Extra Curricular			2	2				
	Yoga	2		1	2				
	Extra Credits								
	Total	**40**			**142**				

DETAILS OF PAPER TITLES & CREDITS

Sem	Course no.	Course Name	Course type (T/L/ P)	Hrs/Week Science: 4+2	Credits Science: 4+1	Max. Marks Cont/ Internal /Mid Assessment	Max. Marks Sem- end Exam
I	1	Problem Solvingin C	T	4	4	25	75
		Problem Solving in CLab	L	2	1	-	50
II	2	Data Structures using C	T	4	4	25	75
		Data Structures using C Lab	L	2	1	-	50
III	3	Database ManagementSystem	T	4	4	25	75
		Database Management System Lab	L	2	1	-	50
IV	4	Object Oriented Programming using Java	T	4	4	25	75
		Object OrientedProgramming using Java Lab	L	2	1	-	50
	5	Operating Systems	T	4	4	25	75
		Operating Systems Lab using C/Java	L	2	1	-	50
V	6A	Web InterfaceDesigning Technologies	T	4	4	25	75
		Web Interface Designing Technologies Lab	L	2	1	-	50
	7A	Web Applications Development using PHP& MYSQL	T	4	4	25	75
		Web Applications Development using PHP & MYSQL Lab	L	2	1	-	50
	OR						
	6B	Internet of Things	T	4	4	25	75
		Internet of Things Lab	L	2	1	-	50
	7B	Application Development using Python	T	4	4	25	75
		Application Development Using Python Lab	L	2	1	-	50
	OR						
	6C	Data science	T	4	4	25	75
		Data Science Lab	L	2	1	-	50
	7C	Python for Data science	T	4	4	25	75
		Python for Data Science Lab	L	2	1	-	50

Note: *Course type code: T: Theory, L: Lab, P: Problem solving

Note 1: For Semester–V, for the domain subject **COMPUTER SCIENCE**, any one of the three pairs of SECs shall be chosen as courses 6 and 7, i.e., 6A & 7A or 6B & 7B or 6C & 7C. The pair shall not be broken (ABC allotment is random, not on any priority basis).

Note 2: One of the main objectives of Skill Enhancement Courses (SEC) is to inculcate field skills related to the domain subject in students. The syllabus of SEC will be partially skill oriented. Hence, teachers shall also impart practical training to students on the field skills embedded in the syllabus citing related real field situations.

Note 3: To insert assessment methodology for Internship/ on the Job Training/Apprenticeship under the revised CBCS as per APSCHE Guidelines.

- **First internship (After 1st Year Examinations):** Community Service Project. To inculcate social responsibility and compassionate commitment among the students, the summer vacation in the intervening 1st and 2nd years of study shall be for Community Service Project (the detailed guidelines are enclosed).
- **Credit For Course: 04**

- **Second Internship (After 2nd Year Examinations):** Apprenticeship / Internship / on the job training / In-house Project / Off-site Project. To make the students employable, this shall be undertaken by the students in the intervening summer vacation between the 2nd and 3rd years (the detailed guidelines are enclosed).
- **Credit For Course: 04**

- **Third internship/Project work (6th Semester Period):**
  During the entire 6th Semester, the student shall undergo Apprenticeship / Internship / On the Job Training. This is to ensure that the students develop hands on technical skills which will be of great help in facing the world of work (the detailed guidelines are enclosed).
- **Credit For Course:12**

a. Proposed combination subjects: Computer Applications, Information Technology
b. Student eligibility for joining in the course:
c. Faculty eligibility for teaching the course:
d. List of Proposed Skill enhancement courses with syllabus, if any:
e. Any newly proposed Skill development/Life skill courses with draft syllabus and requiredresources

f. Required instruments/software/ computers for the course (Lab/Practical course-wiserequiredi.e., for a batch of 15 students)

Sem.No.	Lab/Practical Name	Names of Instruments/Software/ computers required with specifications	Brand Name	Qty Required
1	Problem Solving in C Lab	Intel desktop PC(80GB HDD,512MB DDR), Windows OS, C compiler with supportingeditors		15
2	Data Structures usingC Lab	Intel desktop PC(80GB HDD,512MB DDR), Windows OS, C compiler with supportingeditors		15
3	Database Management System Lab	Intel desktop PC(80GB HDD,512MB DDR), Windows OS,Oracle 8i/9i or SQL Server,MY SQL		15
4	Object Oriented Programming using Java Lab	Intel desktop PC(80GB HDD,512MB DDR), Windows OS, JDK		15
5	Operating SystemsLab using C/Java	Intel desktop PC(80GB HDD,512MB DDR), Windows OS, C compiler with supporting editors, JDK		15

g. List of Suitable levels of positions eligible in the Govt/Pvt organizations Suitable levels of positions for these graduates either in industry/govt organization like, technical assistants/ scientists/school teachers, clearly define them, with reliable justification

S.No	Position	Company/ Govt organization	Remarks	Additional skills required, if any
01	Software Programmer	IT Industry		
02	Software Developer	IT Industry		
03	Software Engineer	IT Industry		
04	Program Manager	IT Industry		
05	Clerk/PO	Banking Industry		
06	IT Specialist	Banking Industry		
07	Teacher/Lecturer/Asst.Prof	Education Institutes		
08	DB Admin	IT Industry/Medical		

h. List of Govt. organizations / Pvt companies for employment opportunities or internshipsor projects

S.No	Company/ Govt organization	Position type	Level of Position			
01	Software Development Industry					
02	E-Commerce Industry					
03	Medical Industry					
04	IT Industry					
05	Banking Industry					
06	Education Industry					

i. Any specific instructions to the teacher /paper setters/Exam-Chief Superintendent

PROGRAM OBJECTIVES, OUTCOMES, CO-CURRICULAR ANDASSESSMENT METHODS

B.Sc.	Computer Science

1. Aim and objectives of UG program in Subject: Computer Science
   The Objectives of this Program describes what students are expected to know and be able to do by the time of graduation. The Computer Science Department's Bachelor of Science program must enable students to attain, by the time of graduation:

   - An ability to identify, formulate and develop solutions to computational challenges.
   - An ability to design, implement and evaluate a computational system to meet desiredneeds within realistic constraints.
   - An ability to function effectively on teams to accomplish shared computing design, evaluation, or implementation goals.
   - An understanding of professional, ethical, legal, security, and social issues and responsibilities for the computing profession.
   - An ability to communicate and engage effectively with diverse stakeholders.
   - An ability to analyze impacts of computing on individuals, organizations, and society.
   - Recognition of the need for and ability to engage in continuing professional development.
   - An ability to use appropriate techniques, skills, and tools necessary for computing practice.
   - Effectively utilizing their knowledge of computing principles and mathematicaltheory to develop sustainable solutions to current and future computing problems.
   - Developing and implementing solution based systems and/or processes that addressissues and/or improve existing systems within in a computing based industry.

2. Learning outcomes of Subject Computer Science:
   - Students will be able to communicate in written and oral forms in such a way as to demonstrate their ability to present information clearly, logically, and critically.
   - Students will be able to apply mathematical and computing theoretical concepts in solution of common computing applications, such as computing the order of an algorithm.
   - Students will be able to complete successfully be able to program small-to-mid- size programs on their own. Sufficient programming skills will require use of good practice, e.g., good variable names, good use of computational units, appropriate commenting strategies.
   - Students will be able to use appropriately system design notations and apply system design engineering process in order to design, plan, and implement software systems
   - In a self-selected area of depth in Computing, students will demonstrate a depth of knowledge appropriate to graduate study and/or lifelong learning in that area. Students should be able to read for understanding materials in that area beyond those assigned in coursework.
   - Students will be prepared for a career in an information technology oriented business or industry, or for graduate study in computer science or other scientific or technical fields.
   - Use systems development, word-processing, spreadsheet, and presentation software tosolve basic information systems problems

3. Recommended Skill enhancement courses: (Titles of the courses given below and detailsof the syllabus for 4 credits (i.e., 2 units for theory and Lab/Practical) for 5 hrs class-cum-lab work.

4. Recommended Co-curricular activities: (Co-curricular Activities should not promote copying from text book or from others' work and shall encourage self/independent and group learning)

   A. Measurable:
   1. Assignments
   2. Student seminars (Individual presentation of papers)
   3. Quiz Programmers
   4. Individual Field Studies/projects
   5. Group discussion
   6. Group/Team Projects

   B General:
   1. Collection of news reports and maintaining a record of paper-cuttings relating to topics covered in syllabus
   2. Group Discussions
   3. Watching TV discussions and preparing summary points recording personal observations etc., under guidance from the Lecturers
   4. Any similar activities with imaginative thinking.

5. Recommended Continuous Assessment methods:

   Some of the following suggested assessment methodologies could be adopted;
   - The oral and written examinations (Scheduled and surprise tests).
   - Closed-book and open-book tests.
   - Coding exercises.
   - Practical assignments and laboratory reports.
   - Observation of practical skills.
   - Individual and group project reports.
   - Efficient delivery using seminar presentations.
   - Viva voce interviews.
   - Computerized adaptive testing, literature surveys and evaluations.
   - Peers and self-assessment, outputs form individual and collaborative work

.

DETAILS OF COURSE-WISE SYLLABUS

B Sc	Semester: I	Credits: 4
Course: 1	PROBLEM SOLVING IN C	Hrs/Wk: 4

Aim and objectives of Course:

- This course aims to provide exposure to problem-solving through programming.
- It introduces the concepts of the C Programming language.

Learning outcomes of Course:

Upon successful completion of the course, a student will be able to:

- Understand the evolution and functionality of a Digital Computer.
- Apply logical skills to analyse a given problem
- Develop an algorithm for solving a given problem.
- Understand 'C' language constructs like Iterative statements, Arrayprocessing, Pointers.
- Apply 'C' language constructs to the algorithms to write a 'C' languageprogram.

3. Detailed Syllabus: (Five units with each unit having 12 hours of class work)

UNIT I:

General Fundamentals: Introduction to computers: Block diagram of a computer, characteristics and limitations of computers, applications of computers, types of computers, computer generations.

Introduction to Algorithms and Programming Languages: Algorithm – Key features of Algorithms, Flow Charts, Programming Languages – Generations of Programming Languages – Structured Programming Language- Design and Implementation of Correct, Efficient and Maintainable Programs.

UNIT II:

Introduction to C: Introduction – Structure of C Program – Writing the first C Program – File used in C Program – Compiling and Executing C Programs – Using Comments – Keywords – Identifiers – Basic Data Types in C – Variables – Constants – I/O Statements in C- Operators in C- Programming Examples.

Decision Control and Looping Statements: Introduction to Decision Control Statements– Conditional Branching Statements – Iterative Statements – Nested Loops – Break and Continue Statement – Goto Statement

UNIT III:

Arrays: Introduction – Declaration of Arrays – Accessing elements of the Array – Storing Values in Array– Operations on Arrays – one dimensional, two dimensional and multi dimensional arrays, character handling and strings.

UNIT IV:

Functions: Introduction – using functions – Function declaration/ prototype – Functiondefinition – function call – return statement – Passing parameters – Scope of variables – Storage Classes – Recursive functions.

Structure, Union, and Enumerated Data Types: Introduction – Nested Structures – Arrays of Structures – Structures and Functions– Union – Arrays of Unions Variables – Unions inside Structures – Enumerated Data Types.

UNIT V:

Pointers: Understanding Computer Memory – Introduction to Pointers – declaring Pointer Variables – Pointer Expressions and Pointer Arithmetic – Null Pointers - Passing Arguments to Functions using Pointer – Pointer and Arrays – Memory Allocation in C Programs – Memory Usage – Dynamic Memory Allocation – Drawbacks of Pointers

Files: Introduction to Files – Using Files in C – Reading Data from Files – Writing Data to Files – Detecting the End-of-file – Error Handling during File Operations – Accepting Command Line Arguments.

TEXT BOOKS:

1. E Balagurusamy – Programming in ANSIC – Tata McGraw-Hill publications.
2. Brain W Kernighan and Dennis M Ritchie - The 'C' Programming language" - Pearson publications.

REFERENCES:

1. Ashok N Kamthane: Programming with ANSI and Turbo C, Pearson EditionPublications.
2. YashavantKanetkar - Let Us 'C' – BPB Publications.

B Sc	Semester: I	Credits: 1
Course: 1(L)	PROBLEM SOLVING IN C Lab	Hrs/Wk: 2

1. Details of Lab Syllabus: **Problem solving in C LAB**

1. Write a program to check whether the given number is Armstrong or not.
2. Write a program to find the sum of individual digits of a positive integer..
3. Write a program to generate the first n terms of the Fibonacci sequence.
4. Write a program to find both the largest and smallest number in a list of integer values
5. Write a program to demonstrate refection of parameters in swapping of two integervalues using Call by Value & Call by Address
6. Write a program that uses functions to add two matrices.
7. Write a program to calculate factorial of given integer value using recursive functions
8. Write a program for multiplication of two N X N matrices.
9. Write a program to perform various string operations.
10. Write a program to search an element in a given list of values.
11. Write a program to sort a given list of integers in ascending order.
12. Write a program to calculate the salaries of all employees using ***Employee (ID, Name, Designation, Basic Pay, DA, HRA, Gross Salary, Deduction, Net Salary)*** structure.
    a. DA is 30 % of Basic Pay
    b. HRA is 15% of Basic Pay
    c. Deduction is 10% of (Basic Pay + DA)
    d. Gross Salary = Basic Pay + DA+ HRA
    e. Net Salary = Gross Salary – Deduction
13. Write a program to illustrate pointer arithmetic.
14. Write a program to read the data character by character from a file.
15. Write a program to create ***Book (ISBN, Title, Author, Price, Pages, Publisher)*** structure and store book details in a file and perform the following operations
    a. Add book details
    b. Search a book details for a given ISBN and display book details, if available
    c. Update a book details using ISBN
    d. Delete book details for a given ISBN and display list of remaining Books

5. RECOMMENDED CO-CURRICULAR ACTIVITIES:
(Co-curricular activities shall not promote copying from textbook or from otherswork and shall encourage self/independent and group learning)

A. Measurable

1. Assignments (in writing and doing forms on the aspects of syllabuscontent and outside the syllabus content. Shall be individual and challenging)
2. Student seminars (on topics of the syllabus and related aspects (individualactivity))
3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))
4. Study projects (by very small groups of students on selected local real- time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity

B. General

1. Group Discussion
2. Try to solve MCQ's available online.
3. Others

6. RECOMMENDED CONTINUOUS ASSESSMENT METHODS:
Some of the following suggested assessment methodologies could be adopted;

1. The oral and written examinations (Scheduled and surprise tests),
2. Closed-book and open-book tests,
3. Problem-solving exercises,
4. Practical assignments and laboratory reports,
5. Observation of practical skills,
6. Individual and group project reports like "Creating Text Editor in C".
7. Efficient delivery using seminar presentations,
8. Viva voce interviews.
9. Computerized adaptive testing, literature surveys and evaluations,
10. Peers and self-assessment, outputs form individual and collaborative work.

5.MODEL QUESTION PAPER (Sem-end. Exam)
B.Sc DEGREE EXAMINATIONS
Semester - I
Course 1: PROBLEM SOLVING IN C

Time: 3Hrs Max.marks:75

Section - A

Answer any FIVE question **5X5 = 25M**

1. Explain Block diagram of Computer.
2. Define an Algorithm. What are the key features of an algorithm?
3. Write about go to statement with syntax and example.
4. Dynamic memory allocation.
5. Explain pointers in arrays.
6. How to write data from files with example?
7. Write about enumerated data types.
8. Briefly explain various types of recursions.

Section - B

Answer ALL following question **5X10 = 50M**

9. a) Briefly explain about generations of computers.

(OR)

b) What is a Flowchart? Explain significance with an example.

10. a) Explain basic data types in C?

(OR)

b) Explain about iterative statements available in C.

11. a) What is an Array? Explain different types of arrays with examples.

(OR)

b) What is a string? Explain various string handling functions available in C.

12. a) Define a function. Explain the passing parameter mechanism.

(OR)

b) Explain about Structure with syntax and example in detail.

13. a) Define and use of a pointer and write a ‘C’ program on swapping of two numbersusing pointers.

(OR)

b) Explain file modes in detail.

B Sc	Semester: II	Credits: 4
Course: 2	DATA STRUCTURES USING C	Hrs/Wk: 4

Aim and objectives of Course:

- To introduce the fundamental concept of data structures and to emphasize the importance of various data structures in developing and implementing efficient algorithms.

Learning outcomes of Course:

Upon successful completion of the course, a student will be able to:

- Understand available Data Structures for data storage and processing.
- Comprehend Data Structure and their real-time applications - Stack,Queue, Linked List, Trees and Graph
- Choose a suitable Data Structures for an application
- Develop ability to implement different Sorting and Search methods
- Have knowledge onData Structures basic operations like insert, delete,search,update and traversal
- Design and develop programs using various data structures
- Implement the applications of algorithms for sorting, pattern matching etc

Detailed Syllabus: (Five units with each unit having 12 hours of class work)

UNIT I:

Introduction to Data Structures: Introduction to the Theory of Data Structures, Data Representation, Abstract Data Types, Data Types, Primitive Data Types, Data Structure and Structured Type, Atomic Type, Difference between Abstract Data Types, Data Types, and Data Structures, Refinement Stages.
Principles of Programming and Analysis of Algorithms: Software Engineering, Program Design, Algorithms, Different Approaches to Designing an Algorithm, Complexity, Big 'O' Notation, Algorithm Analysis, Structured Approach to Programming, Recursion, Tips and Techniques for Writing Programs in 'C'.

UNIT II:

Arrays: Introduction to Linear and Non- Linear Data Structures, One- Dimensional Arrays, Array Operations, Two- Dimensional arrays, Multidimensional Arrays, Pointers and Arrays, an Overview of Pointers.
Linked Lists: Introduction to Lists and Linked Lists, Dynamic Memory Allocation, Basic Linked List Operations, Doubly Linked List, Circular Linked List, Atomic Linked List, Linked List in Arrays, Linked List versus Arrays.

UNIT III:

Stacks: Introduction to Stacks, Stack as an Abstract Data Type, Representation of Stacks through Arrays, Representation of Stacks through Linked Lists, Applications of Stacks,Stacks and Recursion.
Queues: Introduction, Queue as an Abstract data Type, Representation of Queues, Circular Queues, Double Ended Queues- Deques, Priority Queues, Application of Queues.

UNIT IV:

Binary Trees: Introduction to Non- Linear Data Structures, Introduction Binary Trees, Types of Trees, Basic Definition of Binary Trees, Properties of Binary Trees, Representation of Binary Trees, Operations on a Binary Search Tree, Binary Tree Traversal, Counting Number of Binary Trees, Applications of Binary Tree.

UNIT V:

Searching and sorting: Sorting – An Introduction, Bubble Sort, Insertion Sort, Merge Sort, Searching – An Introduction, Linear or Sequential Search, Binary Search, Indexed Sequential Search

Graphs: Introduction to Graphs, Terms Associated with Graphs, Sequential Representation of Graphs, Linked Representation of Graphs, Traversal of Graphs, Spanning Trees, Shortest Path, Application of Graphs.

TEXT BOOKS:

1. "Data Structures using C", ISRD group Second Edition, TMH
2. "Data Structures through C", Yashavant Kanetkar, BPB Publications

REFERENCES:

1. "Data Structures Using C" Balagurusamy E. TMH

B Sc	Semester: II	Credits: 1
Course: 2(L)	DATA STRUCTURES USING C Lab	Hrs/Wk: 2

Details of Lab Syllabus: **Data Structures Using C Lab**

a. Write a program to read 'N' numbers of elements into an array and also perform thefollowing operation on an array
   i. Add an element at the begging of an array
   ii. Insert an element at given index of array
   iii. Update a element using a values and index
   iv. Delete an existing element

b. Write a program using stacks to convert a given
   i. postfix expression to prefix
   ii. prefix expression to postfix
   iii. infix expression to postfix

c. Write Programs to implement the Stack operations using an array

d. Write Programs to implement the Stack operations using Liked List.

e. Write Programs to implement the Queue operations using an array.

f. Write Programs to implement the Queue operations using Liked List.

g. Write a program for arithmetic expression evaluation.

h. Write a program for Binary Search Tree Traversals

i. Write a program to implement dequeue using a doubly linked list.

j. Write a program to search an item in a given list using the following SearchingAlgorithms
   i. Linear Search
   ii. Binary Search.

k. Write a program for implementation of the following Sorting Algorithms
   i. Bubble Sort
   ii. Insertion Sort
   iii. Quick Sort

l. Write a program for polynomial addition using single linked list

m. Write a program to find out shortest path between given Source Node and DestinationNode in a given graph using Dijkstrar's algorithm.

n. Write a program to implement Depth First Search graph traversals algorithm

o. Write a program to implement Breadth First Search graph traversals algorithm

RECOMMENDED CO-CURRICULAR ACTIVITIES:

(Co-curricular activities shall not promote copying from textbook or from otherswork and shall encourage self/independent and group learning)

A. Measurable

1. Assignments (in writing and doing forms on the aspects of syllabuscontent and outside the syllabus content. Shall be individual and challenging)
2. Student seminars (on topics of the syllabus and related aspects (individualactivity))
3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))
4. Study projects (by very small groups of students on selected local real- time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity

B. General

1. Group Discussion
2. Try to solve MCQ's available online.
3. Others

RECOMMENDED CONTINUOUS ASSESSMENT METHODS:

Some of the following suggested assessment methodologies could be adopted;

p. The oral and written examinations (Scheduled and surprise tests),

q. Closed-book and open-book tests,

r. Problem-solving exercises,

s. Practical assignments and laboratory reports,

t. Observation of practical skills,

u. Individual and group project reports like "Creating Text Editor in C".

v. Efficient delivery using seminar presentations,

w. Viva voce interviews.

x. Computerized adaptive testing, literature surveys and evaluations,

y. Peers and self-assessment, outputs form individual and collaborative work.

MODEL QUESTION PAPER (Sem-end. Exam)
B.Sc DEGREE EXAMINATIONS
Semester - II
Course 2: DATA STRUCTURES USING C

Time: 3Hrs Max.marks:75

Section - A

Answer any FIVE question **5X5 = 25M**

1. Explain about Abstract Data Types.
2. Define linear and non-linear data structures.
3. Explain Atomic Linked List.
4. What are the applications of stacks?
5. What is priority queue?
6. Explain about binary search tree.
7. Define sorting. What are the advantages and disadvantages of merge sort?
8. Briefly explain various representations of Graphics.

Section - B

Answer ALL following question **5X10 = 50M**

9. a) What are primitive and non-primitive data structures with an example?

(OR)

b) Explain different approaches to designing an algorithm.

10. a) Explain different types of arrays.

(OR)

b) What is linked list? Explain different types of linked lists in data structures.

11. a) What is stack? Write ADT. Explain various operations of stack.

(OR)

b) What is a Deque? What are the different techniques used to represent Deque? Explain.

12. a) Write about different tree traveling techniques and write an algorithm for traveling techniques.

(OR)

b) Explain different applications and properties of binary tree.

13. a) Write about various Graph Travelling techniques.

(OR)

b) What is searching? Explain Linear Search Algorithm with example.

B Sc	Semester: III	Credits: 4
Course: 3	DATABASE MANAGEMENTSYSTEM	Hrs/Wk: 4

Aim and objectives of Course:

- The objective of the course is to introduce the design and development ofdatabases with special emphasis on relational databases.

Learning outcomes of Course: Upon successful completion of the course, a student will be able to:

- Gain knowledge of Database and DBMS.
- Understand the fundamental concepts of DBMS with special emphasis onrelational data model.
- Demonstrate an understanding of normalization theory and apply suchknowledge to the normalization of a database
- Model data base using ER Diagrams and design database schemas based on themodel.
- Create a small database using SQL.
- Store, Retrieve data in database.

Detailed Syllabus: (Five units with each unit having 12 hours of class work)

UNIT I:

Overview of Database Management System: Introduction to data, information, database, database management systems, file-based system, Drawbacks of file-Based System, database approach, Classification of Database Management Systems, advantages of database approach, Various Data Models, Components of Database Management System, three schema architecture of data base, costs and risks of database approach**.**

UNIT II:

Entity-Relationship Model: Introduction, the building blocks of an entity relationship diagram, classification of entity sets, attribute classification, relationship degree, relationship classification, reducing ER diagram to tables, enhanced entity-relationship model (EER model), generalization and specialization, IS A relationship and attribute inheritance, multiple inheritance, constraints on specialization and generalization, advantages of ER modeling.

UNIT III:

Relational Model: Introduction, CODD Rules, relational data model, concept of key, relational integrity, relational algebra, relational algebra operations, advantages of relational algebra, limitations of relational algebra, relational calculus, tuple relational calculus, domain relational Calculus (DRC), Functional dependencies and normal forms upto 3rd normal form.

UNIT IV:

Structured Query Language: Introduction, History of SQL Standard, Commands in SQL, Data Types in SQL, Data Definition Language, Selection Operation, Projection Operation, Aggregate functions, Data Manipulation Language, Table Modification Commands, Join Operation, Set Operations, View, Sub Query.

UNIT V

PL/SQL: Introduction, Shortcomings of SQL, Structure of PL/SQL, PL/SQL Language Elements, Data Types, Operators Precedence, Control Structure, Steps to Create a PL/SQL, Program, Iterative Control, Procedure, Function, Database Triggers, Types of Triggers.

TEXT BOOKS:

1. Database System Concepts by Abraham Silberschatz, Henry Korth, and S. Sudarshan, McGrawhill
2. Database Management Systems by Raghu Ramakrishnan, McGrawhill

REFERENCES:

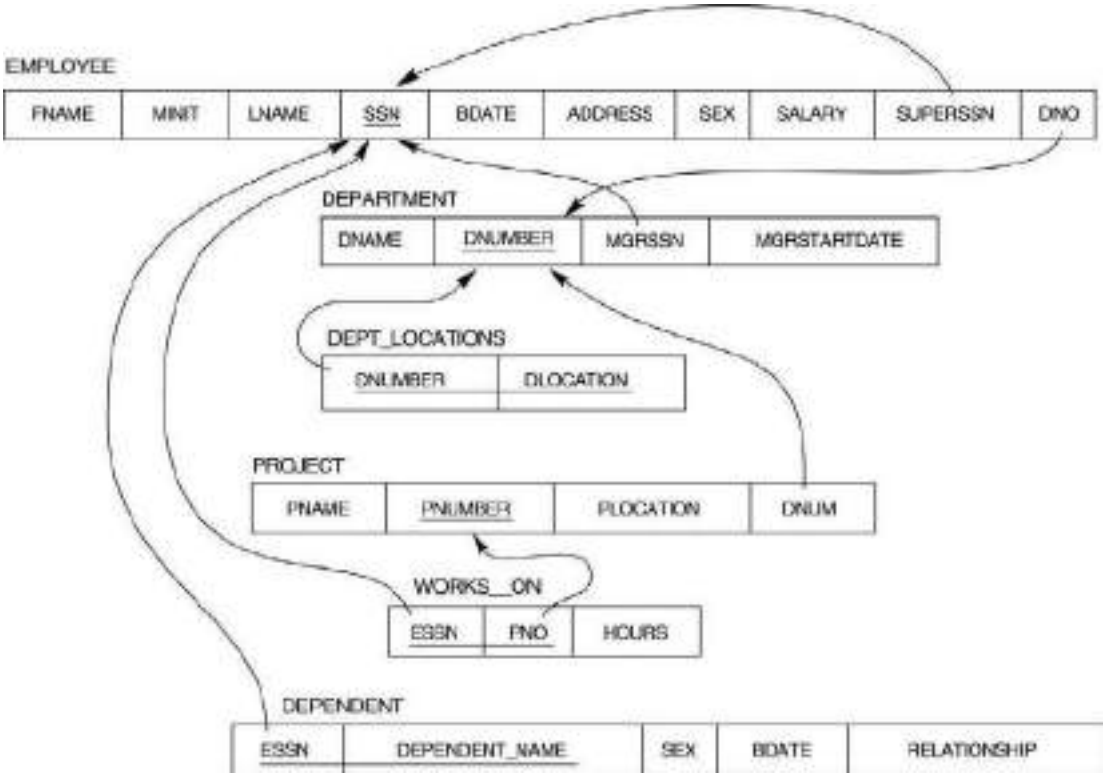
1. Principles of Database Systems by J. D. Ullman
2. Fundamentals of Database Systems by R. Elmasri and S. Navathe
3. SQL: The Ultimate Beginners Guide by Steve Tale.

B Sc	Semester: III	Credits: 1
Course: 3(L)	DATABASE MANAGEMENT SYSTEM LAB	Hrs/Wk: 2

Details of Lab Syllabus: DATABASE MANAGEMENT SYSTEM LAB

1. Draw ER diagram for hospital administration
2. Creation of college database and establish relationships between tables
3. Relational database schema of a company is given in the following figure.

Relational Database Schema - COMPANY



Questions to be performed on above schema

1. Create above tables with relevant ***Primary Key, Foreign Key and other constraints***
2. Populate the tables with data
3. Display all the details of all employees working in the company.
4. Display ***ssn, lname, fname, address*** of employees who work in department no 7.
5. Retrieve the ***Birthdate and Address*** of the employee whose name is 'Franklin T.Wong'
6. Retrieve the name and salary of every employee.
7. Retrieve all distinct salary values
8. Retrieve all employee names whose address is in 'Bellaire'
9. Retrieve all employees who were born during the 1950s
10. Retrieve all employees in department 5 whose salary is between 50,000 and60,000 (inclusive)

11. Retrieve the names of all employees who do not have supervisors

12. Retrieve SSN and department name for all employees

13. Retrieve the name and address of all employees who work for the 'Research'department

14. For every project located in 'Stafford', list the project number, the controlling department number, and the department manager's last name, address, and birth date.

15. For each employee, retrieve the employee's name, and the name of his or her immediate supervisor.

16. Retrieve all combinations of Employee Name and Department Name

17. Make a list of all project numbers for projects that involve an employee whose last name is 'Narayan' either as a worker or as a manager of the department that controls the project.

18. Increase the salary of all employees working on the 'ProductX' project by 15%. Retrieve employee name and increased salary of these employees.

19. Retrieve a list of employees and the project name each works in, ordered by the employee's department, and within each department ordered alphabetically by employee first name.

20. Select the names of employees whose salary does not match with salary of any employee in department.

21. Retrieve the employee numbers of all employees who work on project located in Bellaire, Houston, or Stafford.

22. Find the sum of the salaries of all employees, the maximum salary, the minimum salary, and the average salary. Display with proper headings

23. Find the sum of the salaries and number of employees of all employees of the 'Marketing' department, as well as the maximum salary, the minimum salary, and the average salary in this department.

24. Select the names of employees whose salary is greater than the average salary of all employees in department 10.

25. Delete all dependents of employee whose ***ssn is '123456789'***.

26. Perform a query using alter command to drop/add field and a constraint in Employeetable.

RECOMMENDED CO-CURRICULAR ACTIVITIES:

(Co-curricular activities shall not promote copying from textbook or from otherswork and shall encourage self/independent and group learning)

A. Measurable

1. Assignments (in writing and doing forms on the aspects of syllabuscontent and outside the syllabus content. Shall be individual and challenging)
2. Student seminars (on topics of the syllabus and related aspects (individualactivity))
3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))
4. Study projects (by very small groups of students on selected local real- time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity

B. General

1. Group Discussion
2. Try to solve MCQ's available online.
3. Others

RECOMMENDED CONTINUOUS ASSESSMENT METHODS:

Some of the following suggested assessment methodologies could be adopted;

1. The oral and written examinations (Scheduled and surprise tests),
2. Closed-book and open-book tests,
3. Problem-solving exercises,
4. Practical assignments and laboratory reports,
5. Observation of practical skills,
6. Individual and group project reports like "Creating Text Editor in C".
7. Efficient delivery using seminar presentations,
8. Viva voce interviews.
9. Computerized adaptive testing, literature surveys and evaluations,
10. Peers and self-assessment, outputs form individual and collaborative work.

MODEL QUESTION PAPER (Sem-end. Exam)
B.Sc DEGREE EXAMINATIONS
Semester - III
Course 3: DATABASE MANAGEMENT SYSTEM

Time: 3Hrs Max.marks:75

Section - A

Answer any FIVE question **5X5 = 25M**

1. Explain disadvantages of file processing system?
2. Explain the concept of entity and entity set with suitable example.
3. Explain about various attribute classification.
4. What are the advantages of Relational algebra? Explain.
5. Explain various types of keys.
6. Explain the selection command with an example.
7. Explain sub queries.
8. Explain structure of PL/SQL.

Section - B

Answer ALL following question **5X10 = 50M**

9. a) With a neat diagram, explain the architecture of a DBMS.

(OR)

b) Explain about Data Models.

10. a) Explain about Specialization and Generalization in EER model.

(OR)

b) What is ER-Modeling? Write advantages and disadvantages of ER-Modelling.

11. a) What is Functional Dependency? Explain difference between 3NF and BCNF?

(OR)

b) What is relational model? Write about key features of relational model.

12. a) What is SQL? Explain different types of commands in SQL.

(OR)

b) What is Nested Queries? How to create them? Discuss it with relevant example.

13. a) Explain steps in creating a PL/SQL Program.

(OR)

b) Explain about Triggers and types of triggers.

B Sc	Semester: IV	Credits: 4
Course: 4	OBJECT ORIENTED PROGRAMMING USING JAVA	Hrs/Wk: 4

Aim and objectives of Course:

- To introduce the fundamental concepts of Object-Oriented programming and todesign & implement object oriented programming concepts in Java.

Learning outcomes of Course:

- Understand the benefits of a well-structured program
- Understand different computer programming paradigms
- Understand underlying principles of Object-Oriented Programming in Java
- Develop problem-solving and programming skills using OOP concepts
- Develop the ability to solve real-world problems through software developmentin high-level programming language like Java

Detailed Syllabus: (Five units with each unit having 12 hours of class work)

UNIT I:

Introduction to Java: Features of Java, The Java virtual Machine, Parts of Java

Naming Conventions and Data Types: Naming Conventions in Java, Data Types in Java, Literals **Operators in Java**: Operators, Priority of Operators. **Control Statements in Java**: if... else Statement, do... while Statement, while Loop, for Loop, switch Statement, break Statement, continue Statement, return Statement. **Input and Output:** Accepting Input from the Keyboard, Reading Input with Java.util.Scanner Class, Displaying Output with System.out.printf(), Displaying Formatted Output with String.format(). **Arrays:** Types of Arrays, Three Dimensional Arrays (3D array), array name. length, Command Line Arguments

UNIT II:

Strings: Creating Strings, String Class Methods, String Comparison, Immutability of Strings. **Introduction to OOPs**: Problems in Procedure Oriented Approach, Features of Object- Oriented Programming System (OOPS). **Classes and Objects**: Object Creation, Initializing the Instance Variables, Access Specifiers,Constructors.

Methods in Java: Method Header or Method Prototype, Method Body, Understanding Methods, Static Methods, Static Block, The keyword 'this', Instance Methods, Passing Primitive Data Types to Methods, Passing Objects to Methods, Passing Arrays to Methods, Recursion, Factory Methods. **Inheritance:** Inheritance, The keyword 'super', The Protected Specifier, Types ofInheritance.

UNIT III:

Polymorphism: Polymorphism with Variables, Polymorphism using Methods, Polymorphism with Static Methods, Polymorphism with Private Methods, Polymorphism with Final Methods, final Class. **Type Casting**: Types of Data Types, Casting Primitive Data Types, Casting Referenced Data Types, The Object Class. **Abstract Classes**: Abstract Method and Abstract Class.

Interfaces: Interface, Multiple Inheritance using Interfaces. **Packages:** Package, Different Types of Packages, The JAR Files, Interfaces in a Package, Creating Sub Package in a Package, Access Specifiers in Java, Creating API Document. **Exception Handling:** Errors in Java Program, Exceptions, throws Clause, throw Clause, Types of Exceptions, Re – throwing an Exception.

UNIT – IV

Streams: Stream, Creating a File using FileOutputStream, Reading Data from a File uingFileInputStream, Creating a File using FileWriter, Reading a File using FileReader, Zipping and Unzipping Files, Serialization of Objects, Counting Number of Characters in a File, File Copy, File Class

Threads: Single Tasking, Multi Tasking, Uses of Threads, Creating a Thread and Running it, Terminating the Thread, Single Tasking Using a Thread, Multi Tasking Using Threads, Multiple Threads Acting on Single Object, Thread Class Methods, Deadlock of Threads, Thread Communication, Thread Priorities, thread Group, Daemon Threads, Applications of Threads, Thread Life Cycle.

UNIT V:

Applets: Creating an Applet, Uses of Applets, <APPLET> tag, A Simple Applet, An Applet with Swing Components, Animation in Applets, A Simple Game with an Applet, Applet Parameters.

Java Database Connectivity: Database Servers, Database Clients, JDBC (Java Database Connectivity), Working with Oracle Database, Working with MySQL Database, Stages in a JDBC Program, Registering the Driver, Connecting to a Database, Preparing SQL Statements, Using jdbc–odbc Bridge Driver to Connect to Oracle Database, Retrieving Data from MySQL Database, Retrieving Data from MS Access Database, Stored Procedures and CallableStatements, Types of Result Sets.

TEXT BOOKS:

1. Core Java: An Integrated Approach, Authored by Dr. R. Nageswara Rao &Kogent Learning Solutions Inc.
2. E.Balaguruswamy, Programming with JAVA, A primer, 3e, TATA McGraw- HillCompany.

REFERENCES:

1. John R. Hubbard, Programming with Java, Second Edition, Schaum's outlineSeries, TMH.
2. Deitel&Deitel. Java TM: How to Program, PHI (2007)

B Sc	Semester: IV	Credits: 1
Course: 4(L)	Object Oriented Programming using Java Lab	Hrs/Wk: 2

Details of Lab Syllabus: Object Oriented Programming using Java Lab

1. Write a program to read ***Student Name, Reg.No, Marks[5]*** and calculate ***Total***,***Percentage, Result***. Display all the details of students
2. Write a program to perform the following String Operations
   - **a.** Read a string
   - **b.** Find out whether there is a given substring or not
   - **c.** Compare existing string by another string and display status
   - **d.** Replace existing string character with another character
   - **e.** Count number of works in a string
3. Java program to implements Addition and Multiplication of two N X N matrices.
4. Java program to demonstrate the use of Constructor.
5. Calculate area of the following shapes using method overloading.
   - **a.** Triangle
   - **b.** Rectangle
   - **c.** Circle
   - **d.** Square
6. Implement inheritance between ***Person (Aadhar, Surname, Name, DOB, and Age)*** and ***Student (Admission Number, College, Course, Year)***classes where ReadData(),DisplayData() are overriding methods.
7. Java program for implementing Interfaces
8. Java program on Multiple Inheritance.
9. Java program for to display ***Serial Number from 1 to N*** by creating two Threads
10. Java program to demonstrate the following exception handlings
    - **e.** Divided by Zero
    - **f.** Array Index Out of Bound
    - **g.** File Not Found
    - **h.** Arithmetic Exception
    - **i.** User Defined Exception
11. Create an Applet to display different shapes such as Circle, Oval, Rectangle, Square and Triangle.
12. Write a program to create ***Book (ISBN,Title, Author, Price, Pages, Publisher)***structure and store book details in a file and perform the following operations
    - **j.** Add book details
    - **k.** Search a book details for a given ISBN and display book details, if available
    - **l.** Update a book details using ISBN
    - **m.** Delete book details for a given ISBN and display list of remaining Books

RECOMMENDED CO-CURRICULAR ACTIVITIES:

(Co-curricular activities shall not promote copying from textbook or from otherswork and shall encourage self/independent and group learning)

A. Measurable

1. Assignments (in writing and doing forms on the aspects of syllabuscontent and outside the syllabus content. Shall be individual and challenging)
2. Student seminars (on topics of the syllabus and related aspects (individualactivity))
3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))
4. Study projects (by very small groups of students on selected local real- time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity)

B. General

1. Group Discussion
2. Try to solve MCQ's available online.
3. Others

RECOMMENDED CONTINUOUS ASSESSMENT METHODS:

Some of the following suggested assessment methodologies could be adopted;

1. The oral and written examinations (Scheduled and surprise tests),
2. Closed-book and open-book tests,
3. Problem-solving exercises,
4. Practical assignments and laboratory reports,
5. Observation of practical skills,
6. Individual and group project reports like "Creating Text Editor in C".
7. Efficient delivery using seminar presentations,
8. Viva voce interviews.
9. Computerized adaptive testing, literature surveys and evaluations,
10. Peers and self-assessment, outputs form individual and collaborative work.

MODEL QUESTION PAPER (Sem-end. Exam)
B.Sc DEGREE EXAMINATIONS
Semester - IV
Course 4: OBJECT ORIENTED PROGRAMMING USING JAVA

Time: 3Hrs Max.marks:75

Section - A

Answer any FIVE question **5X5 = 25M**

1. Explain about JVM.
2. Explain about factory methods.
3. Explain about 'this' keyword with example.
4. Explain about Type casting.
5. Define Abstract class and Abstract method.
6. Explain Zipping and Unzipping files.
7. How to terminate a thread.
8. Explain JDBC.

Section - B

Answer ALL following question **5X10 = 50M**

9. a) Explain Looping statements in JAVA.

(OR)

b) Explain operators and types of operators.

10. a) Explain Inheritance and types of Inheritance.

(OR)

b) Explain constructors and types of constructors with an example.

11. a) Describe Interface? Critically explain and define Accessing Interface variable.

(OR)

b) Explain concept of Exception handling.

12. a) Explain the concept of Creating a file using File Writer using an example program.

(OR)

b) Discuss Thread Life Cycle.

13. a) Define Applet. Explain how to create an Applet.

(OR)

b) Explain the procedure to connect Oracle Database using jdbc-odbc driver.

B Sc	Semester: IV	Credits: 4
Course: 5	OPERATING SYSTEMS	Hrs/Wk: 4

Aim and objectives of Course:

- This course aims to introduce the structure and organization of a file system. It emphasizes various functions of an operating system like memory management, process management, device management, etc.

Learning outcomes of Course:

Upon successful completion of the course, a student will be able to:

- Know Computer system resources and the role of operating system in resourcemanagement with algorithms
- Understand Operating System Architectural design and its services.
- Gain knowledge of various types of operating systems including Unix andAndroid.
- Understand various processmanagement concepts including scheduling, synchronization, and deadlocks.
- Have a basic knowledge about multithreading.
- Comprehend different approaches for memory management.
- Understand and identify potential threats to operating systems and the securityfeatures design to guard against them.
- Specify objectives of modern operating systems and describe how operatingsystems have evolved over time.
- Describe the functions of a contemporary operating system

Detailed Syllabus: (Five units with each unit having 12 hours of class work)

UNIT I:

What is Operating System? History and Evolution of OS, Basic OS functions, Resource Abstraction, Types of Operating Systems– Multiprogramming Systems, Batch Systems, Time Sharing Systems; Operating Systems for Personal Computers, Workstations and Hand-held Devices, Process Control & Real time Systems.

UNIT II:

Processor and User Modes, Kernels, System Calls and System Programs, System View of the Process and Resources, Process Abstraction, Process Hierarchy, Threads, Threading Issues, Thread Libraries; Process Scheduling, Non-Preemptive and Preemptive Scheduling Algorithms.

UNIT III:

Process Management: Deadlock, Deadlock Characterization, Necessary andSufficient Conditions for Deadlock, Deadlock Handling Approaches: Deadlock Prevention, Deadlock Avoidance and Deadlock Detection and Recovery. Concurrent and Dependent Processes, Critical Section, Semaphores, Methods for Inter- process Communication; Process Synchronization, Classical Process Synchronization Problems: Producer-Consumer, Reader-Writer.

UNIT IV:

Memory Management: Physical and Virtual Address Space; MemoryAllocation Strategies– Fixed and -Variable Partitions, Paging, Segmentation, Virtual Memory.

UNIT V:

File and I/O Management, OSsecurity : Directory Structure, File Operations, File Allocation Methods, Device Management, Pipes, Buffer, Shared Memory, Security Policy Mechanism, Protection, Authentication and Internal Access Authorization Introduction to Android Operating System, Android Development Framework, AndroidApplication Architecture, Android Process Management and File System, SmallApplication Development using Android Development Framework.

TEXT BOOKS:

1. Operating System Principles by Abraham Silberschatz, Peter Baer Galvin and GregGagne (7^{th}Edition) Wiley India Edition.
2. Operating Systems: Internals and Design Principles by Stallings (Pearson)

REFERENCES:

1. Operating Systems by J. Archer Harris (Author), Jyoti Singh (Author) (TMH)
2. Online Resources for UNIT V

B Sc	Semester: IV	Credits: 1
Course: 5(L)	Operating Systems Lab using C/Java	Hrs/Wk: 2

Details of Lab Syllabus: **Operating Systems Lab using C/Java**

1. Write a program to implement Round Robin CPU Scheduling algorithm
2. Simulate SJF CPU Scheduling algorithm
3. Write a program the FCFS CPU Scheduling algorithm
4. Write a program to Priority CPU Scheduling algorithm
5. Simulate Sequential file allocation strategies
6. Simulate Indexed file allocation strategies
7. Simulate Linked file allocation strategies
8. Simulate MVT and MFT memory management techniques
9. Simulate Single level directory File organization techniques
10. Simulate Two level File organization techniques
11. Simulate Hierarchical File organization techniques
12. Write a program for Bankers Algorithm for Dead Lock Avoidance
13. Implement Bankers Algorithm Dead Lock Prevention.
14. Simulate all Page replacement algorithms.
    a) FIFO
    b) LRU
    c) LFU
15. Simulate Paging Techniques of memory management

RECOMMENDED CO-CURRICULAR ACTIVITIES:

(Co-curricular activities shall not promote copying from textbook or from otherswork and shall encourage self/independent and group learning)

A. Measurable

1. Assignments (in writing and doing forms on the aspects of syllabus contentand outside the syllabus content. Shall be individual and challenging)
2. Student seminars (on topics of the syllabus and related aspects (individual activity))
3. Quiz (on topics where the content can be compiled by smaller aspects and data (Individuals or groups as teams))
4. Study projects (by very small groups of students on selected local real-time problems pertaining to syllabus or related areas. The individual participation and contribution of students shall be ensured (team activity

B. General

1. Group Discussion
2. Try to solve MCQ's available online.
3. Others

RECOMMENDED CONTINUOUS ASSESSMENT METHODS:

Some of the following suggested assessment methodologies could be adopted;

1. The oral and written examinations (Scheduled and surprise tests),
2. Closed-book and open-book tests,
3. Problem-solving exercises,
4. Practical assignments and laboratory reports,
5. Observation of practical skills,
6. Individual and group project reports like "Creating Text Editor in C".
7. Efficient delivery using seminar presentations,
8. Viva voce interviews.
9. Computerized adaptive testing, literature surveys and evaluations,
10. Peers and self-assessment, outputs form individual and collaborative work.

MODEL QUESTION PAPER (Sem-end. Exam)B.Sc DEGREE EXAMINATIONS
Semester - IV
Course 5: OPERATING SYSTEMS

Time: 3Hrs Max.marks:75

Section - A

Answer any FIVE question **5X5 = 25M**

1. Write about Resource Abstraction.
2. Write about the process and the process state.
3. Explain threading issues.
4. Explain about process Synchronization.
5. Discuss some necessary and sufficient conditions for deadlock.
6. Explain about Virtual memory.
7. Explain about shared memory.
8. Write about file types.

Section - B

Answer ALL following question **5X10 = 50M**

9. a) Explain various types of Operating Systems.

(OR)

b) What is Operating System? Explain functions of Operating System.

10. a) Explain in detail about Process Scheduling.

(OR)

b) Explain system view of the process and resources.

11. a) Explain about deadlock Detection and recovery.

(OR)

b) Discuss classical process synchronization problems.

12. a) Explain the following

i) Segmentation

ii) Fixed and variable partitions.

(OR)

b) Explain in detail about Demand-paging.

13. a) Explain Authentication and Internal Access Authorization.

(OR)

b) Explain Android Development Framework.

B Sc	**Semester :V**(Skill Enhancement Course - Elective)	**Credits: 4**
Course: 6A	**Web Interface Designing Technologies**	**Hrs/Wk: 4**

Learning Outcomes: Students after successful completion of the course will be able to:

1. Understand and appreciate the web architecture and services.
2. Gain knowledge about various components of a website.
3. Demonstrate skills regarding creation of a static website and an interface to dynamic website.
4. Learn how to install word press and gain the knowledge of installing various plugins to use in their websites.

Syllabus: *(Total Hours: 90 including Teaching, Lab, and Field training, Unit tests etc.)*

UNIT I: (10 hours)

HTML: Introduction to web designing, difference between web applications and desktop applications, introduction to HTML, HTML structure, elements, attributes, headings, paragraphs, styles, colours, HTML formatting, Quotations, Comments, images, tables, lists, blocks and classes, HTML CSS, HTML frames, file paths, layout, symbols, HTML responsive.

UNIT II: (10 hours)

HTML forms: HTML form elements, input types, input attributes, HTML5, HTML graphics, HTML media – video, audio, plug INS, you tube.

HTML API'S: Geo location, Drag/drop, local storage, HTML SSE.

CSS: CSS home, introduction, syntax, colours, back ground, borders, margins, padding, height/width, text, fonts, icons, tables, lists, position, over flow, float, CSS combinators, pseudo class, pseudo elements, opacity, tool tips, image gallery, CSS forms, CSS counters, CSS responsive.

UNIT III: (10 hours)

Client side Validation: Introduction to JavaScript - What is DHTML, JavaScript, basics, variables, string manipulations, mathematical functions, statements, operators, arrays, functions. Objects in JavaScript - Data and objects in JavaScript, regular expressions, exception handling. DHTML with JavaScript - Data validation, opening a new window, messages and confirmations, the status bar, different frames, rollover buttons, moving images.

UNIT IV: (10 hours)

Word press: Introduction to word press, servers like wamp, bitnami e.tc, installing and configuring word press, understanding admin panel, working with posts and pages, using editor, text formatting with shortcuts, working with media-Adding, editing, deleting media elements, working with widgets, menus.

UNIT V: (10 hours)

Working with themes-parent and child themes, using featured images, configuring settings, user and user roles and profiles, adding external links, extending word press with plug-ins. Customizing the site, changing the appearance of site using css , protecting word press website from hackers.

REFERENCES

1. Chris Bates, Web Programming Building Internet Applications, Second Edition, Wiley (2007)
2. Paul S.WangSanda S. Katila, an Introduction to Web Design plus Programming, Thomson (2007).
3. Head First HTML and CSS, Elisabeth Robson, Eric Freeman, O'Reilly Media Inc.
4. An Introduction to HTML and JavaScript: for Scientists and Engineers, David R. Brooks. Springer, 2007
5. Schaum's Easy Outline HTML, David Mercer, Mcgraw Hill Professional.
6. Word press for Beginners, Dr.Andy Williams.
7. Professional word press, Brad Williams, David damstra, Hanstern.
8. Web resources:
    a. http://www.codecademy.com/tracks/web
    b. http://www.w3schools.com
    c. https://www.w3schools.in/wordpress-tutorial/
    d. http://www.homeandlearn.co.uk
9. Other web sources suggested by the teacher concerned and the college librarianincluding reading material.

Co-Curricular Activities

***a)* Mandatory:** *(Training of students by teacher in field related skills: (lab: 10 + field: 05) :*

1. **For Teacher**: Field related training of students by the teacher in laboratory/field for not less than 15 hours on identifying the case study to build a website, designing the format, structure, menus, submenus etc for a website and finally to build a website.
2. **For Student**: Students shall (individually) search online and visit any of the agencies like hotels, hospitals, super bazaars, organizations, etc. where there is a need for a website and identify any one case study and submit a hand-written Fieldwork/Project work/Project work/Project work/Project work Report not exceeding 10 pages. Example: Choosing a firm or business to develop a website, identifying various business entities to be included in the website, identifying menu bar and content to be placed in their websites.
3. Max marks for Fieldwork/Project work/Project work/Project work/Project work/Projectwork Report: 05.
4. Suggested Format for Fieldwork/Project work/Project work/Project work/Project work: *Title page, student details, index page, details of place visited, observations, findings andacknowledgements*.
5. Unit tests (IE).

b) Suggested Co-Curricular Activities

1. Build a website with 10 pages for the case study identified.
2. Training of students by related industrial experts.
3. Assignments
4. Seminars, Group discussions, Quiz, Debates etc. (on related topics).
5. Presentation by students on best websites.

B Sc	**Semester :V**(Skill Enhancement Course - Elective)	**Credits: 1**
Course: 6A	**Web Interface Designing Technologies Lab**	**Hrs/Wk: 2**

Web Interface Designing Technologies – PRACTICAL SYLLABUS

Learning Outcomes:

On successful completion of this practical course, student shall be able to:

1. Create a basic website with the help of HTML and CSS.
2. Acquire the skill of installing word press and various plugins of Word press.
3. Create a static website with the help of Word press.
4. Create an interface for a dynamic website.
5. Apply various themes for their websites using Word press.

Practical (Laboratory) Syllabus: *(30 hrs.*)

HTML and CSS:

1. Create an HTML document with the following formatting options:
   (a) Bold, (b) Italics, (c) Underline, (d) Headings (Using H1 to H6 heading styles), (e) Font (Type, Size and Color), (f) Background (Colored background/Image in background), (g) Paragraph, (h) Line Break, (i) Horizontal Rule, (j) Pre tag

2. Create an HTML document which consists of:

   (a) Ordered List (b) Unordered List (c) Nested List (d) Image

3. Create a Table with four rows and five columns. Place an image in one column.
4. **Using "table" tag, align the images as follows:**

5. Create a menu form using html.
6. Style the menu buttons using css.
7. Create a form using HTML which has the following types of controls:

(a) Text Box (b) Option/radio buttons (c) Check boxes (d) Reset and Submit buttons

8. Embed a calendar object in your web page.
9. Create an applet that accepts two numbers and perform all the arithmetic operationson them.
10. Create nested table to store your curriculum.
11. Create a form that accepts the information from the subscriber of a mailing system.
12. Design the page as follows:

13. Create a help file as follows:

14. Create a webpage containing your bio data (assume the form and fields).
15. Write a html program including style sheets.
16. Write a html program to layers of information in web page.
17. Create a static webpage.

Word press:

1. Installation and configuration of word press.
2. Create a site and add a theme to it.20 Create a child theme
3. Create five pages on COVID – 19 and link them to the home page. .
4. Create a simple post with featured image.
5. Add an external video link with size 640 X 360.
6. Create a user and assign a role to him.
7. Create a login page to word press using custom links
8. Create a website for your college.

MODEL QUESTION PAPER (Sem-end. Exam)

B.Sc DEGREE EXAMINATIONS

Semester - V (Skill Enhancement Course - Elective)

Course 6A: Web Interface Designing Technologies

Time: 3Hrs **Max.marks:75**

Section - A

Answer any FIVE question **5X5 = 25M**

1. Write the differences between web applications and desktop applications
2. Explain about table properties in HTML.
3. Write about HTML form elements.
4. Write the syntax for colours and borders in CSS.
5. Write the differences between HTML and DHTML.
6. Explain about Data and Objects in Java Script.
7. Write about wamp server.
8. Write about parent and child themes.

Section - B

Answer ALL following question **5X10 = 50M**

9. a) Explain about different types of Lists in HTML with examples.

(or)

b) Explain HTML frames with example.

10. a) Explain about HTML media.

(or)

b) Explain about CSS counters and CSS responsive.

11 a) Explain about String manipulations in Java Script.

(or)

b) Explain about Data validation in Java Script with example.

12 a) Explain about installing and configuring word press.

(or)

b) Explain about media adding, editing, deleting media elements.

13 a) Explain about extending word press with plug-ins.

(or)

b) Explain about protecting word press website from hackers.

B Sc	**Semester :V**(Skill Enhancement Course - Elective)	**Credits: 4**
Course: 7A	**Web Applications Development using PHP& MYSQL**	**Hrs/Wk: 4**

Learning Outcomes:

Students after successful completion of the course will be able to:

1. Write simple programs in PHP.
2. Understand how to use regular expressions, handle exceptions, and validate data usingPHP.
3. Apply In-Built functions and Create User defined functions in PHP programming.
4. Write PHP scripts to handle HTML forms.
5. Write programs to create dynamic and interactive web based applications using PHPand MYSQL.
6. Know how to use PHP with a MySQL database and can write database driven webpages.

Syllabus: *(Total Hours: 90 including Teaching, Lab, and Field training, Unit tests etc.)*

UNIT I: (10 hours)

The Building blocks of PHP: Variables, Data Types, Operators and Expressions, Constants. Flow Control Functions in PHP: Switching Flow, Loops, Code Blocks and Browser Output. Working with Functions: What is function?, Calling functions, Defining Functions, Returning the values from User-Defined Functions, Variable Scope, Saving state between Function calls with the static statement, more about arguments.

UNIT II: (10 hours)

Working with Arrays: What are Arrays? Creating Arrays, Some Array-Related Functions. Working with Objects: Creating Objects, Object Instance Working with Strings, Dates and Time: Formatting strings with PHP, Investigating Strings with PHP, Manipulating Strings with PHP, Using Date and Time Functions in PHP.

UNIT III: (10 hours)

Working with Forms: Creating Forms, Accessing Form Input with User defined Arrays, Combining HTML and PHP code on a single Page, Using Hidden Fields to save state, Redirecting the user, Sending Mail on Form Submission, and Working with File Uploads. Working with Cookies and User Sessions: Introducing Cookies, Setting a Cookie with PHP, Session Function Overview, Starting a Session, Working with session variables, passing session IDs in the Query String, Destroying Sessions and Unsetting Variables, Using Sessions in an Environment with Registered Users.

UNIT IV: (10 hours)

Working with Files and Directories: Including Files with inclue(), Validating Files, Creating and Deleting Files, Opening a File for Writing, Reading or Appending, Reading from Files, Writing or Appending to a File, Working with Directories, Open Pipes to and from Process Using popen(), Running Commands with exec(), Running Commands with system() or passthru().

Working with Images: Understanding the Image-Creation Process, Necessary Modifications to PHP, Drawing a New Image, Getting Fancy with Pie Charts, Modifying Existing Images, Image Creation from User Input.

UNIT V: (10 hours)

Interacting with MySQL using PHP: MySQL Versus MySQLi Functions, Connecting to MySQL with PHP, Working with MySQL Data. Creating an Online Address Book: Planning and Creating Database Tables, Creating Menu, Creating Record Addition Mechanism, Viewing Records, Creating the Record Deletion Mechanism, Adding Sub-entities to a Record.

REFERENCES:

1. Julie C. Meloni, SAMS Teach yourself PHP MySQL and Apache, Pearson Education (2007).
2. Steven Holzner , PHP: The Complete Reference, McGraw-Hill
3. Robin Nixon, Learning PHP, MySQL, JavaScript, CSS & HTML5, Third EditionO'reilly, 2014
4. Xue Bai Michael Ekedahl, The web warrior guide to Web Programming, Thomson(2006).
5. Web resources:
    e. http://www.codecademy.com/tracks/php
    f. http://www.w3schools.com/PHP
    g. http://www.tutorialpoint.com
6. Other web sources suggested by the teacher concerned and the college librarianincluding reading material.

Co-Curricular Activities:

a) **Mandatory:** *(Training of students by teacher in field related skills: (lab: 10 + field: 05) :*

1. **For Teacher**: Field related training of students by the teacher in laboratory/field for not less than 15 hours on demonstrating various **interactive and dynamic websites** available online, addressing the students on identifying the case study to build an interactive and database driven website, forms to be used in website, database to be maintained, reports to be produced, etc.
2. **For Student**: Students shall (individually) search online and visit any of the agencies like malls, hotels, super bazaars, etc. where there is a need for an interactive and database driven website and submit a hand-written Fieldwork/Project work/Project work/Project work/Project work Report not exceeding 10 pages. Example: Choosing a firm or business to develop a website, identifying forms to be placed in the websites, back end databases to be maintained and reports to be generated and placed in the websites.
3. Max marks for Fieldwork/Project work/Project work/Project work/Project work/Projectwork Report: 05.
4. Suggested Format for Fieldwork/Project work/Project work/Project work/Project work: *Title page, student details, index page, details of place or websites visited, structure of thewebsite and acknowledgements*.
5. Unit tests (IE).

b) Suggested Co-Curricular Activities

1. Arrange expert lectures by IT experts working professionally in the area of web contentdevelopment
2. Assignments (in writing or implementing contents related to syllabus or outside the syllabus. Shall be individual and challenging)
3. Seminars, Group discussions, Quiz, Debates etc. (on related topics).
4. Preparation by students on best websites.
5. Arrange a webpage development competition among small groups of students.

B Sc	**Semester :V**(Skill Enhancement Course - Elective)	**Credits: 4**
Course: 7A	**Web Applications Development using PHP& MYSQL Lab**	**Hrs/Wk: 4**

Web Applications Development using PHP & MYSQL–PRACTICAL SYLLABUS

Learning Outcomes:

On successful completion of this practical course, student shall be able to:

1. Write, debug and implement the Programs by applying concepts and error handling techniques of PHP.
2. Create an interactive and dynamic website.
3. Create a website with reports generated from a database.
4. Write programs to create an interactive website for e-commerce sites like online shopping, etc.

Practical (Laboratory) Syllabus: *(30 hrs.*)

1. Write a PHP program to Display "Hello"
2. Write a PHP Program to display the today's date.
3. Write a PHP program to display Fibonacci series.
4. Write a PHP Program to read the employee details.
5. Write a PHP program to prepare the student marks list.
6. Write a PHP program to generate the multiplication of two matrices.
7. Create student registration form using text box, check box, radio button, select, submit button. And display user inserted value in new PHP page.
8. Create Website Registration Form using text box, check box, radio button, select, submit button. And display user inserted value in new PHP page.
9. Write PHP script to demonstrate passing variables with cookies.
10. Write a program to keep track of how many times a visitor has loaded the page.
11. Write a PHP application to add new Rows in a Table.
12. Write a PHP application to modify the Rows in a Table.
13. Write a PHP application to delete the Rows from a Table.
14. Write a PHP application to fetch the Rows in a Table.
15. Develop an PHP application to implement the following Operations
    i. Registration of Users.
    ii. Insert the details of the Users.
    iii. Modify the Details.
    iv. Transaction Maintenance.
        a) No of times Logged in
        b) Time Spent on each login.
        c) Restrict the user for three trials only.
        d) Delete the user if he spent more than 100 Hrs of transaction.
16. Write a PHP script to connect MySQL server from your website.
17. Write a program to read customer information like cust-no, cust-name, item- purchased, and mob-no, from customer table and display all these information in table format on output screen.
18. Write a program to edit name of customer to "Kiran" with cust-no =1, and to delete record with cust-no=3.
19. Write a program to read employee information like emp-no, emp-name, designation and salary from EMP table and display all this information using table format in your website.
20. Create a dynamic web site using PHP and MySQL.

MODEL QUESTION PAPER (Sem-end. Exam)

B.Sc DEGREE EXAMINATIONS

Semester - V (Skill Enhancement Course - Elective)

Course 7A: Web Applications Development using PHP& MYSQL

Time: 3Hrs **Max.marks:75**

Section - A

Answer any FIVE question **5X5 = 25M**

1. Write about Data types in PHP.
2. Explain about variable Scope.
3. Write about Array related functions.
4. Explain about formatting strings with PHP.
5. Write about setting a Cookie with PHP.
6. Explain about validating files.
7. Write about image creation process.
8. Write about MySQL Versus MySQLi Functions.

Section - B

Answer ALL following question **5X10 = 50M**

9. a) Explain about different Loops in PHP?

(or)

b) Explain about user defined functions.

10. a) Explain about Object Instance working with Strings.

(or)

b) Explain about Date and Time functions in PHP.

11 a) Explain about Sending Mail on Form Submission.

(or)

b) Explain about Working with session variables and passing session IDs in the Query String.

12 a) Explain about reading from a file and appending to file.

(or)

b) Explain how to modify existing images.

13 a) Explain about connecting to MySQL with PHP.

(or)

b) Explain about Record Addition and Record Deletion mechanisms.

B Sc	**Semester :V**(Skill Enhancement Course - Elective)	**Credits: 4**
Course: 6B	**Internet of Things**	**Hrs/Wk: 4**

Learning Outcomes: Students after successful completion of the course will be able to:

1. Appreciate the technology for IoT
2. Understand various concepts, terminologies and architecture of IoT systems.
3. Understand various applications of IoT
4. Learn how to use various sensors and actuators for design of IoT.
5. Learn how to connect various things to Internet.
6. Learn the skills to develop simple IOT Devices.

Syllabus: *(Total Hours: 90 including Teaching, Lab, Field training, Unit tests etc.)*

UNIT I: (10 hours)

Fundamentals of IoT: Introduction, Definitions & Characteristics of IoT, IoT Architectures, Physical & Logical Design of IoT, Enabling Technologies in IoT, History of IoT, About Things in IoT, The Identifiers in IoT, About the Internet in IoT, IoT frameworks, IoT and M2M.

Applications of IoT: Home Automation, Smart Cities, Energy, Retail Management, Logistics, Agriculture, Health and Lifestyle, Industrial IoT, Legal challenges, IoT design Ethics, IoT in Environmental Protection.

UNIT II: (10 hours)

Sensors Networks : Definition, Types of Sensors, Types of Actuators, Examples and Working, IoT Development Boards: Arduino IDE and Board Types, RaspberriPi Development Kit, RFID Principles and components, Wireless Sensor Networks: History and Context, The node, Connecting nodes, Networking Nodes, WSN and IoT.

UNIT III: (10 hours)

Wireless Technologies for IoT: WPAN Technologies for IoT: IEEE 802.15.4, Zigbee, HART, NFC, Z-Wave, BLE, Bacnet And Modbus. IP Based Protocols for IoT IPv6, 6LowPAN, LoRA, RPL, REST, AMPQ, CoAP, MQTT.Edge connectivity and protocols.

UNIT IV: (10 hours)

Arduino Simulation Environment: Arduino Uno Architecture, Setting up the IDE, Writing Arduino Software, Arduino Libraries, Basics of Embedded C programming for Arduino, Interfacing LED, push button and buzzer with Arduino, Interfacing Arduino with LCD.

Sensor & Actuators with Arduino: Overview of Sensors working, Analog and Digital Sensors, Interfacing of Temperature, Humidity, Motion, Light and Gas Sensors with Arduino, Interfacing of Actuators with Arduino, Interfacing of Relay Switch and Servo Motor with Arduino.

UNIT V: (10 hours)

Developing IOT's: Implementation of IoT with Arduino, Connecting and using various IoT Cloud Based Platforms such as Blynk, Thingspeak, AWS IoT, Google Cloud IoT Core etc. Cloud Computing, Fog Computing, Privacy and Security Issues in IoT.

REFERENCES:

1. Internet of Things - A Hands-on Approach, ArshdeepBahga and Vijay Madisetti, Universities Press, 2015, ISBN: 9788173719547
2. Vijay Madisetti and ArshdeepBahga, "Internet of Things (A Hands-onApproach)", 1st Edition, VPT, 2014
3. Daniel Minoli, ― "Building the Internet of Things with IPv6 and MIPv6: The Evolving World of M2M Communications", ISBN: 978-1-118-47347-4, Willy Publications
4. Pethuru Raj and Anupama C. Raman, "The Internet of Things: Enabling Technologies, Platforms, and Use Cases", CRC Press
5. Open source software / learning websites

    a. https://github.com/connectIOT/iottoolkit
    b. https://www.arduino.cc/
    c. https://onlinecourses.nptel.ac.in/noc17_cs22/course
        d. http://www.cse.wustl.edu/~jain/cse570-15/ftp/iot_prot/index.html
        e. Contiki (Open source IoT operating system)
    f. Ardudroid (open source IoT project)
    g. https://blynk.io (Mobile app)
    h. IoT Toolkit (smart object API gateway service reference implementation)

6. Other web sources suggested by the teacher concerned and the college librarian including reading material.

Co-Curricular Activities:

a) **Mandatory:** *(Training of students by teacher in field related skills: (lab: 10 + field: 05) :*

1. **For Teacher**: Field related training of students by the teacher in laboratory/field for not less than 15 hours on identifying the case study for the IoT, design an IoT solution, build physical IoT device, connect it to a mobile app and deploy the IoT device.
2. **For Student**: Students shall (individually) search online and visit any of the places like aquaculture farms, agencies using IOT devices, etc to identify problems for IoT solution and submit a hand-written Fieldwork/Project work/Project work/Project work/Project work Report not exceeding 10 pages. Example: Choosing a Problem for IoT solution (agriculture, aquaculture, smart home appliances, testing moisture levels, oxygen levels, etc), reasons why IoT solution is feasible for the said problem, material required, Design and architecture for the proposed IoT device, method of implementation and how to connect the device to mobile.
3. Max marks for Fieldwork/Project work/Project work/Project work/Project work/Projectwork Report: 05.
4. Suggested Format for Fieldwork/Project work/Project work/Project work/Project work: *Title page, student details, index page, details of websites searched, place visited, observations, findings, proposed IOT problem, and design of the IOT device, implementation and acknowledgements.*
5. Unit tests (IE).

b) Suggested Co-Curricular Activities

1. Training of students by related industrial experts.
2. Assignments
3. Preparation and presentation of power-point slides, which include videos, animations, pictures, graphics, etc by the students.
4. Seminars, Group discussions, Quiz, Debates etc. (on related topics).
5. Field visits to identify the problems for IoT solutions.

B Sc	**Semester :V**(Skill Enhancement Course - Elective)	**Credits: 1**
Course: 6B	**Internet of Things Lab**	**Hrs/Wk: 2**

Internet of Things – PRACTICAL SYLLABUS

Learning Outcomes:

On successful completion of this practical course, student shall be able to:

1. Acquire the skills to design a small IoT device.
2. Connect various sensors, actuators, etc to Arduino board.
3. Connect the things to Internet
4. Design a small mobile app to control the sensors.
5. Deploy a simple IoT device.

Practical (Laboratory) Syllabus: *(30 hrs*)

1. Understanding Arduino UNO Board and Components
2. Installing and work with Arduino IDE
3. Blinking LED sketch with Arduino
4. Simulation of 4-Way Traffic Light with Arduino
5. Using Pulse Width Modulation
6. LED Fade Sketch and Button Sketch
7. Analog Input Sketch (Bar Graph with LEDs and Potentiometre)
8. Digital Read Serial Sketch (Working with DHT/IR/Gas or Any other Sensor)
9. Working with Adafruit Libraries in Arduino
10. Spinning a DC Motor and Motor Speed Control Sketch
11. Working with Shields
12. Design APP using Blink App or Things peak API and connect it LED bulb.
13. Design APP Using Blynk App and Connect to Temperature, magnetic Sensors.

MODEL QUESTION PAPER (Sem-end. Exam)

B.Sc DEGREE EXAMINATIONS

Semester - V (Skill Enhancement Course - Elective)

Course 6B: Internet of Things

Time: 3Hrs **Max.marks:75**

Section - A

Answer any FIVE question **5X5 = 25M**

1. What are the Definitions & Characteristics of IoT.
2. Write about IoT design Ethics.
3. Write about the Types of Sensors.
4. Write about RFID principles and components.
5. Write about Zigbee technology.
6. Explain about IPV6.
7. Write about Arduino Libraries.
8. Write about Fog Computing.

Section - B

Answer ALL following question **5X10 = 50M**

9. a) Explain about Physical & Logical Design of IoT.

(or)

b) Explain about IoT in Environmental Protection.

10. a) Explain about Arduino IDE and Board Types.

(or)

b) Explain about Connecting nodes and Networking Nodes.

11 a) Explain about Bacnet and Modbus.

(or)

b) Explain about Edge connectivity and protocols.

12 a) Explain about Arduino Uno Architecture.

(or)

b) Explain about Interfacing of Actuators with Arduino.

13 a) Explain about Implementation of IoT with Arduino.

(or)

b) Explain about Privacy and Security Issues in IoT.

B Sc	**Semester :V**(Skill Enhancement Course - Elective)	**Credits: 4**
Course: 7B	**Application Development using Python**	**Hrs/Wk: 4**

Learning Outcomes: Students after successful completion of the course will be able to:

1. Understand and appreciate the web architecture and services.
2. Examine Python syntax and semantics and be fluent in the use of Python flow control and functions.
3. Demonstrate proficiency in handling Strings and File Systems.
4. Create, run and manipulate Python Programs using core data structures like Lists, Dictionaries and use Regular Expressions.
5. Interpret the concepts of Object-Oriented Programming as used in Python.
6. Apply concepts of Python programming in various fields related to IOT, Web Services and Databases in Python.

Syllabus: *(Total Hours: 90 including Teaching, Lab, Field training, Unit tests etc.)*

UNIT I: (10 hours)

Python basics, Objects- Python Objects, Standard Types, Other Built-in Types, Internal Types, Standard Type Operators, Standard Type Built-in Functions, Categorizing the Standard Types, Unsupported Types

Numbers - Introduction to Numbers, Integers, Floating Point Real Numbers, Complex Numbers, Operators, Built-in Functions, Related Modules

Sequences - Strings, Lists, and Tuples, Mapping and Set Types

UNIT II: (10 hours)

Files: File Objects, File Built-in Function [open()], File Built-in Methods, File Built-in Attributes, Standard Files, Command-line Arguments, File System, File Execution, Persistent Storage Modules, Related Modules

Exceptions: Exceptions in Python, Detecting and Handling Exceptions, Context Management, Exceptions as Strings, Raising Exceptions, Assertions, Standard Exceptions, Creating Exceptions, Why Exceptions (Now)?, Why Exceptions at All?, Exceptions and the sys Module, Related Modules

Modules: Modules and Files, Namespaces, Importing Modules, Importing Module Attributes, Module Built-in Functions, Packages, Other Features of Modules

UNIT III: (10 hours)

Regular Expressions: Introduction, Special Symbols and Characters, Res and Python Multithreaded Programming: Introduction, Threads and Processes, Python, Threads, and the Global Interpreter Lock, Thread Module, Threading Module, Related Modules

UNIT IV: (10 hours)

GUI Programming: Introduction, Tkinter and Python Programming, Brief Tour of Other GUIs, Related Modules and Other GUIs

Web Programming: Introduction, Wed Surfing with Python, Creating Simple Web Clients, Advanced Web Clients, CGI-Helping Servers Process Client Data, Building CGI Application, Advanced CGI, Web (HTTP) Servers

UNIT V: (10 hours)

Database Programming: Introduction, Python Database Application Programmer's Interface (DBAPI), Object Relational Managers (ORMs), Related Modules

REFERENCES:

1. **C**ore Python Programming, Wesley J. Chun, Second Edition, Pearson.
2. Think Python, Allen Downey, Green Tea Press.
3. Introduction to Python, Kenneth A. Lambert, Cengage.
4. Python Programming: A Modern Approach, Vamsi Kurama, Pearson.
5. Learning Python, Mark Lutz, O' Really.
6. Web sources suggested by the teacher concerned and the college librarian including reading material.

Co-Curricular Activities:

a) **Mandatory:** *(Training of students by teacher in field related skills: (lab: 10 + field: 05)*

1. **For Teacher**: Training of students by the teacher in laboratory/field for not less than 15 hours on field related skills like building an IOT device with the help of Python.
2. **For Student**: Students shall (individually) identity the method to link their IOT project done in Paper 7A with Python and submit a hand-written Fieldwork/Project work/Project work/Project work/Project work Report not exceeding 10 pages. It should include a brief report on the selected case study of IOT device, algorithm and Python program to operate the IOT device.
3. Max marks for Fieldwork/Project work/Project work/Project work/Project work/Projectwork Report: 05.
4. Suggested Format for Fieldwork/Project work/Project work/Project work/Project work: *Title page, student details, index page, design of the IOT device, implementation of Python program to connect the IOT device, findings and acknowledgements*.
5. Unit tests (IE).

b) Suggested Co-Curricular Activities

1. Training of students by related industrial experts.
2. Assignments
3. Seminars, Group discussions, Quiz, Debates etc. (on related topics).
4. Presentation by students on best websites.

B Sc	**Semester :V**(Skill Enhancement Course - Elective)	**Credits: 1**
Course: 7B	**Application Development using Python Lab**	**Hrs/Wk: 2**

Application Development Using Python– PRACTICAL SYLLABUS

Learning Outcomes:

On successful completion of this practical course, student shall be able to:

1. Implement simple programs in Python
2. Implement programs related to various data structures like lists, dictionaries, etc.
3. Implement programs related to files.
4. Implement applications related to databases, Web services and IOT.

Practical (Laboratory) Syllabus: *(30 hrs.*)

1. Write a menu driven program to convert the given temperature from Fahrenheit toCelsius and vice versa depending upon user's choice.

2. Write a python program to calculate total marks, percentage and grade of a student. Marks obtained in each of the three subjects are to be input by the user. Assign gradesaccording to the following criteria :
   Grade A: Percentage >=80
   Grade B: Percentage>=70 and <80 Grade C: Percentage>=60 and <70 Grade D: Percentage>=40 and <60 Grade E: Percentage<40

3. Write a python program to display the first n terms of Fibonacci series.

4. Write a python program to calculate the sum and product of two compatible matrices.

5. Write a function that takes a character and returns True if it is a vowel and False otherwise.

6. Write a menu-driven program to create mathematical 3D objects
   I. curve
   II. sphere
   III. cone
   IV. arrow
   V. ring
   VI. Cylinder.

7. Write a python program to read n integers and display them as a histogram.

8. Write a python program to display sine, cosine, polynomial and exponential curves.

9. Write a python program to plot a graph of people with pulse rate p vs. height h. Thevalues of P and H are to be entered by the user.
10. Write a python program to calculate the mass m in a chemical reaction. The mass

m (in gms) disintegrates according to the formula m=60/ (t+2), where t is the time in hours. Sketch a graph for t vs. m, where t>=0.

11. A population of 1000 bacteria is introduced into a nutrient medium. The population pgrows as follows:

$$P(t) = (15000(1+t))/ (15+ e)$$

12. Where the time t is measured in hours. WAP to determine the size of the population atgiven time t and plot a graph for P vs t for the specified time interval.

13. Input initial velocity and acceleration, and plot the following graphs depicting equations of motion:
    VII. velocity wrt time (v=u+at)
    VIII. distance wrt time (s=u*t+0.5*a*t*t)

    IX. distance wrt velocity (s=(v*v-u*u)/2*a)

14. Write a program that takes two lists and returns True if they have at least one commonmember.

15. Write a Python program to print a specified list after removing the 0th, 2nd, 4th and5th elements.

16. Write a program to implement exception handling.

17. Try to configure the widget with various options like: bg=”green”, family=”times”,size=20.

18. Write a Python program to read last 5 lines of a file.

19. Design a simple database application that stores the records and retrieve the same

20. Design a database application to search the specified record from the database.

21. Design a database application to that allows the user to add, delete and modify therecords.

MODEL QUESTION PAPER (Sem-end. Exam)

B.Sc DEGREE EXAMINATIONS

Semester - V (Skill Enhancement Course - Elective)

Course 7B: Application Development using Python

Time: 3Hrs **Max.marks:75**

Section - A

Answer any FIVE question **5X5 = 25M**

1. Write about Python Objects.
2. Write about Numbers in Python.
3. Write about command-line arguments.
4. Explain how to Import Modules.
5. Write about Special Symbols and Characters.
6. Write about Related modules of GUIs.
7. Write about Web (HTTP) Servers.
8. Write about related modules of Database Programming.

Section - B

Answer ALL following question **5X10 = 50M**

9. a) Explain about standard type operators.

(or)

b) Explain about Lists in detail.

10. a) Explain about Persistent Storage Modules

(or)

b) Explain about Detecting and Handling Exceptions.

11 a) Explain about Threads and the Global Interpreter Lock.

(or)

b) Explain about Thread Module and Threading Module.

12 a) Explain about Tkinter and Python Programming.

(or)

b) Explain about Building CGI Application.

13 a) Explain about Python Database Application Programmer's Interface (DBAPI).

(or)

b) Explain about Object Relational Managers (ORMs).

B Sc	**Semester :V**(Skill Enhancement Course - Elective)	**Credits: 4**
Course: 6C	**Data science**	**Hrs/Wk: 4**

Learning Outcomes: Students after successful completion of the course will be able to:

1. Develop relevant programming abilities.
2. Demonstrate proficiency with statistical analysis of data.
3. Develop the ability to build and assess data-based models.
4. Demonstrate skill in data management
5. Apply data science concepts and methods to solve problems in real-world contextsand will communicate these solutions effectively

Syllabus: (*(Total Hours: 90 including Teaching, Lab, Field training, Unit tests etc.)*

UNIT I: (10 hours)

Introduction: The Ascendance of Data, What is Data Science? , Finding key Connectors, Data Scientists You May Know, Salaries and Experience, Paid Accounts, Topics of Interest, Onward.

Python: Getting Python, The Zen of Python, Whitespace Formatting, Modules, Arithmetic, Functions, Strings, Exceptions, Lists, Tuples, Dictionaries, Sets, Control Flow, Truthiness, Sorting, List Comprehensions, Generators and Iterators, Randomness, Object – Orienting Programming, Functional Tools, enumerate, zip and Argument Unpacking, args and kwargs, Welcome to Data Sciencester!

Visualizing Data: matplotlib, Bar charts, Line charts, Scatterplots.

Linear Algebra: Vectors, Matrices

UNIT II: (10 hours)

Statistics: Describing a Single Set of Data, Correlation, Simpson's Paradox, some Other Correlation Caveats, Correlation and Causation.

Probability: Dependence and Independence, Conditional Probability, Bayes's Theorem, Random Variables, Continuous Distributions, The Normal Distribution, The Central Limit Theorem.

Hypothesis and Inference: Statistical Hypothesis Testing, Example: Flipping a Coin, Confidence Intervals, P-hacking, Example: Running an A/B Test, Bayesian Inference.

Gradient Descent: The Idea behind Gradient Descent, Estimating the Gradient, Using the Gradient, Choosing the Right Step Size, Putting It All Together, Stochastic Gradient Descent.

UNIT III: (10 hours)

Getting Data: stdin and stdout, Reading Files – The Basics of Text Files, Delimited Files, Scraping the Web - HTML and the parsing Thereof, Example: O'Reilly Books About Data, Using APIs – JSON (and XML), Using an Unauthenticated API, Finding APIs.

Working with Data: Exploring Your Data, Exploring One-Dimensional Data, Two Dimensions Many Dimensions, Cleaning and Munging, Manipulating Data, Rescaling, Dimensionality Reduction.

Machine Learning: Modeling, What Is Machine Learning? Over fitting and under fitting, Correctness, The Bias-Variance Trade-off, Feature Extraction and Selection

UNIT IV: (10 hours)

K-Nearest Neighbors: The Model, Example: Favorite Languages, The Curse of Dimensionality.

Naive Bayes: A Really Dumb Spam Filter, A More Sophisticated Spam Filter,Implementation, Testing Our Model.

Simple Linear Regression: The Model, Using Gradient Descent, Maximum Likelihood Estimation.

Multiple Regression: The Model, Further Assumptions of the Least Squares Model, Fittingthe Model, Interpreting the Model, Goodness of Fit.

UNIT V: (10 hours)

Logistic Regression: The Problem, The Logistic Function, Applying the Model, Goodness of Fit Support Vector Machines.

Decision Trees: What Is a Decision Tree? Entropy, The Entropy of a Partition, Creating a Decision Tree, Putting It All Together, Random Forests.

Neural Networks: Perceptron, Feed-Forward Neural Networks And Back propagation,Example: Defeating a CAPTCHA.

Clustering: The Idea, The Model, Example: Meetups , Choosing k, Example: Clustering Colors, Bottom-up Hierarchical Clustering.

REFERENCES:

1. Data Science from Scratch by Joel Grus O'Reilly Media
2. Wes McKinney, "Python for Data Analysis: Data Wrangling with Pandas, NumPy, and IPython", O'Reilly, 2nd Edition, 2018.
3. Jake VanderPlas, "Python Data Science Handbook: Essential Tools for Working with Data", O'Reilly, 2017.
4. Web resources:
    a. https://www.edx.org/course/analyzing-data-with-python
    b. http://math.ecnu.edu.cn/~lfzhou/seminar/[Joel_Grus]_Data_Science_from_Scratch_First_Princ.pdf
5. 9. Other web sources suggested by the teacher concerned and the college librarian including reading material.

Co-Curricular Activities:

a) **Mandatory:** *(Training of students by teacher in field related skills: (lab:10 + field: 05):*

1. **For Teacher**: Field related training of students by the teacher in laboratory/field for not less than 15 hours on identifying, analyzing and presenting the data and then to predict the future instances.
2. **For Student**: Students shall (individually) search online and visit any of the agencies like Statistical cell, weather forecasting centers, pollution control boards, manufacturing industries, agriculture departments, etc. to observe the manual process going on to collect the data, maintain the data, present the data and to predict the data for future instances and submit a hand-written Fieldwork/Project work/Project work/Project work/Project work Report not exceeding 10 pages.
3. Max marks for Fieldwork/Project work/Project work/Project work/Project work/Projectwork Report: 05.

4. Suggested Format for Fieldwork/Project work/Project work/Project work/Project work: *Title page, student details, index page, details of place visited, observations, findings andacknowledgements*.
5. Unit tests (IE).

b) Suggested Co-Curricular Activities

1. Training of students by related industrial experts.
2. Assignments
3. Seminars, Group discussions, Quiz, Debates etc. (on related topics).
4. Presentation by students in related topics.

B Sc	**Semester :V**(Skill Enhancement Course - Elective)	**Credits: 1**
Course: 6C	**Data science Lab**	**Hrs/Wk: 2**

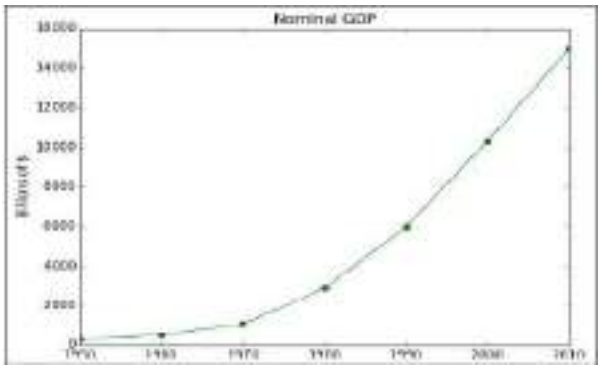
Course 6C: Data Science – PRACTICAL SYLLABUS

Learning Outcomes: On successful completion of this practical course, student shall beable to:

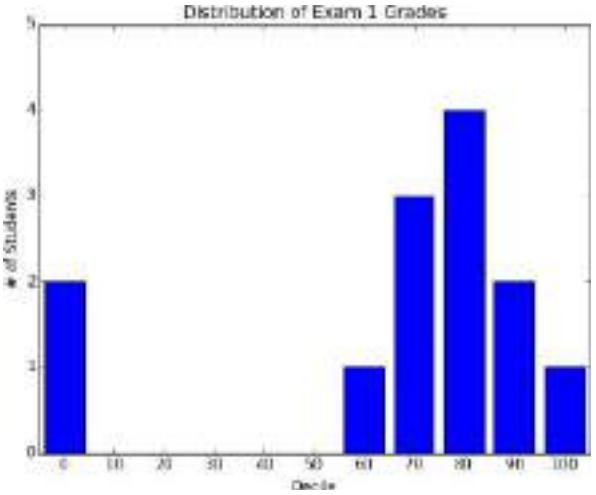
1. Apply data science solutions to real world problems.
2. Implement the programs to get the required data, process it and present the outputs using Python language.
3. Execute statistical analyses with Open source Python software.

Practical (Laboratory) Syllabus: *(30 hrs.*)

1. Write a Python program to create a line chart for values of year and GDP as givenbelow



2. Write a Python program to create a bar chart to display number of students secureddifferent grading as given below



3. Write a Python program to create a time series chart by taking one year month wisestock data in a CSV file
4. Write a Python program to plot distribution curve
5. Import a CSV file and perform various Statistical and Comparison operations on rows/columns. Write a python program to plot a graph of people with pulse rate p vs.height h. The values of P and H are to be entered by the user.
6. Import rainfall data of some location with the help of packages available in R Studioand plot a chart of your choice.

MODEL QUESTION PAPER (Sem-end. Exam)

B.Sc DEGREE EXAMINATIONS

Semester - V (Skill Enhancement Course - Elective)

Course 6C: Data science

Time: 3Hrs **Max.marks:75**

Section - A

Answer any FIVE question **5X5 = 25M**

1. Write about Finding key Connectors.
2. Write about matplotlib.
3. Write about Simpson's Paradox.
4. Explain about Bayes's Theorem.
5. Write about The Basics of Text Files and Delimited Files.
6. Write about Rescaling, Dimensionality Reduction.
7. Write about Maximum Likelihood Estimation.
8. Write about Random Forests.

Section - B

Answer ALL following question **5X10 = 50M**

9. a) Explain about Lists and Dictionaries.

(or)

b) Explain about Vectors and Matrices.

10. a) Explain about Correlation and Causation.

(or)

b) Explain about Statistical Hypothesis Testing.

11 a) Explain about Using an Unauthenticated API and finding APIs.

(or)

b) Explain about Feature Extraction and Selection.

12 a) Explain about Naive Bayes model.

(or)

b) Explain about Multiple Regression model.

13 a) Explain about Logistic Regression model.

(or)

b) Explain about Bottom-up Hierarchical Clustering.

B Sc	**Semester :V**(Skill Enhancement Course - Elective)	**Credits: 4**
Course: 7C	**Python for Data science**	**Hrs/Wk: 4**

Learning Outcomes: Students after successful completion of the course will be able to:

1. Identify the need for data science and solve basic problems using Python built-in data types and their methods.
2. Design an application with user-defined modules and packages using OOP concept
3. Employ efficient storage and data operations using NumPy arrays.
4. Apply powerful data manipulations using Pandas.
5. Do data pre-processing and visualization using Pandas

Syllabus: *(Total Hours: 90 including Teaching, Lab, Field training, Unit tests etc.)*

UNIT I: (10 hours)

Introduction to Data Science - Why Python? - Essential Python libraries - Python Introduction- Features, Identifiers, Reserved words, Indentation, Comments, Built-in Data types and their Methods: Strings, List, Tuples, Dictionary, Set - Type Conversion- Operators. Decision Making- Looping- Loop Control statement- Math and Random number functions. User defined functions - function arguments & its types.

UNIT II: (10 hours)

User defined Modules and Packages in Python- Files: File manipulations, File and Directory related methods - Python Exception Handling. OOPs Concepts -Class and Objects, Constructors – Data hiding- Data Abstraction-Inheritance.

UNIT III: (10 hours)

NumPy Basics: Arrays and Vectorized Computation- The NumPy ndarray- Creating ndarrays- Data Types for ndarrays- Arithmetic with NumPy Arrays- Basic Indexing and Slicing - Boolean Indexing-Transposing Arrays and Swapping Axes.

Universal Functions: Fast Element-Wise Array Functions- Mathematical and Statistical Methods-Sorting- Unique and Other Set Logic.

UNIT IV: (10 hours)

Introduction to pandas Data Structures: Series, Data Frame and Essential Functionality: Dropping Entries- Indexing, Selection, and Filtering- Function Application and Mapping- Sorting and Ranking.

Summarizing and Computing Descriptive Statistics- Unique Values, Value Counts, and Membership. Reading and Writing Data in Text Format

UNIT V: (10 hours)

Data Cleaning and Preparation: Handling Missing Data - Data Transformation: Removing Duplicates, Transforming Data Using a Function or Mapping, Replacing Values, Detecting and Filtering Outliers- String Manipulation: Vectorized String Functions in pandas.

Plotting with pandas: Line Plots, Bar Plots, Histograms and Density Plots, Scatter or Point Plots.

REFERENCES:

1. Y. Daniel Liang, "Introduction to Programming using Python", Pearson, 2012.
2. Wes McKinney, "Python for Data Analysis: Data Wrangling with Pandas, NumPy, and IPython", O'Reilly, 2nd Edition, 2018.
3. Jake VanderPlas, "Python Data Science Handbook: Essential Tools for Working with Data", O'Reilly, 2017.
4. Wesley J. Chun, "Core Python Programming", Prentice Hall, 2006.
5. Mark Lutz, "Learning Python", O'Reilly, 4th Edition, 2009.
6. Web resources:
    a. https://www.edx.org/course/python-basics-for-data-science
    b. https://www.edx.org/course/analyzing-data-with-python
    c. https://www.coursera.org/learn/python-plotting?specialization=data-science-python
    d. https://www.programmer-books.com/introducing-data-science-pdf/
    e. https://www.cs.uky.edu/~keen/115/Haltermanpythonbook.pdf
7. Other web sources suggested by the teacher concerned and the college librarian including reading material.

Co-Curricular Activities:

a) **Mandatory:** *(Training of students by teacher in field related skills: (lab:10 + field: 05):*

1. **For Teacher**: Field related training of students by the teacher in laboratory/field for not less than 15 hours on collecting the data, analyzing the data and presenting the data using Python language with some real time data.
2. **For Student**: Students shall (individually) visit any of the agencies like Agriculture dept, statistical cell, irrigation department, Ground water department, CPO office, Rural Water Supply and Sanitation department etc or search online to get real time data like Aids database, weather forecasting database, social networking data, etc and identify any one database, implement and present the necessary charts in Python language and submit a hand- written Fieldwork/Project work/Project work/Project work/Project work Report not exceeding 10 pages. Example: Identifying a database, get the data, present the data inrequired charts and to predict the future instances if possible.
3. Max marks for Fieldwork/Project work/Project work/Project work/Project work Report:05.
4. Suggested Format for Fieldwork/Project work/Project work/Project work/Project work: *Title page, student details, index page, and details of place visited, observations, method of data collection, database identified, and implementation in Python language, other findingsand acknowledgements*.
5. Unit tests (IE).

b) Suggested Co-Curricular Activities

1. Training of students by related industrial experts.
2. Assignments
3. Seminars, Group discussions, Quiz, Debates etc. (on related topics).
4. Presentation by students on the topics within and outside the syllabus.

B Sc	**Semester :V**(Skill Enhancement Course - Elective)	**Credits: 1**
Course: 7C	**Python for Data science Lab**	**Hrs/Wk: 2**

Python for Data Science – PRACTICAL SYLLABUS

Learning Outcomes: On successful completion of this practical course, student shall beable to:

1. Implement simple programs in Python.
2. Implement programs related to various structures like arrays, lists, Data frames, etc.
3. Implement programs related to files.
4. Implement applications related to data science.

Practical (Laboratory) Syllabus: *(30 hrs.*)

1. Perform Creation, indexing, slicing, concatenation and repetition operations onPython built-in data types: Strings, List, Tuples, Dictionary, Set
2. Apply Python built-in data types: Strings, List, Tuples, Dictionary, Set and theirmethods to solve any given problem.
3. Handle numerical operations using math and random number functions
4. Create user-defined functions with different types of function arguments.
5. Create packages and import modules from packages.
6. Perform File manipulations- open, close, read, write, append and copy from onefile to another.
7. Write a program for Handle Exceptions using Python Built-in Exceptions
8. Write a program to implement OOP concepts like Data hiding and DataAbstraction.
9. Create NumPy arrays from Python Data Structures, Intrinsic NumPy objects andRandom Functions.
10. Manipulation of NumPy arrays- Indexing, Slicing, Reshaping, Joining andSplitting.
11. Computation on NumPy arrays using Universal Functions and Mathematicalmethods.
12. Load an image file and do crop and flip operation using NumPy Indexing.
13. Create Pandas Series and Data Frame from various inputs.
14. Import any CSV file to Pandas Data Frame and perform the following:
    (a) Visualize the first and last 10 records
    (b) Get the shape, index and column details
    (c) Select/Delete the records (rows)/columns based on conditions.
    (d) Perform ranking and sorting operations.
    (e) Do required statistical operations on the given columns.
    (f) Find the count and uniqueness of the given categorical values.
    (g) Rename single/multiple columns

15. Import any CSV file to Pandas Data Frame and perform the following:
    (a) Handle missing data by detecting and dropping/ filling missing values.
    (b) Transform data using apply () and map() method.
    (c) Detect and filter outliers.
    (d) Perform Vectorized String operations on Pandas Series.
    (e) Visualize data using Line Plots, Bar Plots, Histograms, Density Plotsand Scatter Plots.

MODEL QUESTION PAPER (Sem-end. Exam)

B.Sc DEGREE EXAMINATIONS

Semester - V (Skill Enhancement Course - Elective)

Course 7C: Python for Data science

Time: 3Hrs **Max.marks:75**

Section - A

Answer any FIVE question **5X5 = 25M**

1. Write about essential Python libraries.
2. Write about Indentation and Comments in Python.
3. Write about File manipulations
4. Explain about Data Abstraction.
5. Write about Data Types for ndarrays.
6. Write about Element-Wise Array Functions.
7. Write about Dropping Entries.
8. Write about Handling Missing Data.

Section - B

Answer ALL following question **5X10 = 50M**

9. a) Explain about Loop Control statement

(or)

b) Explain about function arguments & its types.

10. a) Explain about Python Exception Handling.

(or)

b) Explain about Inheritance in Python.

11 a) Explain about Transposing Arrays and Swapping Axes.

(or)

b) Explain about Mathematical and Statistical Methods

12 a) Explain about Sorting and Ranking.

(or)

b) Explain about Reading and Writing Data in Text Format.

13 a) Explain about Detecting and Filtering Outliers.

(or)

b) Explain about Histograms and Density Plots.

UG PROGRAM (4 Years Honors)
CBCS-2020-21

B.A / B.Sc
MATHEMATICS

Syllab s and Model Question Papers

TABLE OF CONTENTS

1. Resolutions of the Board of Studies

Meeting held on:…22-1-2021…..... Time:10 am At: Convention centre,
Adikavi Nannayya university,Rajahmundry

Agenda: Finalising the revised syllabus of UG Mathematics under CBCS frame work with effect from2020-021.

Members present:
1. Dr.D.Chitti Babu, Convenor
2. Dr.D.Ch. Papa Rao, Member
3. Sri G.Sridhar, Member
4. Dr.K.Revathi, Coordinator

Resolutions:
After reviewing the existing titles and contents of classes I,II,III and IV framed by APSCHE, The boardcome out with the following resolutions.

Resolution-1
It is resolved to approve the following changes of courses I,II,III and IV of mathematics as it is given byAPSCHE.

COURSE I:
1. Change of variables topic is deleted in Unit-I.
2. Orthogonal trajectories and equations that do not contain x or y topics are deleted in Unit-II.
3. Linear differential equations with non-constant coefficients is restricted to one Method only i.e. whenpart of C.F. is known.

COURSE II:
1. Simplified form of the equations of two spheres topic is deleted in Unit-IV
2. Limiting points topic is added in Unit IV.

COURSE III:
1. Homomorphism topic is shifted from Unit-III Unit-IV.
2. Cyclic groups topic is deleted in Unit-IV
3. Ideals topic is deleted in Unit-IV

COURSE IV:
1. Bolzano-Weierstrass theorem topic is deleted in Unit-I
2. Absolute convergence and conditional convergence topics are deleted in Unit-II
3. Uniform continuity topic is deleted in Unit-III.
4. Integral as the limit of a sum and mean value theorems topic is changed to first mean value theoremin Unit-V.

COURSE V:
1. Matrices, elementary properties, Inverse matrix, Rank of a matrix are deleted in Unit-IV

Resolution 2.
It is resolved to approve the necessary changes in Blue print and model Courses of Courses I, II, III and
IV. The Course setters should strictly follow the prescribed book and model Courses

UG Program (4 years Honors) Structure (CBCS)
2020-21 A. Y., onwards
BACHLOR OF SCIENCE
(3rd and 4th year detailed design will be followed as per APSCHE GUIDELINES)

Subjects/ Semesters		I		II		III		IV		V		VI			
		H/W	C	H/W	C	H/W	C	H/W	C	H/W	C	H/ W	C		
Languages												THIRD PHASE of APPRENTICESHIP Entire 5th / 6th Semester		FIRST and SECOND PHASES (2 spells) of APPRENTICESHIP between 1st and 2nd year and between 2nd and 3rd year (two summer vacations).	
English		4	3	4	3	4	3								
Language (H/T/S)		4	3	4	3	4	3								
Life Skill Courses		2	2	2	2	2+2	2+2								
Skill Development Courses		2	2	2+2	2+2	2	2								
Core Papers															
M-1	C1 to C5	4+2	4+1	4+2	4+1	4+2	4+1	4+2 4+2	4+1 4+1						
M-2	C1 to C5	4+2	4+1	4+2	4+1	4+2	4+1	4+2 4+2	4+1 4+1						
M-3	C1 to C5	4+2	4+1	4+2	4+1	4+2	4+1	4+2 4+2	4+1 4+1						
M-1	SEC (C6,C7)									4+2 4+2	4+1 4+1				
M-2	SEC (C6,C7)									4+2 4+2	4+1 4+1				
M-3	SEC (C6,C7)									4+2 4+2	4+1 4+1				
Hrs/ W (Academic Credits)		30	25	32	27	32	27	36	30	36	30	0	12	4	4
Project Work															
Extension Activities (Non Academic Credits)															
NCC/NSS/Sports/Extra Curricular									2						
Yoga							1		1						
Extra Credits															
Hrs/W (Total Credits)		30	25	32	27	32	28	36	33	36	30	0	12	4	4

M= Major; C= Core; SEC: Skill Enhancement Courses

2. DETAILS OF COURSE TITLES & CREDITS

Marks & Credits distribution: UG-Sciences

Sl. No	Course type	No. of courses	Each course teaching Hrs/wk	Credit for each course	Total credits	Each course evaluation			Total marks
						Conti-Assess	Univ-exam	Total	
1	English	3	4	3	9	25	75	100	300
2	S.Lang	3	4	3	9	25	75	100	300
3	LS	4	2	2	8	0	50	50	200
4	SD	4	2	2	8	0	50	50	200
5	Core/SE -I	5+2	4+2	4+1	35	25	75+50	150	1050
	Core/SE -II	5+2	4+2	4+1	35	25	75+50	150	1050
	Core/SE -III	5+2	4+2	4+1	35	25	75+50	150	1050
6	Summer-Intern	2		4	8		100	200	200
7	Internship/ Apprentice/ on the job training	1		12	12		200	2005	200
		38			**159**				**4550**
8	**Extension Activities (Non Academic Credits)**							25	
	NCC/NSS/Sports/ Extra Curricular			2	2				
	Yoga	2		1	2				
	Extra Credits							2	
	Total	**40**			**142**			5	

Sem	Course No	Course Name	Course Type (T/L/P)	Hrs/Week (Arts/ Commerce &Science	Credits (Arts/Commerce &Science	Max. Marks Count/ Internal/Mid Assessment	Max. Marks (Sem-End)
I	1	Differential Equations	T	5	4	25	75
II	2	Three Dimensional Analytical Solid Geometry	T	5	4	25	75
III	3	Abstract Algebra	T	5	4	25	75
IV	4	Mathematics Real Analysis	T	5	4	25	75
	5	Linear Algebra	T	5	4	25	75
V	6A	Numerical Methods	T	5	4	25	75
	7A	Mathematical Special Functions	T	5	4	25	75
	OR						
	6B	Multiple integrals and Applications of Vector Calculus	T	5	4	25	75
	7B	Integral transforms with Applications	T	5	4	25	75
	OR						
	6C	Partial Differential Equations and Fourier Series	T	5	4	25	75
	7C	Number theory	T	5	4	25	75

Note: *Course type code: T: Theory, L: Lab, P: Problem solving

Note 1: For Semester–V, for the domain subject **MATHEMATICS**, any one of the three pairs of SECs shall be chosen as courses 6 and 7, i.e., 6A & 7A or 6B & 7B or 6C & 7C. The pair shall not be broken (ABC allotment is random, not on any priority basis).

Note 2: One of the main objectives of Skill Enhancement Courses (SEC) is to inculcate field skills related to the domain subject in students. The syllabus of SEC will be partially skill oriented. Hence, teachers shall also impart practical training to students on the field skills embedded in the syllabus citing related real field situations.

Note 3: To insert assessment methodology for Internship/ on the Job Training/Apprenticeship under the revised CBCS as per APSCHE Guidelines.

- **First internship (After 1st Year Examinations):** Community Service Project. To inculcate social responsibility and compassionate commitment among the students, the summer vacation in the intervening 1st and 2nd years of study shall be for Community Service Project (the detailed guidelines are enclosed).
- **Credit For Course: 04**

- **Second Internship (After 2nd Year Examinations):** Apprenticeship / Internship / on the job training / In-house Project / Off-site Project. To make the students employable, this shall be undertaken by the students in the intervening summer vacation between the 2nd and 3rd years (the detailed guidelines are enclosed).
- **Credit For Course: 04**

- **Third internship/Project work (6th Semester Period):**
  During the entire 6th Semester, the student shall undergo Apprenticeship / Internship / On

the Job Training. This is to ensure that the students develop hands on technical skills which will be of great help in facing the world of work (the detailed guidelines are enclosed).

- **Credit For Course:12**

a. proposed combination subjects: NIL
b. Student eligibility for joining in the course: NIL
c. Faculty eligibility for teaching the course NIL
d. List of Proposed Skill enhancement courses with syllabus, if any NIL
e. Any newly proposed Skill development/Life skill courses with draft syllabus and requiredresources NIL

f. Required instruments/software/ computers for the course (Lab/Practical course-wise required i.e., fora batch of 15 students)

Sem. No.	Lab/Practical Name	Names of Instruments/Software/ computers required with specifications	Brand Name	Qty Required
1	Lab Name:	-	-	-
2	Lab Name:	--	-	-

g. List of Suitable levels of positions eligible in the Govt/Pvt organizations

Suitable levels of positions for these graduates either in industry/govt organization like., technical assistants/ scientists/ school teachers., clearly define them, with reliable justification

S.No	Position	Company/ Govt organization	Remarks	Additional skills required, if any
-	-	-	-	-
-	-	-	-	-

h. List of Govt. organizations / Pvt companies for employment opportunities or internships or projects

S.No	Company/ Govt organization	Position type	Level of Position			
-	-	-	-	-	-	-
-	-	-	-	-	-	-

i. Any specific instructions to the teacher /Course setters/Exam-Chief Superintendent NIL.

3. Program objectives, outcomes, co-curricular and assessment methods

BSc/BA	MATHEMATICS

1. Aim and objectives of UG program in Subject: MATHEMATICS In this course UG program, student will learn the higher mathematics topics to enable to learn and solve problems in different fields.

2. Learning outcomes of Subject (in consonance with the Bloom's Taxonomy):

After successful completion of the course, the student will be able to

1. Solving linear differential equations.
2. Understand the concept and apply appropriate methods for solving differential equations.
3. Recommended Skill enhancement courses: (Titles of the courses given below and details of the syllabus for 4 credits (i.e., 2 units for theory and Lab/Practical) for 5 hrs class-cum-lab work NIL
4. Recommended Co-curricular activities:(Co-curricular Activities should not promote copying from text book or from others' work and shall encourage self/independent and group learning)

A. Measurable:

1. Assignments on: different topics of the subject.
2. Student seminars (Individual presentation of Courses) on topics relating to:Mathematics subject.
3. Quiz Programmes on: different units of the course .
4. Individual Field Studies/projects: study projects in different fields
5. Group discussion on: nil
6. Group/Team Projects on: nil

B. General

1. Collection of news reports and maintaining a record of Course-cuttings relating to topics covered in syllabus. Yes
2. Group Discussions on: different areas of the subject
3. Watching TV discussions and preparing summary points recording personal observations etc., under guidance from the Lecturers Yes
4. Any similar activities with imaginative thinking. Nil
5. Recommended Continuous Assessment methods:

   Thorough Assignments and seminars on different areas of the course and problem solving sessions in various unit of the course.

4. Details of course-wise Syllabus

DETAILS OF COURSE-WISE SYLLABUS

B.A/ B.Sc	Semester-I	Credits:4
Course:1	DIFFERENTIAL EQUATIONS	Hrs/Weak:5

Course Outcomes:

After successful completion of this course, the student will be able to;

- Solve linear differential equations
- Convert non exact homogeneous equations to exact differential equations by using integrating factors
- Know the methods of finding solutions of differential equations of the first order but not of the first Degree.
- Solve higher-order linear differential equations, both homogeneous and non homogeneous, with constant coefficients.
- Understand the concept and apply appropriate methods for solving differential equations.

UNIT I: (12 Hours)

Differential Equations of first order and first degree:

Linear Differential Equations; Differential equations reducible to linear form; Exact differential equations; Integrating factors.

UNIT II: (12 Hours)

Differential Equations of first order but not of the first degree:

Equations solvable for p; Equations solvable for y; Equations solvable for x; Equations homogeneous in x and y; Equations of the first degree in x and y – Clairaut's Equation.

UNIT III: (12 Hours)

Higher order linear differential equations-I:

Solution of homogeneous linear differential equations of order n with constant coefficients; Solution of the non-homogeneous linear differential equations with constant coefficients by means of polynomial operators. General Solution of f(D)y=0.

General Solution of f(D)y=Q when Q is a function 1/f(D) is expressed as partial fractions of x,

P.I. of f(D)y = Q when Q= be^{ax}

P.I. of f(D)y = Q when Q is bsin ax or b cos ax.

UNIT IV: (12 Hours)

Higher order linear differential equations-II:

Solution of the non-homogeneous linear differential equations with constant coefficients.

P.I. of f(D)y = Q when Q= bx^k

P.I. of f(D)y = Q when Q= e^{ax} V **,** where V is a function of x.

P.I. of f(D)y = Q when Q= xV **,** where V is a function of x.

of f(D)y = Q when Q= x^mV **,** where V is a function of x.

UNIT V: (12 Hours)

Higher order linear differential equations-III :

Method of variation of parameters; Linear differential Equations with non-constant coefficients(Solution when a part of CF is known method only); The Cauchy-Euler Equation, Legendre's linear equations.

Co-Curricular Activities(15 Hours)

Seminar/ Quiz/ Assignments/ Applications of Differential Equations to Real life Problem /Problem Solving.

TEXT BOOK :

1. Differential Equations and Their Applications by Zafar Ahsan, published by Prentice-Hall of India Pvt. Ltd, New Delhi-Second edition.

REFERENCE BOOKS :

1. A text book of Mathematics for B.A/B.Sc, Vol 1, by N. Krishna Murthy & others, published by S.Chand & Company, New Delhi.
2. Ordinary and Partial Differential Equations by Dr. M.D,Raisinghania, published by S. Chand & Company, New Delhi.
3. Differential Equations with applications and programs – S. Balachandra Rao & HR Anuradha Universities Press.
4. Differential Equations -Srinivas Vangala & Madhu Rajesh, published by Spectrum University Press.

B.A/ B.Sc	Semester-II	Credits:4
Course:2	THREE DIMENSIONAL ANALYTICAL SOLID GEOMETRY	Hrs/Weak:5

Course Outcomes:

After successful completion of this course, the student will be able to;

1. get the knowledge of planes.
2. basic idea of lines, sphere and cones.
3. understand the properties of planes, lines, spheres and cones.
4. express the problems geometrically and then to get the solution.

UNIT I: (12hrrs)

The Plane: Equation of plane in terms of its intercepts on the axis, Equations of the plane through the given points, Length of the perpendicular from a given point to a given plane, Bisectors of angles between two planes, Combined equation of two planes, Orthogonal projection on a plane.

UNIT II: (12 hrs)

The Line :Equation of a line; Angle between a line and a plane; The condition that a given line may lie in a given plane; The condition that two given lines are coplanar; Number of arbitrary constants in the equations of straight line; Sets of conditions which determine a line; The shortest distance between two lines; The length and equations of the line of shortest distance between two straight lines; Length of the perpendicular from a given point to a given line.

UNIT III: (12 hrs)

The Sphere :Definition and equation of the sphere; Equation of the sphere through four given points; Plane sections of a sphere; Intersection of two spheres; Equation of a circle; Sphere through a given circle;
Intersection of a sphere and a line; Power of a point; Tangent plane; Plane of contact; Polar plane; Pole of a Plane; Conjugate points; Conjugate planes;

UNIT IV: (12 hrs)

The Sphere and Cones : Angle of intersection of two spheres; Conditions for two spheres to be orthogonal; Radical plane; Coaxial system of spheres. Limiting Points.
Definitions of a cone; vertex; guiding curve; generators; Equation of the cone with a given vertex and guiding curve; equations of cones with vertex at origin are homogenous; Condition that the general equation of the second degree should represent a cone;

UNIT V: **(**12 hrs)

Cones :Enveloping cone of a sphere; right circular cone: equation of the right circular cone with a given vertex, axis and semi vertical angle: Condition that a cone may have three mutually perpendicular generators; intersection of a line and a quadric cone; Tangent lines and tangent plane at a point; Condition that a plane may touch a cone; Reciprocal cones; Intersection of two cones with a common vertex.

Co-Curricular Activities 15 Hours)

Seminar/ Quiz/ Assignments/Three dimensional analytical Solid geometry and its applications/ Problem Solving.

TEXT BOOK :

1. Analytical Solid Geometry by Shanti Narayan and P.K. Mittal, published by S. Chand & Company Ltd. 7th Edition.

REFERENCE BOOKS :

1. A text book of Mathematics for BA/B.Sc Vol 1, by V Krishna Murthy & Others, published by S. Chand & Company, New Delhi.
2. A text Book of Analytical Geometry of Three Dimensions, by P.K. Jain and Khaleel Ahmed, published by Wiley Eastern Ltd., 1999.
3. Co-ordinate Geometry of two and three dimensions by P. Balasubrahmanyam, K.Y. Subrahmanyam, G.R. Venkataraman published by Tata-MC Gran-Hill Publishers Company Ltd., New Delhi.
4. Solid Geometry by B.Rama Bhupal Reddy, published by Spectrum University Press.

B.A/ B.Sc	Semester-III	Credits:4
Course:3	ABSTRACT ALGEBRA	Hrs/Weak:5

Course Outcomes:

After successful completion of this course, the student will be able to;

- acquire the basic knowledge and structure of groups, subgroups and cyclic groups.
- get the significance of the notation of a normal subgroups.
- get the behavior of permutations and operations on them.
- study the homomorphisms and isomorphisms with applications.
- Understand the ring theory concepts with the help of knowledge in group theory and to prove the theorems.
- Understand the applications of ring theory in various fields.

UNIT I: (12 Hours)

GROUPS : Binary Operation – Algebraic structure – semi group-monoid – Group definition and elementary properties Finite and Infinite groups – examples – order of a group, Composition tables with examples.

UNIT II: (12 Hours)

SUBGROUP: Complex Definition – Multiplication of two complexes Inverse of a complex-Subgroup definition- examples-criterion for a complex to be a subgroups. Criterion for the product of two subgroups to be a subgroup-union and Intersection of subgroups. **Co-sets and Lagrange's Theorem:** Cosets Definition – properties of Cosets–Index of a subgroups of a finite groups–Lagrange's Theorem.

UNIT III: (12 Hours)

NORMAL SUBGROUPS: Definition of normal subgroup – proper and improper normal subgroup– Hamilton group – criterion for a subgroup to be a normal subgroup – intersection of two normal subgroups – Sub group of index 2 is a normal sub group –quotient group – criteria for the existence of a quotient group.

UNIT IV: (12 Hours)

HOMOMORPHISM : Definition of homomorphism – Image of homomorphism elementary properties of homomorphism – Isomorphism – automorphism definitions and elementary properties–kernel of a homomorphism – fundamental theorem on Homomorphism and applications.

PERMUTATIONS: Definition of permutation – permutation multiplication – Inverse of a permutation – cyclic permutations – transposition – even and odd permutations – Cayley's theorem.

UNIT V: (12 Hours)

RINGSDefinition of Ring and basic properties, Boolean Rings, divisors of zero and cancellation laws Rings, Integral Domains, Division Ring and Fields, The characteristic of a ring - The characteristic of an Integral Domain, The characteristic of a Field. Sub Rings.

Co-Curricular Activities(15 Hours)

Seminar/ Quiz/ Assignments/ Group theory and its applications / Problem Solving.

TEXT BOOK :

1. A text book of Mathematics for B.A. / B.Sc. by B.V.S.S. SARMA and others, published by S.Chand & Company, New Delhi.

REFERENCE BOOKS :

1. Abstract Algebra by J.B. Fraleigh, Published by Narosa publishing house.
2. Modern Algebra by M.L. Khanna.
3. Rings and Linear Algebra by Pundir & Pundir, published by Pragathi Prakashan.

B.A/ B.Sc	Semester-IV	Credits:4
Course:4	MATHEMATICS REAL ANALYSIS	Hrs/Weak:5

Course Outcomes:

After successful completion of this course, the student will be able to

- get clear idea about the real numbers and real valued functions.
- obtain the skills of analyzing the concepts and applying appropriate methods for testing convergence of a sequence/ series.
- Test the continuity and differentiability and Riemann integration of a function.
- Know the geometrical interpretation of mean value theorems.

UNIT I: **(12 Hours)**

Introduction of Real Numbers (No question is to be set from this portion)

Real Sequences: Sequences and their limits, Range and Boundedness of Sequences, Limit of a sequence and Convergent sequence. The Cauchy's criterion, properly divergent sequences, Monotone sequences, Necessary and Sufficient condition for Convergence of Monotone Sequence, Limit Point of Sequence, Subsequences , Cauchy Sequences – Cauchy's general principle of convergence theorem.

UNIT II: **(12 Hours)**

INFINITIE SERIES :

Series : Introduction to series, convergence of series. Cauchy's general principle of convergence for series tests for convergence of series, Series of Non-Negative Terms.

1. P-test
2. Cauchy's n^{th} root test or Root Test.
3. D'-Alemberts' Test or Ratio Test.
4. Alternating Series – Leibnitz Test.

UNIT III: **(12 Hours)**

CONTINUITY:

Limits: Real valued Functions, Boundedness of a function, Limits of functions. Some extensions of the limit concept, Infinite Limits. Limits at infinity. (No question is to be set from this portion).

Continuous functions: Continuous functions, Combinations of continuous functions, Continuous Functions on interval.

UNIT IV: **(12 Hours)**

DIFFERENTIATION AND MEAN VALUE THEOREMS: The derivability of a function, on an interval, at a point, Derivability and continuity of a function, Graphical meaning of the Derivative, Mean value Theorems; Rolle's Theorem, Lagrange's Theorem, Cauchy's Mean value Theorem

UNIT V: **(12 Hours)**

RIEMANN INTEGRATION : Riemann Integral, Riemann integral functions, Darboux theorem. Necessary and sufficient condition for R – integrability, Properties of integrable functions, Fundamental theorem of integral calculus, First mean value Theorem.

Co-Curricular Activities(15 Hours)

Seminar/ Quiz/ Assignments/ Real Analysis and its applications / Problem Solving.

TEXT BOOK:

1. Introduction to Real Analysis by Robert G.Bartle and Donlad R. Sherbert, published by John Wiley.

REFERENCE BOOKS:

1. A Text Book of B.Sc Mathematics by B.V.S.S. Sarma and others, published by S. Chand & Company Pvt. Ltd., New Delhi.
2. Elements of Real Analysis as per UGC Syllabus by Shanthi Narayan and Dr. M.D. Raisinghania, published by S. Chand & Company Pvt. Ltd., New Delhi.

B.A/ B.Sc	Semester-IV	Credits:4
Course:5	LINEAR ALGEBRA	Hrs/Weak:5

Course Outcomes:

After successful completion of this course, the student will be able to;

- understand the concepts of vector spaces, subspaces, basises, dimension and their properties.
- understand the concepts of linear transformations and their properties
- apply Cayley- Hamilton theorem to problems for finding the inverse of a matrix and higher powers of matrices without using routine methods
- Learn the properties of inner product spaces and determine orthogonality in inner product spaces.

UNIT I: (12 Hours)

Vector Spaces-I: Vector Spaces, General properties of vector spaces, n-dimensional Vectors, addition and scalar multiplication of Vectors, internal and external composition, Null space, Vector subspaces, Algebra of subspaces, Linear Sum of two subspaces, linear combination of Vectors, Linear span Linear independence and Linear dependence of Vectors.

UNIT II: (12 Hours)

Vector Spaces-II: Basis of Vector space, Finite dimensional Vector spaces, basis extension, co-ordinates, Dimension of a Vector space, Dimension of a subspace, Quotient space and Dimension of Quotient space.

UNIT III: (12 Hours)

Linear Transformations: Linear transformations, linear operators, Properties of L.T, sum and product of LTs, Range and null space of linear transformation, Rank and Nullity of linear transformations – Rank – Nullity Theorem.

UNIT IV: (12 Hours)

Matrix : Linear Equations, Characteristic equations, Characteristic Values & Vectors of square matrix, Cayley – Hamilton Theorem.

UNIT V: (12 Hours)

Inner product space : Inner product spaces, Euclidean and unitary spaces, Norm or length of a Vector, Schwartz inequality, Triangle Inequality, Parallelogram law, Orthogonality, Orthonormal set, Gram– Schmidt orthogonalisation process. Bessel's inequality and Parseval's Identity.

Co-Curricular Activities (15 Hours)

Seminar/ Quiz/ Assignments/ Linear algebra and its applications / Problem Solving.

TEXT BOOK:

1. Linear Algebra by J.N. Sharma and A.R. Vasista, published by Krishna Prakashan Mandir,Meerut- 250002.

REFERENCE BOOKS:

2. Matrices by Shanti Narayana, published by S.Chand Publications.
3. Linear Algebra by Kenneth Hoffman and Ray Kunze, published by Pearson Education (low priced edition), New Delhi.
4. Linear Algebra by Stephen H. Friedberg et. al. published by Prentice Hall of India Pvt. Ltd. 4th Edition, 2007.

BLUE PRINT FOR QUESTION PAPER PATTERN

COURSE-I, DIFFERENTIAL EQUATIONS

Unit	TOPIC	S.A.Q (including choice)	E.Q (including choice)	Total Marks
I	Differential Equations of 1^{st} order and 1^{st} Degree	2	2	30
II	Differential Equations of 1^{st} order but not of 1^{st} degree	1	2	25
III	Higher Order Linear Differential Equations (with constant coefficients) – I	2	2	30
IV	Higher Order Linear Differential Equations (with constant coefficients) – II	2	2	30
V	Higher Order Linear Differential Equations (with non constant coefficients)	1	2	25
TOTAL		8	1	140

S.A.Q. = Short answer questions (5 marks)

E.Q. = Essay questions (10 marks)

Short answer questions : 5 X 5 M = 25 M

Essay questions : 5 X 10 M = 50 M

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Total Marks = 75 M

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MODEL QUESTION PAPER (Sem-End)
B.A./B.Sc. DEGREE EXAMINATIONS

Semester - I

Course-1: DIFFERENTIAL EQUATIONS

Time: 3Hrs **Max.Marks:75M**

SECTION - A

Answer any FIVE questions. **5 X 5 M=25 M**

1. Solve $\left(1+e^{x/y}\right)dx+\ e^{x/y}\left(1-\frac{x}{y}\right)dy=0$
2. Solve $\left(y-e^{sin^{-1}x}\right)\frac{dx}{dy}+\sqrt{1-x^2}=0$
3. Solve sin px cos y = cos px siny + p.
4. Solve $[D^2-(a+b)D+ab]y=0$
5. Solve $(D^2-3D+2)=\cosh x$
6. Solve $(D^2-4D+3)y=\sin 3x\cos 2x.$
7. Solve $\frac{d^2y}{dx^2}-6\frac{dy}{dx}+13\ y=8\ e^{3x}\sin 2x.$
8. Solve $x^2y''-2x(1+x)y'+2(1+x)y=x^3$

SECTION - B

Answer ALL the questions. **5 X 10 M = 50 M**

9. (a) Solve $x\frac{dy}{dx}+y=y^2\log x.$

(Or)

(b) Solve $\left(y+\frac{y^3}{3}+\frac{x^2}{2}\right)dx+\frac{1}{4}(x+xy^2)dy=0$

10. (a) Solve $p^2+2pycotx=y^2.$

(Or)

(b) Solve $y+Px=\ P^2x^4$

11. (a) Solve$(D^3+D^2-D-1)y=\cos 2x.11$

(OR)

(b) Solve $(D^2-3D+2)y=\sin e^{-x}.$

12. (a) Solve $(D^2-2D+4)y=8(x^2+e^{2x}+\sin 2x)$

(Or)

(b) Solve $\frac{d^2y}{dx^2}+3\frac{dy}{dx}+2y=xe^x\sin x$

13. (a) Solve $(D^2-2D)\ y=e^x\sin x$ by the method of variation of parameters.

(Or)

(b) Solve $3x^2\frac{d^2y}{dx^2}+x\frac{dy}{dx}+y=x$

BLUE PRINT FOR QUESTION PAPER PATTERN

COURSE-II, THREE DIMENSIONAL ANALYTICAL SOLID GEOMETRY

Unit	TOPIC	S.A.Q (including choice)	E.Q (including choice)	Total Marks
I	The Plane	2	2	30
II	The Right Line	2	2	30
III	The Sphere	2	2	30
IV	The Sphere & The Cone	1	2	25
V	The Cone	1	2	25
Total		8	10	140

S.A.Q. = Short answer questions (5 marks)

E.Q. = Essay questions (10 marks)

Short answer questions : 5 X 5 M = 25 M

Essay questions : 5 X 10 M = 50 M

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Total Marks = 75 M

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MODEL QUESTION PAPER (Sem-End)
B.A./B.Sc. DEGREE EXAMINATIONS

Semester - II

Course-2: THREE DIMENSIONAL ANALYTICAL SOLID GEOMETRY

Time: 3Hrs **Max.Marks:75M**

SECTION - A

Answer any FIVE questions. **5 X 5 M=25 M**

1. Find the equation of the plane through the point (-1,3,2) and perpendicular to the planesx+2y+2z=5 and 3x+3y+2z=8.
2. Find the bisecting plane of the acute angle between the planes 3x-2y-6z+2=0,-2x+y-2z-2=0.
3. Find the image of the point (2,-1,3) in the plane 3x-2y+z =9.
4. Show that the lines $2x + y - 4 = 0 = y + 2z$ and $3z - 4 = 0$, $2x + 5z - 8 = 0$ are coplanar.
5. A variable plane passes through a fixed point (a, b, c). It meets the axes in A, B, C. Show that thecentre of the sphere OABC lies on $ax^{-1}+by^{-1}+cz^{-1}=2$.
6. Show that the plane 2x-2y+z+12=0 touches the sphere $x^2+y^2+z^2-2x-4y+2z-3=0$ and find the pointof contact.
7. Find the equation to the cone which passes through the three coordinate axes and the lines $\frac{x}{1}=\frac{y}{-2}=\frac{z}{3}$ *and* $\frac{x}{2}=\frac{y}{1}=\frac{z}{1}$
8. Find the equation of the enveloping cone of the sphere $x^2 + y^2 + z^2 + 2x - 2y = 2$ withits vertex at (1, 1, 1).

SECTION - B

Answer ALL the questions. **5 X 10 M = 50 M**

9. (a) A plane meets the coordinate axes in A, B, C. If the centroid of ABc (a,b,c), show that theEquation of the plane is $\frac{x}{a}+\frac{y}{b}+\frac{z}{c}=3$.

(OR)

(b) A variable plane is at a constant distance p from the origin and meets the axes in A,B,C. Show thatThe locus of the centroid of the tetrahedron OABC is $x^{-2}+y^{-2}+z^{-2}=16p^{-2}$.

10. (a) Find the shortest distance between the lines $\frac{x-3}{3}=\frac{y-8}{-1}=\frac{z-3}{1}$; $\frac{x+3}{-3}=\frac{y+7}{2}=\frac{z-6}{4}$.

(OR)

(b) Prove that the lines $\frac{x-1}{2}=\frac{y-2}{3}=\frac{z-3}{4}$; $\frac{x-2}{3}=\frac{y-3}{4}=\frac{z-4}{5}$ are coplanar. Also find their point ofintersection and the plane containing the lines.

11. (a) Show that the two circles $x^2+y^2+z^2-y+2z=0$, $x-y+z=2$; $x^2+y^2+z^2+x-3y+z-5=0$, $2x-y+4z-1=0$lie on the same sphere and find its equation.

(OR)

(b) Find the equation of the sphere which touches the plane $3x+2y-z+2=0$ at $(1,-2,1)$ and cuts orthogonallyThe sphere $x^2+y^2+z^2-4x+6y+4=0$.

12. (a) Find the limiting points of the coaxial system of spheres $x^2+y^2+z^2-8x+2y-2z+32=0$, $x^2+y^2+z^2-7x+z+23=0$.

(OR)

(b) Find the equation to the cone with vertex is the origin and whose base curve is $x^2+y^2+z^2+2ux+d=0$.

13 (a) Prove that the equation $\sqrt{fx}\pm\sqrt{gy}\pm\sqrt{hz}=0$ represents a cone that touches the coordinatePlanes and find its reciprocal cone.

(OR)

(b) Find the equation of the sphere $x^2+y^2+z^2-2x+4y-1=0$ having its generators parallel to the line $x=y=z$.

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COURSE-III, ABSTRACT ALGEBRA

Unit	**TOPIC**	**S.A.Q**(including choice)	**E.Q**(including choice)	**Total Marks**
I	Groups	2	2	30
II	Subgroups, Cosets & Lagrange's theorem	1	2	25
III	Normal Subgroups	1	2	25
IV	Homomorphism and Permutations	2	2	30
V	Rings	2	2	30
Total		8	10	140

S.A.Q. = Short answer questions (5 marks)

E.Q. = Essay questions (10 marks)

Short answer questions : 5 X 5 M = 25 M

Essay questions : 5 X 10 M = 50 M

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Total Marks = 75 M

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MODEL QUESTION PAPER (Sem-End)
B.A./B.Sc. DEGREE EXAMINATIONS

Semester - III

Course-3: ABSTRACT ALGEBRA

Time: 3Hrs **Max.Marks:75M**

SECTION – A

Answer any FIVE questions. **5 X 5 M=25 M**

1. Show that the set G=$\{x/x = 2^a 3^b \text{ and } a,b \in Z\}$ is a group under multiplication
2. Define order of an element. In a group G, prove that if $a \in G$ then $O(a) = O(a)^{-1}$.
3. If H and K are two subgroups of a group G, then prove that HK is a subgroup ⇔ HK=KH
4. If G is a group and H is a subgroup of index 2 in G then prove that H is a normal subgroup.
5. Examine whether the following permutations are even or odd

i) $\begin{pmatrix}1&2&3&4&5&6&7&8&9\\6&1&4&3&2&5&7&8&9\end{pmatrix}$ ii) $\begin{pmatrix}1&2&3&4&5&6&7\\3&2&4&5&6&7&1\end{pmatrix}$

6. If f is a homomorphism of a group G into a group G', then prove that the kernel of f is a normal of G.
7. Prove that the characteristic of an integral domain is either prime or zero.
8. Define a Boolean Ring and Prove that the Characteristic of a Boolean Ring is 2.

SECTION - B

Answer ALL the questions. **5 X 10 M = 50 M**

9. a) Show that the set of n^{th} roots of unity forms an abelian group under multiplication.

(Or)

b) In a group G, for $a, b \in G$, O(a)=5, b ≠ e and $aba^{-1} = b^2$. Find O(b).

10. a) The Union of two subgroups is also a subgroup □ one is contained in the other.

(Or)

b) State and prove Langrage's theorem.

11. a) Prove that a subgroup H of a group G is a normal subgroup of G iff the product of two right cosets of H in G is again a right coset of H in G.

(Or)

b) Define Normal Subgroup. Prove that a subgroup H of a group G is normal iff $xHx^{-1} = H \; \forall \; x \in G$.

12. a) State and prove fundamental theorem of homomorphisms of groups.

(Or)

b) Let S_n be the symmetric group on n symbols and let A_n be the group of even permutations. Then show that A_n is normal in S_n and $O(A_n) = \frac{1}{2}(n!)$

13. a) Prove that every finite integral domain is a field.

(Or)

b) Let S be a non empty sub set of a ring R. Then prove that S is a sub ring of R if and only if a-b ∈ S and ab ∈ S for all a, b ∈ S.

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COURSE-IV, REAL ANALYSIS

Unit	TOPIC	**S.A.Q**(including choice)	**E.Q**(including choice)	Total Marks
I	Real Sequence	1	2	25
II	Infinite Series	2	2	30
III	Limits and Continuity	1	2	25
IV	Differentiation and Mean Value Theorem	2	2	30
V	Riemann Integration	2	2	30
	TOTAL	8	10	140

S.A.Q. = Short answer questions (5 marks)

E.Q. = Essay questions (10 marks)

Short answer questions : 5 X 5 M = 25 M

Essay questions : 5 X 10 M = 50 M

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Total Marks = 75 M

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MODEL QUESTION PAPER (Sem-End)

B.A./B.Sc. DEGREE EXAMINATIONS

Course-4: REAL ANALYSIS

Time: 3Hrs **Max.Marks:75M**

SECTION - A

Answer any FIVE questions. **5 X 5 M=25 M**

1. Prove that every convergent sequence is bounded.
2. Examine the convergence of $\frac{1}{1.2} - \frac{1}{3.4} + \frac{1}{5.6} - \frac{1}{7.8} + \cdots$
3. Test the convergence of the series $\sum_{n=1}^{\infty}(\sqrt[3]{n^3+1} - n)$.
4. Examine for continuity of the function *f* defined by $f(x) = |x| + |x-1|$ at x=0 and 1.
5. Show that $f(x) = x\sin\frac{1}{x},\ x \neq 0; f(x) = 0, x = 0$ is continuous but not derivable at x=0.
6. Verify Rolle's theorem for the function f(x) = $x^3 - 6x^2 + 11x - 6$ on $[1,3]$.
7. If $f(x) = x^2\ \forall\ x \in [0,1]$ and $p = \{0, \frac{1}{4}, \frac{2}{4}, \frac{3}{4}, 1\}$ then find L(p, f) and U(p, f).
8. Prove that if $f: [a,b] \to R$ is continuous on [a, b] then f is R- integrable on [a, b].

SECTION –B

Answer ALL the questions. **5 X 10 M = 50 M**

9. (a)If $s_n = 1 + \frac{1}{2!} + \frac{1}{3!} + \cdots + \frac{1}{n!}$ then show that $\{s_n\}$ converges.

(OR)

(b) State and prove Cauchy's general principle of convergence.

10. (a) State and Prove Cauchy's nth root test.

(OR)

(b) Test the convergence of $\sum \frac{x^n}{x^n + a^n}$ ($x > 0, a > 0$)

11. (a) Let f: R→ R be such that

$$f(x) = \frac{\sin(a+1)x + \sin x}{x} \text{ for } x < 0$$

$$= c \text{ for } x = 0$$

$$= \frac{(x+bx^2)^{1/2} - x^{1/2}}{bx^{3/2}} \text{ for } x > 0$$

Determine the values of a, b, c for which the function f is continuous at x=0.

(OR)

(b) If f: [a, b] → R is continuous on [a, b] then prove that f is bounded on [a, b]

12. (a) Using Lagrange's theorem, show that $x > \log(1+x) > \frac{x}{(1+x)} \forall\, x > 0$.

(OR)

(b) State and prove Cauchy's mean value theorem...

13. (a) State and prove Riemman's necessary and sufficient condition for R- integrability.

(OR)

(b) Prove that $\frac{\pi^3}{24} \leq \int_0^{\pi} \frac{x^2}{5+3\cos x}\,dx \leq \frac{\pi^3}{6}$

BLUE PRINT FOR QUESTION PAPER PATTERN

COURSE-V, LINEAR ALGEBRA

Unit	TOPIC	S.A.Q (including choice)	E.Q (including choice)	Marks Allotted
I	Vector spaces - I	2	2	30
II	Vector spaces - II	1	2	25
III	Linear Transformation	2	2	30
IV	Matrices	1	2	25
V	Inner product spaces	2	2	30
Total		8	10	140

S.A.Q. = Short answer questions (5 marks)

E.Q. = Essay questions (10 marks)

Short answer questions : 5 X 5 M = 25 M

Essay questions : 5 X 10 M = 50 M

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Total Marks = 75 M

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MODEL QUESTION PAPER (Sem-End)

B.A./B.Sc. DEGREE EXAMINATIONS

Semester -IV

Course-5: LINEAR ALGEBRA

Time: 3Hrs **Max.Marks:75M**

SECTION - A

Answer any FIVE questions. **5 X 5M=25 M**

1. Let p, q, r be fixed elements of a field F. Show that the set W of all triads (x, y, z) of elements of F, such that px+qy+rz=0 is a vector subspace of $V_3(R)$.
2. Define linearly independent &linearly dependent vectors in a vector space. If α, β, γ are linearly independent vectors of V(R) then show that $\alpha+\beta, \beta+\gamma, \gamma+\alpha$ are also linearly independent.
3. Prove that every set of $(n+1)$ or more vectors in an n dimensional vector space is linearly dependent.
4. The mapping T : V3(R) V3(R) is defined by T(x,y,z) = (x-y,x-z). Show that T is a linear ransformation.
5. Let $T: R^3 \to R^2$ and $H: R^3 \to R^2$ be defined by T (x, y, z)= (3x, y+z) and H (x, y, z)= (2x-z, y). Compute i) T+H ii) 4T-5H iii) TH iv) HT.
6. If the matrix A is non-singular, show that the eigen values of A^{-1} are the reciprocals of the eigen values of A.
7. State and prove parallelogram law in an inner product space V(F).
8. Prove that the set S = $\left\{\left(\frac{1}{3},\frac{-2}{3},\frac{-2}{3}\right),\left(\frac{2}{3},\frac{-1}{3},\frac{2}{3}\right),\left(\frac{2}{3},\frac{2}{3},\frac{-1}{3}\right)\right\}$ is an orthonormal set in the inner product space $R^3(R)$ with the standard inner product.

SECTION - B

Answer ALL the questions. **5 X 10 M = 50 M**

9. (a) Define vector space. Let V (F) be a vector space. Let W be a non empty sub set of V. Prove that the Necessary and sufficient condition for W to be a subspace of V is $a, b \in F$ and $\alpha, \beta \epsilon V \Rightarrow a\alpha + b\beta \epsilon W$

(OR)

(b) Prove that the four vectors (1,0,0), (0,1,0), (0,0,1) and (1,1,1) of $V_3(C)$ form linearly dependent set, but any three of them are linearly independent.

10. (a) Define dimension of a finite dimensional vector space. If W is a subspace of a finite Dimensional vector space V (F) then prove that W is finite dimensional and dim W $\leq n$.

(OR)

(b) If W be a subspace of a finite dimensional vector space V(F) then Prove that

. $\dim {}^{V}/_{W} = \dim V - \dim W$

11. (a) Find T (x, y, z) where $T: R^3 \rightarrow R$ is defined by T (1, 1, 1) =3, T (0, 1, -2) =1,T (0, 01) = -2

(OR)

(b) State and prove Rank Nullity theorem.

12. (a) Find the eigen values and the corresponding eigen vectors of the matrix A= $\begin{pmatrix} 8 & -6 & 2 \\ -6 & 7 & -4 \\ 2 & -4 & 3 \end{pmatrix}$

(OR)

(b) State and prove Cayley-Hamilton theorem.

13. (a) State and prove Schwarz's inequality in an Inner product space V(F).

(OR)

(b) Given $\{(2,1,3),(1,2,3),(1,1,1)\}$ is a basis of R^3(R).Construct an orthonormal basis using Gram-Schmidorthogonalisation process.

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SEMESTER- II: ANALYTICAL SOLID GEOMETRY
MATHEMATICS PRACTICALS
(W.E.F 2022 ADMITTED BATCH)

GUIDELINES

1.EVALUATION PROCESS

No. of Students per Batch	No. of hours per week	Max. Marks	Credits
30	2	50	1

2. DIVISION OF MARKS

Test	Record	Viva-voce	Total
30 Marks	10 Marks	10 Marks	50 marks

NOTE: Practical should be evaluated by both Internal and External examiners.
Remuneration will be given as per university norms.

1. BLUE PRINT FOR TEST

Time: 3 hours Max. Marks: 30

Question Paper contains two sections A and B.
Answer any FIVE Questions choosing at least TWO from each section.
Each question carries 6 Marks. **5 X 6 = 30 marks**

UNIT	No. of questions	
	Section-A	Section-B
I	2	----
II	2	----
III	1	1
IV	----	2
V	----	2

NOTE : 3 hours duration time includes record verification and Viva- Voce.

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SEMESTER- II: ANALYTICAL SOLID GEOMETRY

QUESTION BANK FOR PRACTICALS
(W.E.F 2022 ADMITTED BATCH)

UNIT-I (PLANES)

1) **Find the bisecting plane of the acute angle between the planes**

   $3x - 2y + 6z + 2 = 0, -2x + y - 2z - 2 = 0$

2) **Find the equation of the plane passing through the point $(2, 3, -1)$and is perpendicular to the line passing through the points $(3, 4, -1)$ and $(2, -1, -5)$.**

3) **Find the equation of the plane through $(4, 4, 0)$ and perpendicular to the planes**

   $x + 2y + 2z = 5$ **and** $3x + 3y + 2z - 8 = 0$.

4) **A variable plane is at a constant distance p from the origin and meets the axes in A, B, C. Show that the locus of thecentroid of the tetrahedron OABC is** $x^{-2} + y^{-2} + z^{-2} = 16\, p^{-2}$.

5) **A variable plane is at a constant distance 3p from the origin and meets the axes in A, B, C. Show that the locus of the centroid of the** Δ**ABC is** $x^{-2} + y^{-2} + z^{-2} = p^{-2}$.

6) **A variable plane moves so that the sum of the reciprocals of its intercepts on the coordinate axes is a constant. Show that it Passes through a fixed point.**

7) **Find the equation to the plane through the line of intersection of** $x - 2y - z + 3 = 0, -3x - 5y + 2z + 1 = 0$ **and perpendicular to** yz **plane.**

8) **Find the equations of the planes passing through the intersection of the planes** $x + 2y + 3z - 4 = 0$,
   $2x + y - z + 5 = 0$ **and perpendicular to the plane** $5x + 3y + 6z + 8 = 0$.

9) **Show that the equation** $x^2 + 4y^2 + 9z^2 - 12yz - 6zx + 4xy + 5x + 10y - 15z + 6 = 0$ **represents a pair of parallel planes and find the distance between them.**

10) **Show that the equation** $2x^2 - 6y^2 - 12z^2 + 18yz + 2zx + xy = 0$ **represents a pair of planes and find the angle between them.**

UNIT-II (STRAIGHT LINES)

1) Find the image of the lines $\frac{x-1}{9}=\frac{y-2}{1}=\frac{z+3}{-3}$ in the plane $3x-3y+10z-26=0$.

2) Prove that the lines $\frac{x+1}{1}=\frac{y+1}{2}=\frac{z+1}{3}$ and $x+2y+3z-8=0, 2x+3y+4z-11=0$ are intersecting and find the point of their intersection. Find the equation to the plane containing them.

3) Prove that the lines $\frac{x-1}{2}=\frac{y-2}{3}=\frac{z-3}{4}$ and $\frac{x-2}{3}=\frac{y-3}{4}=\frac{z-4}{5}$ are coplanar and find the equation to the plane containing the lines.

4). Find the equation of the straight line passing through the point $(1,0,-1)$and interesting the lines $4x-y-13=0=3y-4z-1;\quad y-2z+2=0=x-5$.

5) Fimd length and equation of SD between the lines $\frac{x-3}{3}=\frac{y-8}{-1}=\frac{z-3}{1}$ and $\frac{x+3}{-3}=\frac{y+7}{2}=\frac{z-6}{4}$ also find the equations and points in which the Shortest Distance meets the given lines.

6) Fimd length and equation of SD between the lines $\frac{x-3}{1}=\frac{y-5}{-2}=\frac{z-7}{1}$ and $\frac{x+1}{7}=\frac{y+1}{-6}=\frac{z+1}{1}$ also find the equations and points in which the Shortest Distance meets the given lines.

7) Prove that the lines $\frac{x+1}{1}=\frac{y+1}{2}=\frac{z+1}{3}$; $x+2y+3z-8=0=2x+3y+4z-11$ are coplanar and find their point of intersection. Find also the equation to the plane containing them.

8)Find the length and equations to the line of shortest distance between the lines $\frac{x-2}{3}=\frac{y-3}{4}=\frac{z-1}{2}$ and $\frac{x-4}{4}=\frac{y-5}{5}=\frac{z-2}{3}$.

9) Find the shortest distance between the $z-$axis and the line $a_1x+b_1y+c_1z+d_1=0=a_2x+b_2y+c_2z+d_2$.

10) Find the length and equation of the line of S. D. between the lines $3x-y+5z=0=x+y-z$, $6x+8y+3z-10=0=x-2y+2z-3$

UNIT-III (SPHERES)

1) Find the equation to the sphere through $O=(0,0,0)$ and making intercepts a,b,c on the coordinate axes.

2) A sphere of constant radius k passes through the origin and intersects the axes in A, B, C.

3) Prove that centroid of the ΔABC lies on the sphere $9(x^2+y^2+z^2)=4k^2$.

4) **Show that the four points $(-8,5,2),(-5,2,2),(-7,6,6),(-4,3,6)$ are concyclic.**

5) **Find the equations of the spheres passing through the circle $x^2+y^2=4, z=0$ and is interacted by the plane $x+2y+2z=0$ in a circle of radius 3.**

6) **Find the centre and the radius of the circle $x^2+y^2+z^2-2y-4z=11, x+2y+2z=15$**

7) **S.T the two circles $x^2+y^2+z^2-y+2z=0, x-y+z=2$ & $x^2+y^2+z^2+x-3y+z-5=0$, $2x-y+4z-1=0$ lie on the same sphere and find its equation.**

8) **S.T the plane $2x-2y+z+12=0$ touches the sphere $x^2+y^2+z^2-2x-4y+2z-3=0$ and find the point of contact.**

9) **Find the equation of the sphere which touches the sphere $x^2+y^2+z^2-x+3y+2z-3=0$ at $(1,1,-1)$ and passing through the origin.**

10) **Show that the spheres $x^2+y^2+z^2-2x-4y-6z-50=0, x^2+y^2+z^2-10x+2y+18z+82=0$ touch externally at the point $\left(\frac{45}{13},\frac{2}{13},,\frac{-57}{13}\right)$.**

UNIT-IV (SPHERE & CONES)

1) **Find the equation of the sphere for which the circle $x^2+y^2+z^2+7y-2z+2=0, 2x+3y+4z=8$ is a great circle.**

2) **Find the equation of the sphere which touches the plane $3x+2y-z+2=0$ at $(1,-2,1)$ and cuts orthogonally the sphere $x^2+y^2+z^2-4x+6y+4=0$.**

3) **Find the limiting points of the coaxal system defined by spheres $x^2+y^2+z^2+4x-2y+2z+6=0$ and $x^2+y^2+z^2+2x-4y-2z+6=0$.**

4) **Find the limiting points of the coaxal system of spheres $x^2+y^2+z^2-20x+30y-40z+29+\lambda(2x-3y+4z)=0$, where $\lambda \in R$.**

5) **Find the limiting points of the coaxal system of spheres of which two members are $x^2+y^2+z^2+3x-3y+6=0$, $x^2+y^2+z^2-6y-6z+6=0$.**

6) **Find the equation to the cone which passes through the three coordinate axes and the lines $\frac{x}{1}=\frac{y}{-2}=\frac{z}{3}$ and $\frac{x}{2}=\frac{y}{1}=\frac{z}{1}$.**

7) **Find the equation of the cone whose vertex is $(1,2,3)$ and base $y^2=4ax, z=0$.**

8) **Find the equation of the cone whose vertex is (1,1,1) and whose guiding curve is $x^2+y^2=4, z=2$.**

9) **Find the vertex of the Cone $2x^2+2y^2+3z^2-10yz-10zx+2x+2y+26z-17=0$.**

10) **Find the equation of the cone with vertex (5,4,3) and base curve $3x^2+2y^2=6, y+z=0$ as base.**

UNIT -V (CONES)

1) Find the angle between the lines of intersection of the plane $x - 3y + z = 0$ and the cone $x^2 - 5y^2 + z^2 = 0$.

2) Find the enveloping cone of the sphere $x^2 + y^2 + z^2 + 2x - 2y = 2$ with its vertex at $(1, 1, 1)$.

3) Find the equation to the right circular cone whose vertex is $P(2, -3, 5)$, axis PQ which makes equal angles with the axes and which passes through $A(1, -2, 3)$.

4) Find the equation of the right circular cone whose vertex is $(3, 2, 1)$, axis line $\frac{x-3}{4} = \frac{y-2}{1} = \frac{z-1}{3}$ and semi vertical angle 30^0.

5) Show that the semi-vertical angle of a right circular cone having three mutually perpendicular generators is $\tan^{-1}(\sqrt{2})$

6) Show that the two lines of intersection of the plane $ax + by + cz = 0$ with the cone $yz + zx + xy = 0$ will be perpendicular if $\frac{1}{a} + \frac{1}{b} + \frac{1}{c} = 0$.

7) Prove that the angle between the lines of intersection of the plane $x + y + z = 0$ with the cone $ayz + bzx + cxy = 0$ is $\frac{\pi}{3}$ if $\frac{1}{a} + \frac{1}{b} + \frac{1}{c} = 0$.

8) If the line $\frac{x}{1} = \frac{y}{2} = \frac{z}{1}$ represents one of the mutually perpendicular generators of the cone $11yz + 6zx - 14xy = 0$, find the equations of the other two.

9) Find the equations of the tangent planes to the cone $9x^2 - 4y^2 + 16z^2 = 0$ which contains the line $\frac{x}{32} = \frac{y}{72} = \frac{z}{27}$.

10) Show that the the general equation to a cone which touches the three coordinate planes is

$\sqrt{ax} \pm \sqrt{by} \pm \sqrt{cz} = 0$.

ADIKAVI NANNAYA UNIVERSITY

RAJAMAHENDRAVARAM-533296.

SEMESTER- II: ANALYTICAL SOLID GEOMETRY

MATHEMATICS PRACTICAL EXAMINATIONS, AUG 2023.

(W.E.F 2022 ADMITTED BATCH)

MODEL PAPER

Time: 3 hours Max. Marks: 30

Question Paper contains two sections A and B. Answer any FIVE Questions choosing at least TWO from each sections A and B. Each question carries 6 Marks. **5 X 6 = 30 marks**

SECTION-A

FIVE QUESTIONS

SECTION-B

FIVE QUESTIONS

NOTE: The above problems are only suggested, problems can bechosen from the ANALYTICAL SOLID GEOMETRY according to the convenience and creativity of the Staff and Student.

BOARD OF STUDIES MEMBERS

Dr.D.CH.PAPARAO

G.SRIDHAR

Dr. K. REVATHI
(University Representative)

Skill Enhancement Courses (SECs) for Semester -V,

From 2022-23(Syllabus-Curriculum)
Structure of SECs for Semester–V

(To choose One pair from the Four alternate pairs of SECs)

Univ Code	Course Number 6&7	Name of Course	Hours/ Week	Credits	Marks	
					IA–20 Filed Work 05	Sem End
	6A	Numerical Methods	**6**	**5**	**25**	**75**
	7A	Mathematical Special Functions	**6**	**5**	**25**	**75**

OR

	6B	Multiple integrals and Applications of Vector Calculus	**6**	**5**	**25**	**75**
	7B	Integral transforms with Applications	**6**	**5**	**25**	**75**

OR

	6C	Partial Differential Equations and Fourier Series	**6**	**5**	**25**	**75**
	7C	Number theory	**6**	**5**	**25**	**75**

Note: *Course type code: T: Theory, L: Lab, P: Problem solving

***Note**: FIRST and SECOND PHASES (2 spells) of APPRENTICESHIP between 1st and 2nd year and between 2nd and 3rd year (two summer vacations)

***Note**: THIRD PHASE of APPRENTICESHIP Entire 5th / 6th Semester

Note-1: For Semester–V, for the domain subject Mathematics, any one of the three pairs of SECs shall be chosen as courses 6 and 7, i.e., (6A & 7A) or (6B & 7B) or (6C & 7C),the pair shall not be broken. A, B, C allotment is random, not on any priority basis.

Note-2: One of the main objectives of Skill Enhancement Courses (SEC) is to inculcate skills related to the domain subject in students. The syllabus of SEC will be partially skill oriented. Hence, teachers shall also impart practical training to students on the skills embedded in the syllabus citing related real field situations.

B. A/B.Sc	Semester – V (Skill Enhancement Course- Elective)	Credits:
Course: 6A	Numerical Methods	Hrs/Wk:

Learning Outcomes:

Students after successful completion of the course will be able to

1. understand the subject of various numerical methods that are used to obtain approximate solutions
2. Understand various finite difference concepts and interpolation methods.
3. Work out numerical differentiation and integration whenever and wherever routine methods are not applicable.
4. Find numerical solutions of ordinary differential equations by using various numerical methods.
5. Analyze and evaluate the accuracy of numerical methods.

Syllabus :(Hours: Teaching: 75 (incl. unit tests etc. 05), Training: 15)

Unit – 1: Finite Differences and Interpolation with Equal intervals (15h)

1. Introduction, Forward differences, Backward differences, Central Differences, Symbolic relations, nth Differences of Some functions,
2. Advancing Difference formula, Differences of Factorial Polynomial.
3. Newton's formulae for interpolation. Central Difference Interpolation Formulae.

Unit – 2: Interpolation with Equal and Unequal intervals **(**15h)

1. Central Difference Interpolation Formulae.

   Gauss's Forward interpolation formula, Gauss's backward interpolation formula, Stirling's formula, Bessel's formula.
2. Interpolation with unevenly spaced points, divided differences and properties, Newton's divided differences formula.
3. Lagrange's interpolation formula, Lagrange's Inverse interpolation formula.

Unit – 3: Numerical Differentiation (15h)

1. Derivatives using Newton's forward difference formula, Newton's back ward difference formula,
2. Derivatives using central difference formula, Stirling's interpolation formula,
3. Newton's divided difference formula, Maximum and minimum values of a tabulated function.

Unit – 4: Numerical Integration (15h)

1. General quadrature formula one errors, Trapezoidal rule,
2. Simpson's1/3– rule, Simpson's 3/8 – rule, and Weddle's rules,
3. Euler – McLaurin Formula of summation and quadrature, The Euler transformation.

Unit – 5: Numerical solution of ordinary differential equations (15h)

1. Introduction, Solution by Taylor's Series,
2. Picard's method of successive approximations,
3. Euler's method, Modified Euler's method, Runge – Kutta methods.

References:

1. S.S.Sastry, Introductory Methods of Numerical Analysis, Prentice Hall of India Pvt. Ltd., New Delhi-110001, 2006.
2. P.Kandasamy, K.Thilagavathy, Calculus of Finite Differences and Numerical Analysis.
   S. Chand & Company, Pvt. Ltd., Ram Nagar, New Delhi-110055.
3. R.Gupta, Numerical Analysis, Laxmi Publications (P) Ltd., New Delhi.
4. H.C Saxena, Finite Differences and Numerical Analysis, S. Chand & Company Pvt. Ltd., Ram Nagar, New Delhi-110055.
5. S.Ranganatham, Dr.M.V.S.S.N.Prasad, Dr.V.Ramesh Babu, Numerical Analysis,
   S. Chand & Company Pvt. Ltd., Ram Nagar, New Delhi-110055.
6. Web resources suggested by the teacher and college librarian including reading material.

Co-Curricular Activities:

A) Mandatory:

1. For Teacher: Teacher shall train students in the following skills for 15 hours, by taking relevant outside data (Field/Web).

1. Applications of Newton's forward and back ward difference formulae.
2. Applications of Gauss forward and Gauss back ward, Stirling's and Bessel's formulae.
3. Applications of Newton's divided differences formula and Lagrange's interpolation formula.
4. Various methods to find the approximation of a definite integral.
5. Different methods to find solutions of Ordinary Differential Equations.

2. For Student: Fieldwork/Project work; Each student individually shall undertake Fieldwork/Project work and submit a report not exceeding 10 pages in the given format on the work-done in the areas like the following**,** by choosing any one of the aspects.

1. Collecting the data from the identified sources like Census department or Electricity department, by applying the Newton's, Gauss and Lagrange's interpolation formula, making observations and drawing conclusions. (Or)
2. Selection of some region to find the area by applying Trapezoidal rule, Simpson's1/3– rule, Simpson's 3/8 – rule, and Weddle's rules. Comparing the solutions with analytical solution and concluding which one is the best method. (Or)

3.Findingsolutionof the ODE by Taylor's Series, Picard's method of successive approximations, Euler's method, Modified Euler's method, Runge–Kutta methods. Comparing the solutions with analytical solution, selecting the best method.

3. Max. Marks for Fieldwork/Project work Report: 05.

4. Suggested Format for Fieldwork/Project work Report: Title page, Student Details, Index page, Stepwise work-done, Findings, Conclusions and Acknowledgements.

5. Unit tests (IE).

b) Suggested Co-Curricular Activities:

1. Assignments/collection of data, Seminar, Quiz, Group discussions/Debates
2. Visits to research organizations, Statistical Cells, Universities, ISI etc.
3. Invited lectures and presentations on related topics by experts in the specified area.

B. A/B.Sc	Semester – V (Skill Enhancement Course- Elective)	Credits:
Course: 7A	Mathematical Special Functions	Hrs/Wk:

Learning Outcomes:

Students after successful completion of the course will be able to:

1. Understand the Beta and Gamma functions, their properties and relation between these two functions, understand the orthogonal properties of Chebyshev polynomials and recurrence relations.
2. Find power series solutions of ordinary differential equations.
3. solve Hermite equation and write the Hermite Polynomial of order (degree) n, also find the generating function for Hermite Polynomials, study the orthogonal properties of Hermite Polynomials and recurrence relations.
4. Solve Legendre equation and write the Legendre equation of first kind, also find the generating function for Legendre Polynomials, understand the orthogonal properties of Legendre Polynomials.
5. Solve Bessel equation and write the Bessel equation of first kind of order n, also find the generating function for Bessel function understand the orthogonal properties of Bessel function.

Syllabus: (Hours: Teaching: 75 (incl. unit tests etc. 05), Training: 15)

Unit – 1: Beta and Gamma functions. (15h)

1. Euler's Integrals-Beta and Gamma Functions, Elementary properties of Gamma Functions.
2. Transformation of Gamma Functions. Another form of Beta Function,
3. Relation between Beta and Gamma Functions.

CHAPTER: 2.9 to 2.15 of Prescribed text book 1

Unit – 2: Power series and Power series solutions of ordinary differential equations (15h)

1. Introduction, summary of useful results, power series, radius of convergence, theorems on Power series
2. Introduction of power series solutions of ordinary differential equation
3. Ordinary and singular points, regular and irregular singular points, power series solution.

CHAPTER: 7.1to 7.8 and 8.1 to 8.6 of Part-II of Prescribed text book 2

Unit – 3: Hermite polynomials (15h)

1. Hermite Differential Equations, Solution of Hermite Equation, Hermite polynomials, generating function for Hermite polynomials.
2. Other forms for Hermite Polynomials, Rodrigues formula for Hermite Polynomials, to find first few Hermite Polynomials.
3. Orthogonal properties of Hermite Polynomials, Recurrence formulae for Hermite Polynomials.

CHAPTER: 6.1 to 6.8 of Prescribed text book 1

Unit – 4: Legendre polynomials (15h)

1. Definition, Solution of Legendre's equation, Legendre polynomial of degree n, generating function of Legendre polynomials.
2. Definition of $P_n(x)$ and $Q_n(x)$, General solution of Legendre's Equation (derivations not required) to show that $\mathrm{Pn}(x)$ is the coefficient of h^n, in the expansion of $(1-2xh+h^2)^{\frac{-1}{2}}$
3. Orthogonal properties of Legendre's polynomials, Recurrence formulas for Legendre's Polynomials.

CHAPTER: 2.1 to 2.8 and 2.12 of Prescribed text book 1

Unit – 5: Bessel's equation (15h)

1. Definition, Solution of Bessel's equation, Bessel's function of the first kind of order n, Bessel's function of the second kind of order n.
2. Integration of Bessel's equation in series form=0, Definition of $J_n(x)$, recurrence formulae for $J_n(x)$.
3. Generating function for $J_n(x)$.

CHAPTER: 5.1 to 5.7 of Prescribed text book 1

Prescribed Books:

1. Dr.M.D.Raisinghania, Ordinary and Partial Differential Equations, S. Chand & Company Pvt. Ltd., Ram Nagar, New Delhi-110055.
2. J.N.Sharma and Dr.R.K.Gupta, Differential equations with special functions, Krishna Prakashan Mandir.

Reference Books:

1. Shanti Narayan and Dr.P.K.Mittal, Integral Calculus, S. Chand & Company Pvt. Ltd., Ram Nagar, New Delhi-110055.
2. George F.Simmons, Differential Equations with Applications and Historical Notes, Tata McGRAW-Hill Edition, 1994.
3. Shepley L.Ross, Differential equations, Second Edition, John Willy & sons, New York, 1974.
4. Web resources suggested by the teacher and college librarian including reading material.

Co-Curricular Activities:

A) Mandatory:

1. For Teacher: Teacher shall train students in the following skills for 15 hours, by taking relevant outside data (Field/Web).

1. Beta and Gamma functions, Chebyshev polynomials.

2. Power series, power series solutions of ordinary differential equations,

3. Procedures of finding series solutions of Hermite equation, Legendre equation and Bessel equation.

4. Procedures of finding generating functions for Hermite polynomials, Legendre Polynomials and Bessel's function.

2. For Student: Fieldwork/Project work; Each student individually shall undertake Fieldwork/Project work, make observations and conclusions and submit a report not exceeding 10 pages in the given format on the work-done in the areas like the following**,** by choosing any one of the aspects.

1. Going through the web sources like Open Educational Resources on the properties of Beta and Gamma functions, Chebyshev polynomials, power series solutions of ordinary differential equations. (or)

2. Going through the web sources like Open Educational Resources on the properties of series solutions of Hermite equation, Legendre equation and Bessel equation.

3. Max. Marks for Fieldwork/Project work Report: 05.

4. Suggested Format for Fieldwork/Project work Report: Title page, Student Details, Index page,
Stepwise work-done, Findings, Conclusions and Acknowledgements.

5. Unit tests (IE).

b) Suggested Co-Curricular Activities:

1. Assignments/collection of data, Seminar, Quiz, Group discussions/Debates
2. Visits to research organizations, Statistical Cells, Universities, ISI etc.
3. Invited lectures and presentations on related topics by experts in the specified area.

B. A/B.Sc	Semester – V (Skill Enhancement Course- Elective)	Credits:
Course: 6B	Multiple Integrals And Applications Of Vector Calculus	Hrs/Wk:

Learning Outcomes:

Students after successful completion of the course will be able to

1. Learn multiple integrals as a natural extension of definite integral to a function of two variables in the case of double integral / three variables in the case of triple integral.
2. Learn applications in terms of finding surface area by double integral and volume by triple integral.
3. Determine the gradient, divergence and curl of a vector and vector identities.
4. Evaluate line, surface and volume integrals.
5. understand relation between surface and volume integrals (Gauss divergence theorem), relation between line integral and volume integral (Green's theorem), relation between line and surface integral (Stokes theorem)

Syllabus: (Hours: Teaching: 75 (incl. unit tests etc.05), Training: 15)

Unit – 1: Multiple integrals-I (15h)

1. Introduction, Double integrals, Evaluation of double integrals, Properties of double integrals.
2. Region of integration, double integration in Polar Co-ordinates,
3. Change of variables in double integrals, change of order of integration.

Unit – 2: Multiple integrals-II (15h)

1. Triple integral, region of integration, change of variables.
2. Plane areas by double integrals, surface area by double integral.
3. Volume as a double integral, volume as a triple integral.

Unit – 3: Vector differentiation (15h)

1. Vector differentiation, ordinaryderivatives of vectors.
2. Differentiability, Gradient, Divergence, Curl operators,
3. Formulae involving the separators.

Unit – 4: Vector integration (15h)

1. Line Integrals with examples.
2. Surface Integral with examples.
3. Volume integral with examples.

Unit – 5: Vector integration applications (15h)

1. Gauss theorem and applications of Gauss theorem.
2. Green's theorem in plane and applications of Green's theorem.
3. Stokes's theorem and applications of Stokes theorem.

Reference Books:

4.Dr.M Anitha, Linear Algebra and Vector Calculus for Engineer, Spectrum University Press, SR Nagar, Hyderabad-500038, INDIA.

5.Dr.M.Babu Prasad, Dr.K.Krishna Rao, D.Srinivasulu, Y.AdiNarayana, Engineering Mathematics-II, Spectrum University Press, SR Nagar, Hyderabad-500038,INDIA.

6. V.Venkateswararao, N. Krishnamurthy, B.V.S.S.Sarma and S.Anjaneya Sastry, A text Book of B.Sc., Mathematics Volume-III, S. Chand & Company, Pvt. Ltd., Ram Nagar,NewDelhi-110055.

7. R.Gupta,Vector Calculus, Laxmi Publications.

8. P.C.Matthews, Vector Calculus, Springer Verlag publications.

9. Web resources suggested by the teacher and college librarian including reading material.

Co-Curricular Activities:

A) Mandatory:

1. **For Teacher:** Teacher shall train students in the following skills for 15 hours, by taking Relevant outside data (Field/Web).
   1. The methods of evaluating double integrals and triple integrals in the class room and train to evaluate

   These integrals of different functions over different regions.
   2. Applications of line integral, surface integral and volume integral.
   3. Applications of Gauss divergence theorem, Green's theorem and Stokes's theorem.
2. **For Student: Fieldwork/Project work** Each student individually shall undertake Fieldwork/Project work and submit a report not exceeding 10 pages in the given format on the work-done in the areas like the following**,** by choosing any one of the following aspects.

   1. Going through the web sources like Open Educational Resources to find the values of double and triple integrals of specific functions in a given region and make conclusions. (or)

   2. Going through the web sources like Open Educational Resources to evaluate line integral, surface integral and volume integral and apply Gauss divergence theorem, Green's theorem and Stokes theorem and make conclusions.

3. **Max. Marks for Fieldwork/Project work Report: 05.**
4. **Suggested Format for Fieldwork/Project work Report**: Title page, Student Details, Index page, Stepwise work-done, Findings, Conclusions and Acknowledgements.

4. Unit tests (IE).

b) Suggested Co-Curricular Activities:

1. Assignments/collection of data, Seminar, Quiz, Group discussions/Debates
2. Visits to research organizations, Statistical Cells, Universities, ISI etc.
3. Invited lectures and presentations on related topics by experts in the specified are

B. A/B.Sc	Semester – V (Skill Enhancement Course- Elective)	Credits:
Course: 7B	Integral Transforms With Applications	Hrs/Wk:

Learning Outcomes:

Students after successful completion of the course will be able to

1. Evaluate Laplace transforms of certain functions, find Laplace transforms of derivatives and of integrals.
2. Determine properties of Laplace transform which may be solved by application of special functions namely Dirac delta function, error function, Bessel function and periodic function.
3. Understand properties of inverse Laplace transforms, find inverse Laplace transforms of derivatives and of integrals.
4. Solve ordinary differential equations with constant/ variable coefficients by using Laplace transform method.
5. Comprehend the properties of Fourier transforms and solve problems related to finite Fourier transforms.

Syllabus :(Hours: Teaching: 75 (incl. unit tests etc.05), Training: 15)

Unit – 1: Laplace transforms- I (15h)

1. Definition of Laplace transform, linearity property-piecewise continuous function.
2. Existence of Laplace transform, functions of exponential order and of class A.
3. First shifting theorem, second shifting theorem and change of scale property.

Unit – 2: Laplace transforms- II (15h)

1. Laplace Transform of the derivatives, initial value theorem and final value theorem. Laplace transforms of integrals.
2. Laplace transform of t^n. f (t), division by t, evolution of integrals by Laplace transforms.
3. Laplace transform of some special functions-namely Dirac delta function, error function, Bessel function and Laplace transform of periodic function.

Unit – 3: Inverse Laplace transforms (15h)

1. Definition of Inverse Laplace transform, linear property, first shifting theorem, second shifting theorem, change of scale property, use of partial fractions**.**
2. Inverse Laplace transforms of derivatives, inverse, Laplace transforms of integrals, multiplication by powers of 'p', division by 'p'.
3. Convolution, convolution theorem proof and applications.

Unit – 4: Applications of Laplace transforms (15h)

1. Solutions of differential equations with constants coefficients, solutions of differential equations with variable coefficients.
2. Applications of Laplace transforms to integral equations- Abel's integral equation.
3. Converting the differential equations into integral equations, converting the integral equations into differential equations.

Unit – 5: Fourier transforms (15h)

1. Integral transforms, Fourier integral theorem (without proof), Fourier sine and cosine integrals.
2. Properties of Fourier transforms, change of scale property, shifting property, modulation theorem. Convolution.
3. Convolution theorem for Fourier transform, Parseval's Identify, finite Fourier transforms.

Reference Books:

1. Dr. S.Sreenadh, S.Ranganatham, Dr.M.V.S.S.N.Prasad, Dr. V.Ramesh Babu, Fourier series and Integral Transforms, S. Chand & Company, Pvt. Ltd., Ram Nagar, New Delhi-110055.
2. A.R. Vasistha, Dr. R.K. Gupta, Laplace Transforms, Krishna Prakashan Media Pvt. Ltd.Meerut.
3. M.D.Raisinghania, H.C. Saxsena , H.K. Dass, Integral Transforms, S. Chand & Company Pvt. Ltd., Ram Nagar, New Delhi-110055.
4. Dr. J.K. Goyal, K.P. Gupta, Laplace and Fourier Transforms, Pragathi Prakashan, Meerut.
5. Shanthi Narayana , P.K. Mittal, A Course of Mathematical Analysis, S. Chand & Company Pvt.Ltd. Ram Nagar, New Delhi-110055.
6. Web resources suggested by the teacher and college librarian including reading material.

Co-Curricular Activities:

A) Mandatory:

1. For Teacher: Teacher shall train students in the following skills for 15 hours, by taking Relevant outside data (Field/Web).

1. Demonstrate on sufficient conditions for the existence of the Laplace transform of a function.
2. Evaluation of Laplace transforms and methods of finding Laplace transforms.
3. Evaluations of Inverse Laplace transforms and methods of finding Inverse Laplace transforms.
4. Fourier transforms and solutions of integral equations.

2. For Student: Fieldwork/Project work; Each student individually shall undertake Fieldwork/Project work and submit a report not exceeding 10 pages in the given format on the work-done in the areas like the following**,** by choosing any one of the aspects.

1. Going through the web sources like Open Educational Resources on Applications of Laplace transforms and Inverse Laplace transforms to find solutions of ordinary differential equations with constant /variable coefficients and make conclusions. (or)
2. Going through the web sources like Open Educational Resources on Applications of convolution theorem to solve integral equations and make conclusions. (or)
3. Going through the web source like Open Educational Resources on Applications of Fourier transforms to solve integral equations and make conclusions.

4. Max. Marks for Fieldwork/Project work Report: 05.

3. Suggested Format for Fieldwork/Project work Report: Title page, Student Details, Index page, Stepwise work-done, Findings, Conclusions and Acknowledgements.

4. Unit tests (IE).

b) Suggested Co-Curricular Activities:

1. Assignments/collection of data, Seminar, Quiz, Group discussions/Debates
2. Visits to research organizations, Statistical Cells, Universities, ISI etc.
3. Invited lectures and presentations on related topics by experts in the specified area.

B. A/B.Sc	Semester – V (Skill Enhancement Course- Elective)	Credits:
Course: 6C	Partial differential equations & Fourier series	Hrs/Wk:

Learning Outcomes:

Students after successful completion of the course will be able to

1. Classify partial differential equations, formation of partial differential equations and solve Cauchy's problem for first order equations.
2. Solve Lagrange's equations by various methods, find integral Surface passing through a given curve and Surfaces orthogonal to a given system of Surfaces.
3. Find solutions of nonlinear partial differential equations of order one by using Char pit's method.
4. Find solutions of nonlinear partial differential equations of order one by using Jacobi's method.
5. Understand Fourier series expansion of a function f(x) and Parseval's theorem.

Syllabus: (Hours: Teaching: 75 (incl. unit tests etc.05), Training: 15)

Unit – 1: Introduction of partial differential equations (15h)

1. Partial Differential Equations, classification of first order partial differential equations, Rule I, derivation of a partial differential equations by the elimination of arbitrary constants
2. Rule II, derivation of a partial differential equation by the elimination of arbitrary function φ from the equations $\emptyset(u,v)=0$ where u and v are functions of x, y and z.
3. Cauchy's problem for first order equations

Unit – 2: Linear partial differential equations of order one (15h)

1. Lagrange's equations, Lagrange's method of solving Pp+Qq=R, where P, Q and R are functions of x, y and z, type 1 based on Rule I for solving $\frac{dx}{p}=\frac{dy}{Q}=\frac{dz}{R}$, type 2 based on Rule II for solving $\frac{dx}{p}=\frac{dy}{Q}=\frac{dz}{R}$.
2. Type 3 based on Rule III for solving $\frac{dx}{p}=\frac{dy}{Q}=\frac{dz}{R}$, type 4 based on Rule IV for solving $\frac{dx}{p}=\frac{dy}{Q}=\frac{dz}{R}$.
3. Integral Surface passing through a given curve, the Cauchy problem, Surfaces orthogonal to a given system of Surfaces.

Unit – 3: Non-linear partial differential equations of order one-I (15h)

1. Complete integral, particular integral, singular integral and general integral, geometrical interpretation of integrals of f (x, y, z, p, q) = 0, method of getting singular integral from the PDE of first order, compatible system of first order equations.
2. Char pit's method, Standard form I, only p and q present.
3. Standard form II, Clairaut equations.

Unit – 4: Non-linear partial differential equations of order one-II (15h)

1. Standard Form III, only p, q and z present.
2. Standard Form IV, equation of the form $f_1(x, p) = f_2(y, q)$.
3. Jacobi's method, Jacobi's method for solving partial differential equations with three or more independent variables, Jacobi's method for solving a non-linear first order partial differential equations in two independent variables.

Unit – 5: Fourier series (15h)

1. Introduction, Euler's formulae for Fourier series expansion of a function f(x), Dirichlet's conditions for Fourier series, convergence of Fourier series.
2. Functions having arbitrary periods. Change of interval, Half range series.
3. Parseval's theorem, illustrative examples based on Parseval's theorem, some particular series.

Reference Books:

1. Dr.M.D.Raisinghania, Ordinary and Partial Differential Equations, S. Chand & Company Pvt. Ltd., Ram Nagar, New Delhi-110055.
2. Dr. S.Sreenadh, S.Ranganatham, Dr.M.V.S.S.N.Prasad, Dr. V.Ramesh Babu, Fourier Series and Integral Transforms, S. Chand & Company Pvt. Ltd., Ram Nagar, New Delhi-110055.
3. Prof T.Amaranath, An Elementary Course in Partial Differential Equations Second Edition, Narosa Publishing House, New Delhi.
4. Fritz John, Partial Differential Equations, Narosa Publishing House, New Delhi, 1979.
5. I.N.Sneddon, Elements of Partial Differential Equations by McGraw Hill, International Edition, Mathematics series.
6. Web resources suggested by the teacher and college librarian including reading material.

Co-Curricular Activities:

A) Mandatory:

1. For Teacher: Teacher shall train students in the following skills for 15 hours, by taking Relevant outside data (Field/Web).

1. On classification of first order partial differential equations, formation of partial differential equations.

2. Various methods of finding solutions of partial differential equations.

3. Integral Surface passing through a given curve and Surfaces orthogonal to a give system of Surfaces.

b) For Student: Fieldwork/Project work; Each student individually shall undertake Fieldwork/Project work and submit a report not exceeding 10 pages in the given format on the work-done in the areas like the

Following**,** by choosing any one of the aspects.

1. Going through the web source like Open Educational Resources to find solutions of partial differential equations by using Lagrange's method, Charpit's method and Jacobi's method and make conclusions. (or)
2. Going through the web source like Open Educational Resources to find Integral Surface passing through a given curve and Surfaces orthogonal to a given system of Surfaces and make conclusions. (or)
3. Going through the web source like Open Educational Resources to find Fourier series expansions of some functions and applications of Parseval's theorem and make conclusions.

3. Max. Marks for Fieldwork/Project work Report: 05.

4. Suggested Format for Fieldwork/Project work Report: Title page, Student Details, Index page, Stepwise work-done, Findings, Conclusions and Acknowledgements.

5. Unit tests (IE).

b) Suggested Co-Curricular Activities

1. Assignments/collection of data, Seminar, Quiz, Group discussions/Debates
2. Visits to research organizations, Statistical Cells, Universities, ISI etc.
3. Invited lectures and presentations on related topics by experts in the specified area.

B. A/B.Sc	Semester – V (Skill Enhancement Course- Elective)	Credits:
Course: 7C	Number Theory	Hrs/Wk:

Learning Outcomes:

Students after successful completion of the course will be able to

4. Find quotients and remainders from integer division, study divisibility properties of integers and the distribution of primes.
5. Understand Dirichlet multiplication which helps to clarify interrelationship between various arithmetical functions.
6. Comprehend the behaviour of some arithmetical functions for large n.
7. Understand the concepts of congruencies, residue classes and complete residues systems.
8. Comprehend the concept of quadratic residues mod p and quadratic non residues mod p.

Syllabus: (Hours: Teaching:75 (incl. unit tests etc.05), Training:15)

Unit – 1: Divisibility (15h)

1. Introduction, Divisibility, Greatest Common Divisor.
2. Prime numbers, The fundamental theorem of arithmetic, The series of reciprocals of the primes.
3. The Euclidean algorithm, The greatest common divisor of more than two numbers.

Unit – 2: Arithmetical Functions and Dirichlet Multiplication (15h)

1. Introduction, The Mobius function$\mu(n)$, The Euler totient function$\varphi(n)$, A relation connecting φ and μ , A product formula for $\varphi(n)$.
2. The Dirichlet product of arithmetical functions, Dirichlet inverses and Mobius inversion formula, The Mangoldt function$\Lambda(n)$.
3. Multiplicative functions, Multiplicative functions and Dirichlet multiplication, The inverse of a completely multiplicative function, Liouville's function $\lambda(n)$, The divisor functions $\sigma_\alpha(n)$.

Unit – 3: Averages of Arithmetical Functions (15h)

1. Introduction, The big oh notation. Asymptotic equality of functions, Euler's summation formula, some elementary asymptotic formulas.
2. The average order of $d(n)$, The average order of the divisor functions$\sigma_\alpha(n)$, The average order of $\varphi(n)$.
3. The average order of $\mu(n)$ and $\Lambda(n)$, The partial sum of a Dirichlet product, Applications of $\mu(n)$ and $\Lambda(n)$.

Unit – 4: Congruences (15h)

1. Definition and basic properties of congruences, Residue classes and complete residue systems.
2. Linear congruences, reduced residue systems and the Euler-Fermat theorem. Polynomial congruences modulo p. Lagrange's theorem.
3. Applications of Lagrange's theorem, Simultaneous linear congruences. The Chinese remainder theorem. Applications of the Chinese remainder theorem.

Unit – 5: Quadratic Residues and the Quadratic Reciprocity Law (15h)

1. Quadratic Residues, Legendre's symbol and its properties, Evaluation of (-1/p) and (2/p), Gauss lemma,
2. The Quadratic reciprocity law, Applications of the reciprocity law, The Jacobi Symbol.
3. Gauss sums and the quadratic reciprocity law, the reciprocity law for quadratic Gauss sums. Another proof of the quadratic reciprocity law.

Reference Books:

1. Tom M.Apostol, Introduction to Analytic Number theory, Springer International Student Edition.
2. David, M. Burton, Elementary Number Theory, 2nd Edition UBS Publishers.
3. Hardy & Wright, Number Theory, Oxford Univ, Press.
4. Dence, J. B & Dence T.P, Elements of the Theory of Numbers, Academic Press.
5. Niven , Zuckerman &Montgomery, Introduction to the Theory of Numbers.
6. Web resources suggested by the teacher and college librarian including reading material.

Co-Curricular Activities:

A) Mandatory:

1. For Teacher: Teacher shall train students in the following skills for 15 hours, by taking Relevant outside data (Field/Web).

1. Finding quotient and numbers from integer division and the method of solving congruences. Further problems related to the theory of quadratic residues.
2. Applications of Lagrange's theorem.
3. Applications of the Chinese remainder theorem.
4. Applications of the reciprocity law.

2.For Student: Fieldwork/Project work; Each student individually shall undertake Fieldwork/Project work and submit a report not exceeding 10 pages in the given format on the work-done in the areas like the following**,** by choosing any one of the aspects.

1. Going through the web sources like Open Educational Resources and list out Applications of Lagrange's theorem, and make conclusions.(or)
2. Going through the web sources like Open Educational Resources and list out Applications of the Chinese remainder theorem and make conclusions.(or)
3. Going through the web sources like Open Educational Resource and list out Applications of the reciprocity law and make conclusions.

3. Max. Marks for Fieldwork/Project work Report: 05.

4. Suggested Format for Fieldwork/Project work Report:

Title page, Student Details, Index page,
Step wise work-done, Findings, Conclusions and Acknowledgements.

5. Unit tests (IE).

b) Suggested Co-Curricular Activities

1. Assignments/collection of data, Seminar, Quiz, Group discussions/Debates
2. Visits to research organizations, Statistical Cells, Universities, ISI etc.
3. Invited lectures and presentations on related topics by experts in the specified area.

ADIKAVI NANNAYYA UNIVERSITY :: RAJAMAHENDRAVARAM
CBCS/ SEMESTER SYSTEM
(W. e. f 2020 – 21 Admitted Batch)
B. A./B. Sc. MATHEMATICS
COURSE – VI(A), NUMERICAL METHODS.

MATHEMATICS MODEL PAPER

Max. Marks: 75M **Time: 3Hrs**

SECTION – A

Answer any FIVE questions. Each question carries FIVE marks. **5 X 5 M = 25 M**

1) Find the function whose first difference is $9x^2 + 11x + 5$.

2) Find the missing term in the following table

x	0	1	2	3	4
y	1	1.5	2.2	3.1	4.6

3) If f(x) $= \frac{1}{x^2}$ then find the divided differences f(a, b) and f(a, b, c).

4) Using Gauss forward interpolation formula to find f(2.5) from the following table.

x	1	2	3	4
f(x)	1	8	27	64

5) Derive the derivative $\left(\frac{dy}{dx}\right)_{x = x_0}$ by using Newton's backward interpolation formula.

6) Find $\frac{dy}{dx}$ at $x = 0$, using the table

x	0	2	4	6	8	10
f(x)	0	12	248	1284	4080	9980

7) Evaluate the integral $\int_0^6 \frac{dx}{1+x}$ by using Simpson's $\frac{1}{3}$ rule.

8) Using Taylor's series method, solve the equation $\frac{dy}{dx} = x^2 + y^2$ for $x = 0.4$, given that $y = 0$ when $x = 0$.

SECTION – B

Answer any ALL questions. Each question carries TEN marks. **5 X 10 M = 50 M**

9 a) State and Prove Newton's forward interpolation formula.

OR

9 b) Show that i) $\mu^2 = 1 + \frac{1}{4}\delta^2$ and ii) $1 + \mu^2\,\delta^2 = \left(1 + \frac{1}{2}\delta^2\right)^2$

10 a) State and prove Bessel's formula.

OR

10 b) Using Lagrange's formula fit a polynomial to the following data and hence find f(1).

x	-1	0	2	3
f(x)	8	3	1	12

11 a) Derive the derivatives $\frac{dy}{dx}$ and $\frac{d^2y}{dx^2}$ at $x = x_0$ by using Stirling's interpolation formula.

OR

11 b) Compute $f^1(4)$ and $f^1(5)$ from the following table

x	1	2	4	8	10
f(x)	0	1	5	21	27

12 a) State and prove General Quadrature Formula.

OR

12 b) Evaluate the integral $\int_0^6 \frac{dx}{1+x^3} dx$ by using Weddle's rule.

13 a) Use Runge $-$ Kutta method to evaluate y (0.1) and y (0.2) given that $y^1 = x + y$, initial condition $y(0) = 1$.

OR

13 b) Given $\frac{dy}{dx} = x + y$ with initial condition $y(0) = 1$. Find $y(0.05)$ and $y(0.1)$, correct to 6 decimal places by using Euler's modified method.

ADIKAVI NANNAYA UNIVERSITY, RAJAMAHENDRAVARAM

B.A./B.Sc., FIFTH SEMESTER MATHEMATICS MODEL PAPER

7A: MATHEMATICAL SPECIAL FUNCTIONS

(w. e. f. 2020-21 admitted batch)

TIME: 3hrs MAX.MARKS:75

SECTION- A

Answer any **FIVE** questions. Each question carries 5 marks. 5 X 5 = 25 Marks

1. Evaluate $\int_0^2 \frac{x^2 dx}{\sqrt{(2-x)}}$
2. Show that $\Gamma\left(\frac{1}{2}+x\right)\ \Gamma\left(\frac{1}{2}-x\right) = \frac{\pi}{Cos\ \pi x}$
3. If the power series $\sum a_n x^n$ is such that $a_n \neq 0$ for all n and $\lim_{n\to\infty}\left|\frac{a_{n+1}}{a_n}\right| = \frac{1}{R}$ then prove that $\sum a_n x^n$ is convergent for $|x| < R$ and divergent for $|x| > R$
4. Prove that $H_n''(x) = 4n(n-1)\ H_{n-1}(x)$
5. Prove that $H_{2n}(0) = (-1)^n \frac{(2n)!}{n!}$
6. Prove that $P_n(-x) = (-1)^n P_n(x)$
7. Prove that $P_n'(1) = \frac{1}{2}n(n+1)$
8. Prove that $J_{-n}(x) = (-1)^n J_n(x)$ where n is a positive integer

SECTION -B

Answer any **FIVE** questions. Each question carries 10 marks. 5 X 10 = 50 Marks

9(a). Prove that $\beta(m,n) = \frac{\Gamma(m)\Gamma(n)}{\Gamma(m+n)}$

OR

9(b). Prove that $2^n\Gamma\left(n+\frac{1}{2}\right) = 1.3.5\ldots.(2n-1)\sqrt{\pi}$ *where n is a* positive integer

10(a). Solve $y' - y = 0$ by power series method

OR

10(b). Find the power series solution in powers of (x-1) of the initial value problem

$xy'' + y' + 2y = 0, y(1) = 1, y'(1) = 2.$

11(a). Prove that $H_n(x) = (-1)^n e^{x^2} \frac{d^n}{dx^n}\left(e^{-x^2}\right)$

OR

11(b). Prove that $2xH_n(x) = 2n\, H_{n-1}(x) + H_{n+1}(x)$

12(a). Prove that $(1 - 2xh + h^2)^{-1/2} = \sum_{n=0}^{\infty} h^n P_n(x)$

OR

12(b). $\int_{-1}^{1} P_m(x)\, P_n(x)dx = 0 \; if \; m \neq n$

13(a). $xJ_n'(x) = n\, J_n(x) - x\, J_{n+1}(x)$

OR

13(b). Show that $J_{-1/2}(x) = \sqrt{\frac{2}{\pi x}}\, Cos\, x$

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MODEL QUESTION PAPER (Sem-End)

B.A./B.Sc. DEGREE EXAMINATIONS

Semester –V (Skill Enhancement Course-Elective)

Course 6B: MULTIPLE INTEGRALS & APPLICATION OF VECTOR CALICULUS

Time: 3Hrs **Max.Marks:75M**

SECTION - A

Answer any FIVE questions. **5 X 5M=25 M**

1. Evaluate $\int_0^a \int_0^b xy(x^2+y^2)dxdy$
2. Evaluate $\int_0^1 \int_{-1}^0 \int_{-1}^1 (x+y+1)dxdydz$
3. If $\bar{F}=(x+3y)\boldsymbol{i}+9y-2z)\boldsymbol{j}+(x+pz)\boldsymbol{k}$is a solenoidal find***p.***
4. Prove that $\Delta \times (\Delta \times \bar{A}) = \nabla(\nabla.\bar{A}) - \nabla^2\bar{A}$
5. Find the value of $\int (x+y^2)dx + (x-y^2)dy$, taken in the clockwise direction along the closed curve *C*formed by $y^2 = x$ and $y = x$between $(0,0)\ and\ (0,1)$.
6. Evaluate$\int \bar{F}\, dr$, where $\bar{F}=x^2y^2\boldsymbol{i}+y\boldsymbol{j}$ and the curve C is $y^2 = 4x$ in the XY-plane from (0,0) to(4,4)
7. Show that $\int_S (ax\boldsymbol{i}+by\boldsymbol{j}+cz\boldsymbol{k}).\bar{n}ds = \frac{4\pi}{3}(a+b+c)$where S is the surface of the sphere $x^2+y^2+z^2=1$
8. By Stokes theorem evaluate $\int_C ydx+zdy+xdz$ where *C*is the curve of intersection of $x^2+y^2+z^2=a^2$ and $x+z=a$

SECTION - B

Answer ALL the questions. **5 X 10 M = 50 M**

9. a) Evaluate $\iint_S xydxdy$, where S is the region bounded by $xy=1, y=0, y=x, x=2$

(OR)

b) Change the order of integration and hence show that

$\int_0^1 \int_0^{\sqrt{1-x^2}} \frac{dy}{(1+e^y)\sqrt{1-x^2-y^2}} = \frac{\pi}{2}\log\left[\frac{2e}{1+e}\right]$

10. a) Using double integration find the valume of solid bounded by the coordinate plane $x=0, y=0, z=0$ and plane $x+y+z=1$

(OR)

b) Evaluate $\iiint xyzdxdydz$ taken over the cube bounded by the planes $x=0, y=0, z=0$ and $x=2, y=2, z=2$ in the first octant.

11. a) If $\bar{a}$ is a constant vector, prove that$curl\ \frac{\bar{a}\times\bar{r}}{r^3} = -\frac{\bar{a}}{r^3} + \frac{3\bar{r}}{r^5}(\bar{a}.\bar{r})$

(OR)

b) Prove that $grad(\bar{A}\bar{B}) = (\bar{B}.\nabla)\bar{A} + (\bar{A}.\nabla)\bar{B} + \bar{B} \times curl\bar{A} + \bar{A} \times curl\bar{B}$

12. a) Evaluate $\int_S \bar{F}\bar{N}\, ds$, where $\bar{F} = z\boldsymbol{i} + x\boldsymbol{j} - 3y^2z\boldsymbol{k}$ andSis the surface$x^2 + y^2 = 16$ included in the first octant between $z = 0$ and $z = 5$

(OR)

b) If $\bar{F} = 2xz\boldsymbol{i} - x\boldsymbol{j} + y^2\boldsymbol{k}$**,** evaluate$\int_V \bar{F}dv$where V is the region bounded by the surface $x = 0, x = 2, y = 0, y = 6, z = x^2, z = 4$

13. a) State and prove $Gauss's\ divergence\ theorem$

(OR)

b) Verify $Stokes\ theorem$ for $\bar{F} = -y^3\boldsymbol{i} + x^3\boldsymbol{j}$**,** where S is the circular disc $x^2 + y^2 \leq 1, z = 0$

ADIKAVI NANNAYYA UNIVERSITY :: RAJAMAHENDRAVARAM
CBCS/ SEMESTER SYSTEM
(W. e. f 2020 – 21 Admitted Batch)
B. A./B. Sc. MATHEMATICS
COURSE – VII(B), INTEGRAL TRANSFORMS WITH APPLICATIONS

MATHEMATICS MODEL PAPER

Max. Marks: 75M **Time: 3Hrs**

SECTION – A

Answer any FIVE questions. Each question carries FIVE marks. **5 X 5 M = 25 M**

1. Find L[f(t)] , where $f(t) = \begin{cases} \sin\left(t - \frac{2\pi}{3}\right) & \text{if } t > \frac{2\pi}{3} \\ 1 & \text{if } t < \frac{2\pi}{3} \end{cases}$

2. . State and prove second shifting property of Laplace Transform.

3. . State Bessel's function and hence show that $L\left[J_0\left(a\sqrt{t}\right)\right] = \frac{e^{-\left(\frac{a^2}{s}\right)}}{s}$

4. Find $L^{-1}\left[\frac{p^2}{(p-3)^2}\right]$

5. Evaluate $\int_0^\infty \frac{\sin 2t}{t}\, dt$

6. Find $L^{-1}\left[\frac{3p+1}{(p-1)(p^2+1)}\right]$ by using partial fractions.

7. Solve $(D^2 - D - 2)y = 20 \sin 2t$ if $y = 1, Dy = 2$ when $t = 0$ by the method of Laplace Transform.

8. Find the sine and cosine transform of the function $f(x) = x$.

SECTION – B

Answer any ALL questions. Each question carries TEN marks. **5 X 10 M = 50 M**

9. a) Evaluate $L[t^2 e^{-2t} \cos t]$

OR

9. b) State and prove first shifting theorem and also find L[sin hat cos at]

10 . a) Show that $L\left(\frac{\sin t}{t}\right) = \tan^{-1}\left(\frac{1}{s}\right)$ and from this find the value of $L\left(\frac{\sin at}{t}\right)$.

Does $L\left(\frac{\cos at}{t}\right)$ exists ?

OR

10. b) Show that $\int_0^\infty t^3 e^{-t} \sin t \, dt = 0$

11. a) State and prove Convolution theorem

OR

11. b) Evaluate $L^{-1}\left[\frac{2s+t}{(s+2)^2(s^2-1)}\right]$

12. a) Solve $(D^3 + 2D^2 - D - 1)y = 0$ given $y(0) = y^1(0) = 0$ and $y^{11}(0) = 6$ by the method of Laplace Transform.

OR

12. b) Solve the integral equation $f(t) = t + 2\int_0^t \cos(t-u)F(u)du = 0$

13. a) Find the finite cosine transform of $\left(1 - \frac{x}{\pi}\right)^2$ where $0 < x < \pi$.

OR

13. b) Find the fourier sine function of $\frac{e^{-ax}}{x}$ and hence deduce that

$$\int_0^\infty \left(\frac{e^{-ax} - e^{-bx}}{x}\right) \sin px \, dx = \tan^{-1}\left(\frac{p}{a}\right) - \tan^{-1}\left(\frac{p}{b}\right).$$

MODEL QUESTION PAPER (Sem-End)

B.A./B.Sc. DEGREE EXAMINATIONS

Semester –V (Skill Enhancement Course-Elective)

Course 6C: Partial Differential Equations and Fourier series

Time: 3Hrs **Max.Marks:75M**

SECTION - A

Answer any FIVE questions. **5 X 5M=25 M**

1. Solve $z = f(x^2 + y^2)$
2. Solve $(-a + x)p + (-b + y)q = (-c + z)$
3. Solve $-qy \log y = z \log y$
4. Solve using Charpit's method $pq = xz$
5. Find the complete integral of the partial differential equation $p^2q^2 + x^2y^2 = x^2q^2(x^2 + y^2)$
6. If $z = e^{(ax+by)}f(ax - by)$, then show that $a\left(\frac{\partial z}{\partial y}\right) + b\left(\frac{\partial z}{\partial x}\right) = 2abz$
7. Solve $zp = -x$
8. Dirichlet's conditions for Fourier series

SECTION - B

Answer ALL the questions. **5 X 10 M = 50 M**

9. a) Form a partial differential equation by eliminating the arbitrary function ϕ from $\phi(x^2 + y^2 + z^2, z^2 - 2xy) = 0$

(OR)

b) Solve the Cauchy's problem for $zp + q = 1$, where the initial data curve is $x_0 = \mu,\ y_0 = \mu,\ z_0 = \frac{\mu}{2}\ 0 \le \mu \le 1$

10. a) Solve $x(x^2 + 3y^2)p - y(3x^2 + y^2)q = 2z(y^2 - x^2)$

(OR)

b) Find the equation of the integral surface of the differential equation $2y(z - 3)p + (2x - z)q = y(2x - 3)$, which pass through the circle $z = 0, x^2 + y^2 = 2x$

11. a) Show that the equation $z = px + qy$ is compatible with any equation $f(x, y, z, p, q) = 0$ which is homogeneous equation in x, y, z

(OR)

b) Find the complete integral of $(x^2 + y^2)(p^2 + q^2) = 1$

12. a) Find complete integral of $2p_1x_1x_3 + 3p_2{x_3}^2 + {p_2}^2p_3 = 0$

(OR)

b) Solve $p^2 + q^2 = k^2$, by Jacobi's method

13. a) Find the Fourier series for $f(x)$ define by $f(x) = x\ for\ 0 < x < 1$ and $f(x) = 1 - x\ for\ 1 < x < 2$. Deduce $\frac{1}{1^2} + \frac{1}{3^2} + \frac{1}{5^2} + \cdots = \frac{\pi^2}{8}$

(OR)

b) Apply Parsvel's identity to the function $f(x) = x,\ -\pi \le x \le \pi$ and deduce that $\frac{\pi^2}{6} = \frac{1}{1^2} + \frac{1}{2^2} + \frac{1}{3^2} + \cdots + \frac{1}{n^2} + \cdots$

ADIKAVI NANNAYA UNIVERSITY, RAJAMAHENDRAVARAM

B.A./B.Sc., FIFTH SEMESTER MATHEMATICS MODEL PAPER

7C: NUMBER THEORY

(w. e. f. 2020-21 admitted batch)

TIME: 3hrs MAX.MARKS:75

SECTION- A

Answer any **FIVE** questions. Each question carries 5 marks. 5 X 5 = 25 Marks

1. If a prime p divides ab then $p/a \ or \ p/b$
2. If $n \geq 1$ then log n = $\sum_{d/n} \wedge (d)$
3. If both g and f *g are multiplicative then f is also multiplicative
4. Show that for $x \geq 1$, $\sum_{n \leq x} \mu(n) \left[\frac{x}{n}\right] = 1$
5. Show that for $x \geq 2$, $\sum_{p \leq x} \left[\frac{x}{p}\right] \log p = x \log x + O(x)$ where the sum is extended over all primes $\leq$ x.
6. For any integer a and any prime p then Prove that $a^p \equiv a \ (mod \ p)$
7. If (a, m) = 1 then prove that the linear congruence ax ≡ b (mod m) has exactly one solution.
8. For every odd prime p, $(s/p) = \ (-1)^{p^2-1/8} = \begin{cases} 1 \ if \ p \equiv \pm 1 (mod 8) \\ -1 \ if \ p \ \equiv \pm 3 (mod \ 8) \end{cases}$

SECTION-B

Answer any **FIVE** questions. Each question carries 10 marks. 5 X 10 = 50 Marks

9(a). State and prove fundamental theorem of arithmetic.

OR

9(b). State and prove the division algorithm.

10(a). If $n \geq 1$ then $\phi(n)$ = $\sum_{d/n} \mu(d) \frac{n}{d}$

OR

10(b). State and prove Mobius inversion formula

11(a). State and prove Eulers summation formula

OR

11(b). For $x > 1$, $\sum_{n \leq x} \Phi(n) = \frac{3}{\Pi^2}\, x^2 + O(x \log x)$

12(a). State and prove Lagrange's theorem

OR

12(b). State and prove Chinese remainder theorem

13(a). State and prove Gauss lemma

OR

13(b). State and prove Quadratic Reciprocal Law

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Andhra Pradesh State Council of Higher Education : Hyderabad

Foundation Courses under CBCS; Revised Syllabi

For All Degree Programmes

w.e.f. 2015-16 (Revised in May 2016)

As a part of curriculum upgradation, Semester and CBCS systems were introduced in all affiliated colleges in Andhra Pradesh from 2015-16. As an effective part of the overall curriculum, Foundation Courses were introduced with an aim to prepare students in the required basic skills and values in diverse areas. Hence, courses covering a broad spectrum were introduced. The following are the revised syllabi of the ten Foundation Courses, each with 30 teaching hours per semester and worth 2 credits. They were spread in the first four semesters.

Sno	Foundation Course	Sem	Hrs/ Week	Total Hrs	Credits	Marks
1	Human Values and Professional Ethics	I	2	30	2	50
2	Environmental Studies	I	2	30	2	50
3	Information and Communication Technology (ICT) – 1	II	2	30	2	50
4	Communication and Soft Skills (CSS)-1	II	2	30	2	50
5	Information and Communication Technology (ICT) – 2	III	2	30	2	50
6	Communication and Soft Skills (CSS)-2	III	2	30	2	50
7	Communication and Soft Skills (CSS)-3	IV	2	30	2	50
8	Analytical Skills	IV	2	30	2	50
9	Entrepreneurship	IV	2	30	2	50
10	Leadership Education	IV	2	30	2	50

The objective of the foundation courses is to create awareness among students and train them in the skills of the course concerned. Hence, teaching learning may be focused, and limited to the hours prescribed.

Foundation Course – 1

I. HUMAN VALUES AND PROFESSIONAL ETHICS
Common for BA/BCom/BSc/BBA/BCA Programmes

I Semester (Total 30 Hrs)

Unit-I : Introduction to Value Education

1. Value Education, Definition, Concept and Need for Value Education
2. The Content and Process of Value Education
3. Self-Exploration as a means of Value Education
4. Happiness and Prosperity as parts of Value Education

Unit-II : Harmony in the Human Being

1. Human Being is more than just the Body
2. Harmony of the Self ('I') with the Body
3. Understanding Myself as Co-existence of the Self and the Body
4. Understanding Needs of the Self and the Needs of the Body

Unit-III : Harmony in the Family and Society and Harmony in the Nature

1. Family as a basic unit of Human Interaction and Values in Relationships
2. The Basics for respect and today's Crisis : Affection, Care, Guidance, Reverence, Glory, Gratitude and Love
3. Comprehensive Human Goal : The Five dimensions of Human Endeavour

Unit-IV : Social Ethics

1. The Basics for Ethical Human conduct
2. Defects in Ethical Human Conduct
3. Holistic Alternative and Universal order
4. Universal Human Order and Ethical Conduct

Unit-V : Professional Ethics

1. Value Based Life and Profession
2. Professional Ethics and Right Understanding
3. Competence in Professional Ethics
4. Issues in Professional Ethics – The Current scenario
5. Vision for Holistic Technologies, Production System and Management Models

Reference Books :

1. A.N.Tripaty, Human Values, New Age International Publishers, 2003
2. Bajpai.B.L., Indian Ethos and Modern Management, New Royal Book Co., Lucknow, Reprinted, 2004
3. Bertrand Russell, Human Society in Ethics and Politics
4. Corliss Lamont, Philosophy of Humanism
5. Gaur.R.R., Sangal.R, Bagaria.G.P., A Foundation Course in Value Education, Excel Books, 2009
6. Gaur.R.R., Sangal.R, Bagaria.G.P., Teacher's Manual, Excel Books, 2009
7. I.C.Sharma, Ethical Philosophy of India, Nagin & Co., Julundhar
8. Mortimer.J.Adler, What Man has Made of Man
9. R.Subramanian, Professional Ethics, Oxford University Press
10. Text Book for Intermediate Ethics and Human Values, Board of Intermediate Education & Telugu Academy, Hyderabad
11. William Lilly, Introduction to Ethics, Allied Publishers

Foundation Course – 2

ENVIRONMENTAL STUDIES

Common for BA/BCom/BSc/BBA/BCA Programmes

Semester – I (Total 30 Hours)

Unit-I : Natural Resources: 6 Hrs

Definition, scope and importance. Need for public awareness.

Brief description of;

- Forest recourses: Use and over-exploitation. Deforestation; timber extraction, mining, dams. Effect of deforestation environment and tribal people
- Water resources: Use and over–utilization. Effects of over utilisation of surface and ground water. Floods, drought.
- Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources.
- Food resources: World food problems, Effects of modern agriculture; fertilizer-pesticide, salinity problems.
- Energy resources: Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources.
- Land resources: Land as resources, land degradation, man induced landslides, soil erosion and desertification

Unit-II : Ecosystems, Biodiversity and its conservation 6 Hrs

- Concept of an ecosystem
- Structure and function of an ecosystem
- Producers, consumers and decomposers
- Food chains, food webs and ecological pyramids
- Characteristic features of the following ecosystems:-

Forest ecosystem, Desert ecosystem, Aquatic ecosystem.

- Value of biodiversity: Consumptive use, productive use. Biodiversity in India.
- Threats to biodiversity: habitat loss, poaching of wildlife, man wildlife conflicts.
- Endangered and endemic species of India
- Conservation of biodiversity

Unit-III : Environmental Pollution 6 Hrs

- Definition
- Causes, effects and control measures of :-
  a. Air pollution
  b. Water pollution

c. Soil pollution
d. Noise pollution

- Solid waste management; Measures for safe urban and industrial waste disposal
- Role of individual in prevention of pollution
- Disaster management: Drought, floods and cyclones

Unit-IV : Social Issues and the Environment **6 Hrs**

- From Unsustainable to Sustainable development
- Water conservation, rain water harvesting, watershed management.
- Climate change, global warming, ozone layer depletion,
- Environment protection Act
- Wildlife Protection Act, Forest Conservation Act

Unit-V : Human Population and the Environment **6 Hrs**

- Population explosion, impact on environment.
- Family welfare Programme
- Environment and human health
- Women and Child Welfare
- Value Education
- Role of Information Technology in Environment and humanhealth.

Reference Books :

1. Environmental Studies by Dr.M.Satyanarayana, Dr.M.V.R.K.Narasimhacharyulu, Dr.G. Rambabu and Dr.V.VivekaVardhani, Published by Telugu Academy, Hyderabad.
2. Environmental Studies by R.C.Sharma, Gurbir Sangha, published by Kalyani Publishers.
3. Environmental Studies by Purnima Smarath, published by Kalyani Publishers.

Foundation Course – 3

INFORMATION & COMMUNICATION TECHNOLOGY –1 (ICT-1)
Computer Fundamentals and Office Tools

Common for all DegreeProgrammes

II Semester

(30 Hours of Teaching Learning including Lab)

Unit-I:

Basics of Computers : Definition of a Computer - Characteristics and Applications of Computers – Block Diagram of a Digital Computer – Classification of Computers based on size and working – Central Processing Unit – I/O Devices.

Unit-II:

Primary, Auxiliary and Cache Memory – Memory Devices. Software, Hardware, Firmware and People ware – Definition and Types of Operating System – Functions of an Operating System – MS-DOS – MS Windows – Desktop, Computer, Documents, Pictures, Music, Videos, Recycle Bin, Task Bar – Control Pane.

Unit-III:

MS-Word

Features of MS-Word – MS-Word Window Components – Creating, Editing, Formatting and Printing of Documents – Headers and Footers – Insert/Draw Tables, Table Auto format – Page Borders and Shading – Inserting Symbols, Shapes, Word Art, Page Numbers, Equations – Spelling and Grammar – Thesaurus – Mail Merge

Unit-IV:

MS-PowerPoint

Features of PowerPoint – Creating a Blank Presentation - Creating a Presentation using a Template - Inserting and Deleting Slides in a Presentation – Adding Clip Art/Pictures - Inserting Other Objects, Audio, Video - Resizing and Scaling of an Object – Slide Transition – Custom Animation

Unit-V:

MS-Excel

Overview of Excel features – Creating a new worksheet, Selecting cells, Entering and editing Text, Numbers, Formulae, Referencing cells – Inserting Rows/Columns –Changing column widths and row heights, auto format, changing font sizes, colors, shading.

Reference Books:

1. Fundamentals of Computers by ReemaThareja, Publishers : Oxford University Press, India

2.Fundamentals of Computers by V.Raja Raman, Publishers : PHI

3. Microsoft Office 2010 Bible by John Walkenbach, Herb Tyson, Michael R.Groh and FaitheWempen, Publishers : Wiley

Foundation Course - 5

INFORMATION & COMMUNICATION TECHNOLOGY –2 (ICT-2)
Internet Fundamentals and Web Tools

Common for BA / BCom / B Sc / BBA Programmes

III Semester

(30 Hours of Teaching Learning including Lab)

Unit-I :

Fundamentals of Internet : Networking Concepts, Data Communication – Types of Networking, Internet and its Services, Internet Addressing – Internet Applications – Computer Viruses and its types – Browser –Types of Browsers.

Unit-II:

Internet applications: Using Internet Explorer, Standard Internet Explorer Buttons, Entering a Web Site Address, Searching the Internet – Introduction to Social Networking: twitter, tumblr, Linkedin, facebook, flickr, skype, yelp, vimeo, yahoo!, google+, youtube, WhatsApp, etc.

Unit-III :

E-mail : Definition of E-mail - Advantages and Disadvantages – UserIds, Passwords, Email Addresses, Domain Names, Mailers, Message Components, Message Composition, Mail Management,Email Inner Workings.

Unit IV:

WWW- Web Applications, Web Terminologies, Web Browsers,URL – Components of URL, Searching WWW – Search Engines and Examples

Unit-III :

Basic HTML: Basic HTML – Web Terminology – Structure of a HTML Document – HTML, Head and Body tags – Semantic and Syntactic Tags – HR, Heading, Font, Image and Anchor Tags –Different types of Lists using tags – Table Tags, Image formats – Creation of simple HTML Documents.

Reference Books :

1. In-line/On-line : Fundamentals of the Internet and the World Wide Web, 2/e - by Raymond Greenlaw and Ellen Hepp, Publishers : TMH

Foundation courses 4, 6 & 7

COMMUNICATION SKILLS AND SOFT SKILLS

(Three papers spread over three Semesters)

(Each Paper: Total 30 hours of Teaching Learning)

The course helps the student hone their four skills – listening, speaking, reading, and writing – and also initiates them into the fifth skill, "thinking," in English. The learner-friendly material and the task-based activities enhance their communicative competence. The course focuses on all the four areas of knowledge and skill that constitute Communicative Competence: Linguistic/Grammatical Competence, Sociolinguistic Competence, Discourse Competence, and Strategic Competence. It also aims at equipping the student with a wide range of sub-skills: understanding gist in listening; skimming and scanning in reading; pronunciation andintonation, fluency, accuracy, and appropriacy in speaking; and organizational and editing skills in writing. In addition, the course helps the student acquire knowledge of soft skills. Thus the three-semester course helps the learner in their personal life as well as their professional life. The efficacy of the course largely depends on continuous and consistent practice by the students in and outside the classroom. Therefore, the designed content and the modules thereof provide ample scope for activity based learning. The teacher shall ensure the conduct of activity in the classroom meticulously as per the syllabus.

Foundation Course - 4

COMMUNICATION SKILLS AND SOFT SKILLS-1 (CSS -1)

COURSE CONTENT(30 hours)

Vocabulary is considered the key to communication and it plays a great role for learners in acquiring a language. The first unit, therefore, is on the different aspects of vocabulary.Since English is a predicate-oriented language, there are two units on grammar focusing on the verb phrase.Listening and speaking are the two receptive skills. Listening is the basic skill of communication, and reading helps a person refine their writing skills. Unit IV and Unit V are on listening and reading respectively.

Unit I: Vocabulary Building

1a. Prefixes and Suffixes
1b. Conversion
1c. Compounding
1d. Analogy

2. One-Word Substitutes
3. Words Often Confused
4. Synonyms and Antonyms
5. Phrasal Verbs

Unit II: Grammar - 1

1. Types of Verbs
2. Subject-Verb Agreement

Unit III: Grammar - 2

1. Meanings of Modals
2. Tense (Present and Past) and Aspect
3. The Several Possibilities for Denoting Future Time
4. Articles and Prepositions

Unit IV: Listening Skills

1. The Importance of Listening
2. Types of Listening
3. Barriers/Obstacles to Effective Listening
4. Strategies for Effective Listening

Unit V: Reading Skills

1. Skimming
2. Scanning
3. Intensive Reading and Extensive Reading
4. Comprehension

Foundation Course - 6

COMMUNICATION SKILLS AND SOFT SKILLS-2 (CSS -2)

COURSE CONTENT(30 hours)

CSS 02 aims at improving the speaking skills of the learner. For many learners of English, the sound-spelling relationship of the language appearsanarchic. Another problem many Indian learners face is English word accent. Unit I and Unit II help learners overcome these problems to a great extent. The remaining units are on the two productive skills, speaking and writing. The techniques of day-to-day conversations and the important characteristics of interviews and GDs presented in this course strengthen the learner's speaking skills. The last unit presents various aspects of presentation in writing.

Unit I: Pronunciation - 1

The Sounds of English

Unit II: Pronunciation – 2

1. Word Accent
2. Intonation

Unit III: Speaking Skills -1

1. Conversation Skills
2. Interview Skills
3. Presentation Skills
4. Public Speaking

Unit IV: Speaking Skills -2

1. Role Play
2. Debate
3. Group Discussion

Unit V: Writing Skills

1. Spelling
2. Punctuation
3. Information Transfer
    - Tables
    - Bar Diagrams
    - Line Graphs
    - Pie Diagrams
    - Flow Charts
    - Tree Diagrams
    - Pictures

Foundation Course -7

COMMUNICATION SKILLS AND SOFT SKILLS-3 (CSS -3)

COURSE CONTENT(30 hours)

A current axiom is that hard skills will get a person an interview, but soft skills will get that person the job. Unit I of the course is on soft skills, which are absolutely necessary in the global job market. Writing is considered the most difficult of all the skills. Units II to V help the learner improve their writing skills, especially academic/formal writing.

Unit I: Soft Skills

1. Positive Attitude
2. Body Language
3. SWOT/SWOC Analysis
4. Emotional Intelligence
5. Netiquette

Unit II: Paragraph Writing

1. Paragraph Structure
2. Development of Ideas

Unit III: Paraphrasing and Summarizing

1. Elements of Effective Paraphrasing
2. Techniques for Paraphrasing
3. What Makes a Good Summary?
4. Stages of Summarizing

Unit IV: Letter Writing

1. Letter Writing (Formal and Informal)
2. E-correspondence

Unit V:

1. Resume and CV
2. Cover Letter

SEMESTER-END EXAMINATION

Pattern of the Question Paper for CSS 01

Time: 2 Hours **Maximum Marks: 50**

Part - A

1. Comprehension - 5 Marks(Five Multiple Choice Questions)

Part - B

2. Objective Type Questions - 20 Marks (Twenty Multiple Choice Questions)

Part - C

3. One Word Answers - 10 Marks (Ten Questions)

Part - D

4. One Sentence Answers - 10 Marks (Five Questions)

Part - E

5. Matching - 5 Marks (5=6)

Reference Books:

Commissionerate of Collegiate Education, Government of Andhra Pradesh (2015) *JKC -Communication Skills and Soft Skills*: *Student's Book*

Sethi, J., and P.V. Dhamija (1999) *A Course in Phonetics and Spoken English* New Delhi: Prentice-Hall of India

Daniel Jones (2011)*English Pronouncing Dictionary* (18th Edition) Ed. Peter Roach, Jane Setter, and John Esling

Quirk, Randolph and Sydney Greenbaum (1973) *A University Grammar of English*. Harlow: Longman. Chapters 2, 3, and 7

White, Goodith (2010) *Listening (Resource Book for Teachers)*. Oxford University Press

Nageshwar Rao and Rajendra P. Das (2009) *Communication Skills*. Mumbai: Himalaya Publishing House

Burton, S.H. (1983) *Mastering English Language*. The Macmillan Press Limited Chapter 3: Comprehension

Grellet, Francoise (2007) *Developing Reading Skills*. Cambridge University Press

Roberts, Rachael, Joanne Gakonga, and Andrew Preshous (2004) *IELTS Foundation: Student's Book*. Oxford: Macmillan Education

Roberts, Rachael, Joanne Gakonga, and Andrew Preshous (2004) *IELTS Foundation: Study Skills*. Oxford: Macmillan Education

Foundation Course - 8

ANALYTICAL SKILLS

Syllabus, Forall Degree Programmes.

w.e.f. 2015-16 (Revised in April, 2016)

Semester – IV (Total 30 Hrs)

UNIT – 1

Data Analysis:-The data given in a Table, Graph, Bar Diagram, Pie Chart, Venn diagram or a passage is to be analyzed and the questions pertaining to the data are to be answered.

UNIT – 2

Sequence and Series:- Analogies of numbers and alphabets completion of blank spaces following the pattern in A:b::C: d relationship odd thing out; Missing number in a sequence or a series.

UNIT - 3

Arithmetic ability:-Algebraic operations BODMAS, Fractions, Divisibility rules, LCM&GCD (HCF).

Date, Time and Arrangement Problems: Calendar Problems, Clock Problems, Blood Relationship.

UNIT - 4

Quantitative aptitude:- Averages, Ration and proportion, Problems on ages, Time-distance – speed.

UNIT – 5

Business computations:- Percentages, Profit &loss, Partnership, simple compound interest.

Reference Books:

1. Quantitative Aptitude for Competitive Examination by R S Agrawal, S.Chand publications.
2. Quantitative Aptitude and Reasoning by R V Praveen, PHI publishers.
3. Quantitative Aptitude : Numerical Ability (Fully Solved) Objective Questions, Kiran Prakashan, Pratogitaprakasan, Kic X, Kiran Prakasan publishers
4. Quantitative Aptitude for Competitive Examination by Abhijit Guha, Tata Mc Graw hill publications.
5. Old question Paper of the exams conducted by (Wipro, TCS, Infosys, Etc) at their recruitment process, source-Internet.

Note: The teachers/students are expected to teach /learn the contents by not converting them to the problems of algebra at the maximum possible extent, but to use analytical thinking to solve the exercises related to those topics. This is the main aim of the course.

Foundation Course - 9

ENTREPRENEURSHIP

Syllabus, Forall Degree Programmes.

w.e.f. 2015-16 (Revised in April, 2016)

Semester – IV (Total 30 Hrs)

Unit-I: Entrepreneurship: Entrepreneur characteristics – Classification of Entrepreneurships – Incorporation of Business – Forms of Business organizations –Role of Entrepreneurship in economic development – Start-ups.

Unit-II: Idea Generation and Opportunity Assessment: Ideas in Entrepreneurships – Sources of New Ideas – Techniques for generating ideas – Opportunity Recognition – Steps in tapping opportunities.

Unit-III: Project Formulation and Appraisal : Preparation of Project Report –Content; Guidelines for Report preparation – Project Appraisal techniques –economic – Steps Analysis; Financial Analysis; Market Analysis; Technical Feasibility.

Unit-iv: Institutions Supporting Small Business Enterprises: Central level Institutions: NABARD; SIDBI, NIC, KVIC; SIDIO; NSIC Ltd; etc. – state level Institutions –DICs- SFC- SSIDC- Other financial assistance.

Unit-V: Government Policy and Taxation Benefits: Government Policy for SSIs- tax Incentives and Concessions –Non-tax Concessions – Rehabilitation and Investment Allowances.

Reference Books:

1. Arya Kumar, Entrepreneurship, Pearson, Delhi, 2012.

2. Poornima M.CH., Entrepreneurship Development –Small Business Enterprises, Pearson, Delhi,2009

3. Michael H. Morris, ET. al., Entrepreneurship and Innovation, Cen gage Learning, New Delhi, 2011

4. KanishkaBedi, Management and Entrepreneurship, Oxford University Press, Delhi, 2009

5. Anil Kumar, S., ET.al., Entrepreneurship Development, New Age International Publishers, New Delhi, 2011

6. Khanka, SS, Entrepreneurship Development, S. Chand, New Delhi.

7. Peter F. Drucker,Innovation and Entrepreneurship.

8. A.Sahay, M. S. Chhikara, New Vistas of Entrepreneurship: Challenges &Opportunities.

Foundation Course - 10

LEADERSHIP EDUCATION

Syllabus, Forall Degree Programmes.

w.e.f. 2015-16 (Revised in April, 2016)

Semester – IV (Total 30 Hrs)

1. Organisation – Management – Leadership –Meaning and Significance – Different theories – Trait Theory, Blake &Mountan Theory – Other functions of Management.
2. Behavioral Concepts – Individual Behaviour – Perception – Learning – Attitude Formation and Change – Motivation – Theories of Motivation – Personality Development.
3. Interpersonal Behaviour – Communication – Leadership – Influencing Relations – Transactional Analysis.
4. Group Dynamics – Roles – Morale – Conflict – Groups – Inter-Group Behaviour – Inter-Group Collaboration and Conflict Management.
5. Team Building and Management – Developing team resources – Designing team – Participation and Repercussion – Team building activities.

Reference Books:

1. Fred Luthans, "Organizational Behaviour", Tata McGraw Hill Publishing Co., New Delhi.
2. Robins, Stephen P, "OrganisationalBehaviour", 9th Edition, Prentice Hall of India, New Delhi.
3. Koontz and O "Donnell", Essentials of Management,Tata McGraw Hill Publishing Co., New Delhi, 2000.
4. Keith Davis, "Human Behaviour at Work", Tata McGraw Hill Publishing Co., New Delhi.
5. Aswathappa,"OrgnizationalBehaviour", Himalaya Publishing House, Mumbai
6. Stoner Freeman, "Management", Prentice Hall of India, New Delhi.

ADIKAVI NANNAYA UNIVERSITY

RAJAMAHENDRAVARAM

CBCS / Semester System

(W.e.f. 2016-17 Admitted Batch)

I Semester Syllabus

ENGLISH

(Common for All UG Programs)

Instructional Objectives

- To provide exposure to the learners in Good Prose texts and Poems.
- To expose the learners to value based ideas.
- To enhance their language skills especially in the areas of grammar and pronunciation.
- To provide them pre-listening and post listening activities to strengthen their language.

Unit-I: Prose

1. The Knowledge Society : A.P. J. Abdul Kalam (from his '*Ignited Minds'*)
2. The Language of African Literature: Ngugi Wa Thiong'o (from *his Decolonizing the Mind*)

Unit-II: Poetry

1. The Road Not Taken : Robert Frost
2. Night of the Scorpion: Nissim Ezekiel

Unit-III: Short Story

1. The Lost Child : Mulk Raj Anand
2. The Loaded Dog : Henry Lawson

Unit-IV: One - Act Play

The Merchant of Venice (Court Scene – Act IV Scene -1): William Shakespeare:

Unit-V: Language Activity

1. Pronunciation
2. Spellings
3. Prepositions / Articles
4. Tense Forms
5. Framing Questions
6. Vocabulary

ADIKAVI NANNAYA UNIVERSITY
CBCS/SEMESTER SYSTEM
SEMESTER- II
GENERAL ENGLISH (FOR ALL UG COURSES)
(w.e.f. 2016-17 ADMITTED BATCH)

Unit – I

PROSE

1. J. B.S Haldane: The Scientific Point of View
2. A.G. Gardiner : On Shaking Hands

Unit - II

POETRY

1. John Keats: Ode to Autumn
2. KishwarNaheed : I am not that Woman (from *An Anthology of Commonwealth Poetry* edited by C.D. Narasimhaiah)

Unit –III

SHORT STORY

1. Ruskin Bond : The Boy Who Broke the Bank
2. R. K. Narayan : Half a Rupee Worth

Unit – IV

ONE ACT PLAY

Anton Chekhov: The Proposal

Unit – V

LANGUAGE ACTIVITY

1. Classroom and Laboratory Activities
   i. Transformation of Sentences (Voice, Speech and Degrees)
   ii. Dialogue Practice (Oral)
   iii. Listening Comprehension

2. Classroom Activity
   i. Guided Composition
   ii. Dialogue Writing
   iii. Reading Comprehension

ADIKAVI NANNAYA UNIVERSITY

RAJAMAHENDRAVARAM

CBCS / Semester System

(From 2015-16 Admitted Batch)

III Semester Syllabus

ENGLISH

(Common for All UG Programs)

Instructional Objectives

- Comprehend the information stated in the text.
- Improve the skills of drawing inferences.
- Understand and use phrases in writing a paragraph.
- Produce a coherent and cohesive piece of text.
- Improve the writing skills of learners.

Unit – I: Prose

1. Shyness My Shield by M.K. Gandhi (*The Story of My Experiments with Truth)*
2. Why People Really Love Technology: An Interview with Genevieve Bell by Alexis C. Madrigal

Unit – II: Poetry

1. Gabriel Okara: Once upon a Time
2. Seamus Heaney: Digging

Unit – III: Short Story

1. Jhumpa Lahiri: The Interpreter of Maladies
2. Shashi Deshpande: The Beloved Charioteer

Unit – IV: One Act Play

1. Kanyasulkam (Acts I & II): Gurajada Appa Rao *(*Translated by C. Vijayasree).

Unit – V: Language Activity

1. Expansion of an idea
2. Reporting for the Media
3. Note Making
4. Short Notices / Signs
5. One word substitutes

Subject to approval

TELUGU 1 SEM.pdf

TELUGU_2 sem.pdf

telugu 3rd sem.pdf

Andhra Pradesh State Council of Higher Education

General Telugu Syllabus for B.A/ B.Com/B.Sc., Courses Under CBCS

W.e.f. 2015-16 (Revised in April - 2016)

SEMESTER - I

I ప్రాచీన కవిత్వం:

(అ) సమయం – గంగాశంతనుల కథ
ఆంధ్రమహాభారతం–ఆదిపర్వం–పాండవ ఆశ్వాసం (120–165)
"సరవరుడగు శంతనునకు" నుండి "దివ్య భూషణాంచిత" వరకు

(ఆ) లక్ష్మణ – ద్రౌపది పరిదేవనం – ఆంధ్రమహాభారతం – ఉద్యోగపర్వం – తృతీయ ఆశ్వాసం – (100–125)
"ధర్మనందను పలుకులు" నుండి "అని యూబిలగ బలికిన" వరకు

II ఆధునిక కవిత్వం

(అ) గురజాడ – కన్యక

(ఆ) శ్రీశ్రీ – దేశచరిత్రలు

III కథానికలు

(అ) పాపినేని శివశంకర్ – చింతల తోపు

(ఆ) బండి నారాయణస్వామి – సాపకూడు

IV వ్యాకరణం

(అ) సంధులు – సవర్ణదీర్ఘ, గుణ, వృద్ధి, యణాదేశ, త్రిక, గ.స.డ.ద.వాదేశ, రుగాగమ, టుగాగమ, ఱుమేడిగ, అత్వ, ఇత్వ, ఉత్వ సంధులు.

(ఆ) సమాసాలు – తత్పురుష, కర్మధారయ, ద్వంద్వ, ద్విగు, బహువ్రీహి.

(ఇ) అక్షర దోషాలు – దోషాలు సరిదిద్ది సరి రూపాలు రాయాలి.

విద్యార్థి కృత్యాలు:

1. శ్రీశ్రీ కవిత చేత చరిత్రలను సంబంధించిన వీరదీలు సేకరించండి.
2. ముత్యాల సరాలు ఛందస్సులో రచనలు చేసే ప్రయత్నం చేయండి.
3. ఆనాటి ద్రౌపది పరిస్థితిని ప్రస్తుత సమాజ పరిస్థితికి ఆన్వయించండి.

(పైన సూచించిన విద్యార్థి కృత్యాలు కొన్ని ఉదాహరణలు మాత్రమే. ఇటువంటివి మరిన్ని ప్రయత్నించగలరు.)

07-09-2016 Syllabus approved
N. Shivasundari
07/09/16

Subject to approval

ADIKAVI NANNAYA UNIVERSITY

CBCS/SEMESTER SYSTEM

GENERAL TELUGU FOR ALL UG COURSES

W.E.FROM 2016-17 ADMITTED BATCH

SEMESTER - II

I. ప్రాచీన కవిత్వం:

(అ) ధూర్జటి – సాయుజ్యము

శ్రీకాళహస్తి మాహాత్మ్యము – ద్వితీయాశ్వాసం (109-139)

శ్రీశాంబుసనొక్క .... నుండి పన్నగంబు .... వరకు

(ఆ) చేమకూర వేంకటకవి – సుభద్రా పరిణయం

విజయ విలాసం – వెన ఆశ్వాసం – (93-139)

"తనయుని పెండ్లికేగ వలె ధాత్రికి"నుండి

"శేరెక్కి దంపతులరుగ" వరకు.

II అధునిక కవిత్వం

(అ) జాషువా – పిరదౌసి లేఖ

("ఆ సుల్తాను" ... నుండి "అనువు లిఖించె" వరకు)

(ఆ) గెడ్డాపు సత్యం – 'చెట్టు' ఖండిక 1 నుండి 25 పద్యాలు

("శ్రీనిధానం" నుండి "మహిమ నీది" పద్యం వరకు)

(కవిత్వ వైజయంతి వద్ద సంబలనం నుండి)

III కథానికలు

(అ) కేతు విశ్వనాథ రెడ్డి – నమ్ముకున్న నేల

(ఆ) ముప్పాళ్ళ రంగనాయకమ్మ – అమ్మకు ఆదివారం లేదా?

IV నవల

డా॥ వి.ఆర్. రాసాని – చతుకాల

విద్యార్థి కృత్యాలు:

1. సుభద్ర వివాహ ఆచారాలు – తనాటి వివాహ ఆచారాలు తులనాత్మకంగా పరిశీలించండి.
2. మీకు నచ్చిన ఒక చెట్టుకు సంబంధించిన పూర్తి సమాచారాన్ని సేకరించండి.
3. మీ ఇంటి సేవర్యంలో అమ్మలకు ఆదివారం ఉందో లేదో ఒక సంఘటన ఆధారంగా కథ రాయండి.
4. నమ్ముకున్న నేల కథలోని రైతుల గాథలను చిత్రాలతో దినపత్రికకు ఆధారంగా సేకరించండి.

N. Thripurasundari

Andhra Pradesh State Council of Higher Education

General Telugu Syllabus for B.A/ B.Com/B.Sc., Courses Under CBCS

W.e.f. 2015-16 (Revised in April - 2016)

SEMESTER - III

I. ప్రాచీన కవిత్వం:

(అ) పోతన – వామనావతారం
ఆంధ్రమహాభాగవతం – ఎనిమిదవ స్కంధం (582–621)
("కులమునీ రాజ్యము" నుండి "రవిబింబంబుపమింప" వరకు)

(ఆ) కొఱవిగోపరాజు – శాలివాహన విజయం
సింహాసన ద్వాత్రింశిక – ఒకటవ అధ్యాయం (115–165)
("సజ్జన దానధర్మ" నుండి "ఇట్లు విక్రమార్కుడీల్గిన" వరకు)

II అధునిక కవిత్వం

(అ) కుసుమ ధర్మన్న – హరిజన శతకము (1–20)
"శ్రీహరిసుత నీదు" నుండి "నీకులంబిచారు" వరకు

(ఆ) రాయప్రోలు సుబ్బారావు – సంక్రాంతి సుందరము – మిత్రమండలిలోంచి – "అయిదు లక్షల అరవదేడులు" నుండి "మంగళము సంక్రాంతి సామికి" వరకు

III గద్యభాగం (వ్యాస సంపుటి)

(అ) ఆచార్య గుఱ్ఱంజాషువా కృపాచారి – తెలుగు భాష

(ఆ) ఆచార్య రాచపాళెం చంద్రశేఖర రెడ్డి – వ్యక్తిత్వ వికాసం

IV ఛందస్సు – అలంకారాలు

(అ) ఛందస్సు – ఉత్పలమాల, చంపకమాల, శార్దూలం, మత్తేభం, కందం, తేటగీతి, ఆటవెలది

(ఆ) అలంకారాలు – ఉపమ, రూపక, ఉత్ప్రేక్ష, స్వభావోక్తి, అతిశయోక్తి, అర్థాంతరన్యాస, దృష్టాంతం, శబ్దాలంకారాలు.

విద్యార్థి కృత్యాలు:

1. తెలుగు వారాలు, తిథులు, నక్షత్రాలు, సంవత్సరాల పేర్లు వేర్చుకోండి.
2. మీ వ్యక్తిత్వాన్ని మీరు ఏ విధంగా మెరుగుపరుచుకుంటున్నారో వ్యాసం రాయండి.
3. అంత్యానుప్రాసాలంకారంలో ఒక కవిత సొంతంగా రాయండి.

07-09-2016 Syllabus approved
N. Bhujanga Sundari
07/09/16

Subject to approval

TELUGU 1 SEM.pdf

TELUGU_2 sem.pdf

telugu 3rd sem.pdf

Andhra Pradesh State Council of Higher Education

General Telugu Syllabus for B.A/ B.Com/B.Sc., Courses Under CBCS

W.e.f. 2015-16 (Revised in April - 2016)

SEMESTER - I

I ప్రాచీన కవిత్వం:

(అ) సమయం – గంగాశంతనుల కథ
ఆంధ్రమహాభారతం–ఆదిపర్వం–పాండవ ఆశ్వాసం (120–165)
"సరవరుడగు శంతనునకు" నుండి "దివ్య భూషణాంచిత" వరకు

(ఆ) లక్ష్మణ – ద్రౌపది పరిదేవనం – ఆంధ్రమహాభారతం – ఉద్యోగపర్వం – తృతీయ ఆశ్వాసం – (100–125)
"ధర్మనందను పలుకులు" నుండి "అని యూబిలగ బలికిన" వరకు

II ఆధునిక కవిత్వం

(అ) గురజాడ – కన్యక

(ఆ) శ్రీశ్రీ – దేశచరిత్రలు

III కథానికలు

(అ) పాపినేని శివశంకర్ – చింతల తోపు

(ఆ) బండి నారాయణస్వామి – సాపకూడు

IV వ్యాకరణం

(అ) సంధులు – సవర్ణదీర్ఘ, గుణ, వృద్ధి, యణాదేశ, త్రిక, గ.స.డ.ద.వాదేశ, రుగాగమ, టుగాగమ, ఱుమేడిగ, అత్వ, ఇత్వ, ఉత్వ సంధులు.

(ఆ) సమాసాలు – తత్పురుష, కర్మధారయ, ద్వంద్వ, ద్విగు, బహువ్రీహి.

(ఇ) అక్షర దోషాలు – దోషాలు సరిదిద్ది సరి రూపాలు రాయాలి.

విద్యార్థి కృత్యాలు:

1. శ్రీశ్రీ కవిత చేత చరిత్రలను సంబంధించిన వీరదీలు సేకరించండి.
2. ముత్యాల సరాలు ఛందస్సులో రచనలు చేసే ప్రయత్నం చేయండి.
3. ఆనాటి ద్రౌపది పరిస్థితిని ప్రస్తుత సమాజ పరిస్థితికి ఆన్వయించండి.

(పైన సూచించిన విద్యార్థి కృత్యాలు కొన్ని ఉదాహరణలు మాత్రమే. ఇటువంటివి మరిన్ని ప్రయత్నించగలరు.)

07-09-2016 Syllabus approved
N. Shivasundari
07/09/16

Subject to approval

ADIKAVI NANNAYA UNIVERSITY

CBCS/SEMESTER SYSTEM

GENERAL TELUGU FOR ALL UG COURSES

W.E.FROM 2016-17 ADMITTED BATCH

SEMESTER - II

I. ప్రాచీన కవిత్వం:

(అ) ధూర్జటి – సాయుజ్యము

శ్రీకాళహస్తి మాహాత్మ్యము – ద్వితీయాశ్వాసం (109-139)

శ్రీశాంబుసనొక్క .... నుండి పన్నగంబు .... వరకు

(ఆ) చేమకూర వేంకటకవి – సుభద్రా పరిణయం

విజయ విలాసం – వెన ఆశ్వాసం – (93-139)

"తనయుని పెండ్లికేగ వలె ధాత్రికి"నుండి

"శేరెక్కి దంపతులరుగ" వరకు.

II అధునిక కవిత్వం

(అ) జాషువా – పిరదౌసి లేఖ

("ఆ సుల్తాను" ... నుండి "అనువు లిఖించె" వరకు)

(ఆ) గెడ్డాపు సత్యం – 'చెట్టు' ఖండిక 1 నుండి 25 పద్యాలు

("శ్రీనిధానం" నుండి "మహిమ నీది" పద్యం వరకు)

(కవిత్వ వైజయంతి వద్ద సంబలనం నుండి)

III కథానికలు

(అ) కేతు విశ్వనాథ రెడ్డి – నమ్ముకున్న నేల

(ఆ) ముప్పాళ్ళ రంగనాయకమ్మ – అమ్మకు ఆదివారం లేదా?

IV నవల

డా॥ వి.ఆర్. రాసాని – చతుకాల

విద్యార్థి కృత్యాలు:

1. సుభద్ర వివాహ ఆచారాలు – తనాటి వివాహ ఆచారాలు తులనాత్మకంగా పరిశీలించండి.
2. మీకు నచ్చిన ఒక చెట్టుకు సంబంధించిన పూర్తి సమాచారాన్ని సేకరించండి.
3. మీ ఇంటి సేవర్యంలో అమ్మలకు ఆదివారం ఉందో లేదో ఒక సంఘటన ఆధారంగా కథ రాయండి.
4. నమ్ముకున్న నేల కథలోని రైతుల గాథలను చిత్రాలతో దినపత్రికకు ఆధారంగా సేకరించండి.

N. Thripurasundari

Andhra Pradesh State Council of Higher Education

General Telugu Syllabus for B.A/ B.Com/B.Sc., Courses Under CBCS

W.e.f. 2015-16 (Revised in April - 2016)

SEMESTER - III

I. ప్రాచీన కవిత్వం:

(అ) పోతన – వామనావతారం
ఆంధ్రమహాభాగవతం – ఎనిమిదవ స్కంధం (582–621)
("కులమునీ రాజ్యము" నుండి "రవిబింబంబుపమింప" వరకు)

(ఆ) కొఱవిగోపరాజు – శాలివాహన విజయం
సింహాసన ద్వాత్రింశిక – ఒకటవ అధ్యాయం (115–165)
("సజ్జన దానధర్మ" నుండి "ఇట్లు విక్రమార్కుడీల్గిన" వరకు)

II అధునిక కవిత్వం

(అ) కుసుమ ధర్మన్న – హరిజన శతకము (1–20)
"శ్రీహరిసుత నీదు" నుండి "నీకులంబిచారు" వరకు

(ఆ) రాయప్రోలు సుబ్బారావు – సంక్రాంతి సుందరము – మిత్రమండలిలోంచి – "అయిదు లక్షల అరవదేడులు" నుండి "మంగళము సంక్రాంతి సామికి" వరకు

III గద్యభాగం (వ్యాస సంపుటి)

(అ) ఆచార్య గుఱ్ఱంజాషువా కృపాచారి – తెలుగు భాష

(ఆ) ఆచార్య రాచపాళెం చంద్రశేఖర రెడ్డి – వ్యక్తిత్వ వికాసం

IV ఛందస్సు – అలంకారాలు

(అ) ఛందస్సు – ఉత్పలమాల, చంపకమాల, శార్దూలం, మత్తేభం, కందం, తేటగీతి, ఆటవెలది

(ఆ) అలంకారాలు – ఉపమ, రూపక, ఉత్ప్రేక్ష, స్వభావోక్తి, అతిశయోక్తి, అర్థాంతరన్యాస, దృష్టాంతం, శబ్దాలంకారాలు.

విద్యార్థి కృత్యాలు:

1. తెలుగు వారాలు, తిథులు, నక్షత్రాలు, సంవత్సరాల పేర్లు వేర్చుకోండి.
2. మీ వ్యక్తిత్వాన్ని మీరు ఏ విధంగా మెరుగుపరుచుకుంటున్నారో వ్యాసం రాయండి.
3. అంత్యానుప్రాసాలంకారంలో ఒక కవిత సొంతంగా రాయండి.

07-09-2016 Syllabus approved
N. Bhujanga Sundari
07/09/16

Subject to approval

TELUGU 1 SEM.pdf

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telugu 3rd sem.pdf

Andhra Pradesh State Council of Higher Education

General Telugu Syllabus for B.A/ B.Com/B.Sc., Courses Under CBCS

W.e.f. 2015-16 (Revised in April - 2016)

SEMESTER - I

I ప్రాచీన కవిత్వం:

(అ) సమయం – గంగాశంతనుల కథ
ఆంధ్రమహాభారతం–ఆదిపర్వం–పాండవ ఆశ్వాసం (120–165)
"సరవరుడగు శంతనునకు" నుండి "దివ్య భూషణాంచిత" వరకు

(ఆ) లక్ష్మణ – ద్రౌపది పరిదేవనం – ఆంధ్రమహాభారతం – ఉద్యోగపర్వం – తృతీయ ఆశ్వాసం – (100–125)
"ధర్మనందను పలుకులు" నుండి "అని యూబిలగ బలికిన" వరకు

II ఆధునిక కవిత్వం

(అ) గురజాడ – కన్యక

(ఆ) శ్రీశ్రీ – దేశచరిత్రలు

III కథానికలు

(అ) పాపినేని శివశంకర్ – చింతల తోపు

(ఆ) బండి నారాయణస్వామి – సాపకూడు

IV వ్యాకరణం

(అ) సంధులు – సవర్ణదీర్ఘ, గుణ, వృద్ధి, యణాదేశ, త్రిక, గ.స.డ.ద.వాదేశ, రుగాగమ, టుగాగమ, ఱుమేడిగ, అత్వ, ఇత్వ, ఉత్వ సంధులు.

(ఆ) సమాసాలు – తత్పురుష, కర్మధారయ, ద్వంద్వ, ద్విగు, బహువ్రీహి.

(ఇ) అక్షర దోషాలు – దోషాలు సరిదిద్ది సరి రూపాలు రాయాలి.

విద్యార్థి కృత్యాలు:

1. శ్రీశ్రీ కవిత చేత చరిత్రలను సంబంధించిన వీరదీలు సేకరించండి.
2. ముత్యాల సరాలు ఛందస్సులో రచనలు చేసే ప్రయత్నం చేయండి.
3. ఆనాటి ద్రౌపది పరిస్థితిని ప్రస్తుత సమాజ పరిస్థితికి ఆన్వయించండి.

(పైన సూచించిన విద్యార్థి కృత్యాలు కొన్ని ఉదాహరణలు మాత్రమే. ఇటువంటివి మరిన్ని ప్రయత్నించగలరు.)

07-09-2016 Syllabus approved
N. Shivasundari
07/09/16

Subject to approval

ADIKAVI NANNAYA UNIVERSITY

CBCS/SEMESTER SYSTEM

GENERAL TELUGU FOR ALL UG COURSES

W.E.FROM 2016-17 ADMITTED BATCH

SEMESTER - II

I. ప్రాచీన కవిత్వం:

(అ) ధూర్జటి – సాయుజ్యము

శ్రీకాళహస్తి మాహాత్మ్యము – ద్వితీయాశ్వాసం (109-139)

శ్రీశాంబుసనొక్క .... నుండి పన్నగంబు .... వరకు

(ఆ) చేమకూర వేంకటకవి – సుభద్రా పరిణయం

విజయ విలాసం – వెన ఆశ్వాసం – (93-139)

"తనయుని పెండ్లికేగ వలె ధాత్రికి"నుండి

"శేరెక్కి దంపతులరుగ" వరకు.

II అధునిక కవిత్వం

(అ) జాషువా – పిరదౌసి లేఖ

("ఆ సుల్తాను" ... నుండి "అనువు లిఖించె" వరకు)

(ఆ) గెడ్డాపు సత్యం – 'చెట్టు' ఖండిక 1 నుండి 25 పద్యాలు

("శ్రీనిధానం" నుండి "మహిమ నీది" పద్యం వరకు)

(కవిత్వ వైజయంతి వద్ద సంబలనం నుండి)

III కథానికలు

(అ) కేతు విశ్వనాథ రెడ్డి – నమ్ముకున్న నేల

(ఆ) ముప్పాళ్ళ రంగనాయకమ్మ – అమ్మకు ఆదివారం లేదా?

IV నవల

డా॥ వి.ఆర్. రాసాని – చతుకాల

విద్యార్థి కృత్యాలు:

1. సుభద్ర వివాహ ఆచారాలు – తనాటి వివాహ ఆచారాలు తులనాత్మకంగా పరిశీలించండి.
2. మీకు నచ్చిన ఒక చెట్టుకు సంబంధించిన పూర్తి సమాచారాన్ని సేకరించండి.
3. మీ ఇంటి సేవర్యంలో అమ్మలకు ఆదివారం ఉందో లేదో ఒక సంఘటన ఆధారంగా కథ రాయండి.
4. నమ్ముకున్న నేల కథలోని రైతుల గాథలను చిత్రాలతో దినపత్రికకు ఆధారంగా సేకరించండి.

N. Thripurasundari

Andhra Pradesh State Council of Higher Education

General Telugu Syllabus for B.A/ B.Com/B.Sc., Courses Under CBCS

W.e.f. 2015-16 (Revised in April - 2016)

SEMESTER - III

I. ప్రాచీన కవిత్వం:

(అ) పోతన – వామనావతారం
ఆంధ్రమహాభాగవతం – ఎనిమిదవ స్కంధం (582–621)
("కులమునీ రాజ్యము" నుండి "రవిబింబంబుపమింప" వరకు)

(ఆ) కొఱవిగోపరాజు – శాలివాహన విజయం
సింహాసన ద్వాత్రింశిక – ఒకటవ అధ్యాయం (115–165)
("సజ్జన దానధర్మ" నుండి "ఇట్లు విక్రమార్కుడీల్గిన" వరకు)

II అధునిక కవిత్వం

(అ) కుసుమ ధర్మన్న – హరిజన శతకము (1–20)
"శ్రీహరిసుత నీదు" నుండి "నీకులంబిచారు" వరకు

(ఆ) రాయప్రోలు సుబ్బారావు – సంక్రాంతి సుందరము – మిత్రమండలిలోంచి – "అయిదు లక్షల అరవదేడులు" నుండి "మంగళము సంక్రాంతి సామికి" వరకు

III గద్యభాగం (వ్యాస సంపుటి)

(అ) ఆచార్య గుఱ్ఱంజాషువా కృపాచారి – తెలుగు భాష

(ఆ) ఆచార్య రాచపాళెం చంద్రశేఖర రెడ్డి – వ్యక్తిత్వ వికాసం

IV ఛందస్సు – అలంకారాలు

(అ) ఛందస్సు – ఉత్పలమాల, చంపకమాల, శార్దూలం, మత్తేభం, కందం, తేటగీతి, ఆటవెలది

(ఆ) అలంకారాలు – ఉపమ, రూపక, ఉత్ప్రేక్ష, స్వభావోక్తి, అతిశయోక్తి, అర్థాంతరన్యాస, దృష్టాంతం, శబ్దాలంకారాలు.

విద్యార్థి కృత్యాలు:

1. తెలుగు వారాలు, తిథులు, నక్షత్రాలు, సంవత్సరాల పేర్లు వేర్చుకోండి.
2. మీ వ్యక్తిత్వాన్ని మీరు ఏ విధంగా మెరుగుపరుచుకుంటున్నారో వ్యాసం రాయండి.
3. అంత్యానుప్రాసాలంకారంలో ఒక కవిత సొంతంగా రాయండి.

07-09-2016 Syllabus approved
N. Bhujanga Sundari
07/09/16

Subject to approval

Economics I Sem syllabus_1.pdf

Economics_IIsem_2016-17AB_2.pdf

Economics III Sem syllabus.pdf

Ecnomics_IVSem_2015-16AB.pdf

Economics_V_VI Semesters_2016-17_revised_web.pdf

ADIKAVI NANNAYA UNIVERSITY:: RAJAMAHENDRAVARAM

BA Economics Syllabus under CBCS

w.e.f. 2016-17 Admitted Batch

Structure of Syllabus

Table-1:

Semester	*Paper*	*Title*
Semester I (Core)	I	Micro Economics – Consumer Behavior
Semester II (Core)	II	Micro Economics - Production and Price theory
Semester III (Core)	III	Macro Economics - National Income, Employment and Money
Semester IV (Core)	IV	Macro Economics - Banking and International Trade
Semester V (Core)	V	Economic Development and Indian Economy
Semester V (Core)	VI	Indian and Andhra Pradesh Economy
Semester VI *Any one Paper from A,B,C,D,E F and G	VII – (A)	Agricultural Economics
	VII – (B)	Principles of Insurance
	VII – (C)	Financial Markets and Institutions
	VII – (D)	Rural Economics And Social Change
	VII – (E)	Entrepreneurship and Small Business Development
	VII – (F)	Public Finance
	VII – (G)	International Economics
Semester VI ** Any one Cluster from A, B, C, D and E	**Cluster Electives – (A) Agribusiness**	
	VIII	A-1: Agribusiness Environment in Andhra Pradesh
		A-2: Agricultural output Marketing
		A-3: Project Work.
	Cluster Electives – (B) Insurance Practice	
	VIII	B-1. Practice of General Insurance
		B-2. Agricultural Insurance
		B.-3 Project Work
	Cluster Electives – (C) Financial Markets	
	VIII	C-1: Stock Market operations
		C:-2 Securities Market
		C: -**3** Project Work
	Cluster Electives – (D) Rural Economy	
	VIII	D.-1 Rural Economy
		D-2 Rural Industrialization
		D.-3 Project Work
	Cluster Electives –(E) Entrepreneurship	
	VIII	E.-1 Industrial Economics
		E.-**2** Labour Economics
		E.-3 Project Work

*Student has to choose only one paper

** Stsudents are advised to choose Cluster (A) if they have chosen VII (A) and Choose Cluster (B) if they have chosen VII (B) etc. However, it is only suggestive.

ADIKAVI NANNAYA UNIVERSITY

RAJAMAHENDRAVARAM

CBCS / Semester System

(W.e.f. 2016-17 Admitted Batch)

B.A./B.Sc. ECONOMICS

I Semester Syllabus

Micro Economics – Consumer Behavior

Module -1

Nature, definition and scope of Economics - Wealth, Welfare, Scarcity and modern definitions.

Module -2

Methodology in Economics - Micro & Macro; Static and Dynamic analysis; Normative and positive science, Inductive & Deductive methods; Partial and general Equilibrium.

Module - 3

Utility analysis**:** - cardinal approach-The Law of diminishing Marginal utility- The Law of Equi-Marginal Utility- concept of consumer's surplus

Module - 4

Demand analysis - Law of Demand - Elasticity of Demand - Measurement of Elasticity of Demand - Price, Income & Cross Elasticities of Demand**.**

Module - 5

Ordinal Approach**:** Indifference Curve analysis - Properties of Indifference curves - Price or budget line - Equilibrium of the Consumer with the help of Indifference curves – Samuelson's Revealed preference theory.

REFERENCES:

1. R.G. Lipsey and K.A.Chrystal - "Economics", Oxford University Press, 10/e, 2004.
2. P.A.Samuelson & W.D. Nordhaus-"Economics", Tata Mc.Graw Hill, 18/e, 2005.
3. N.Gregory Mankiw-"Principles of Economics", Thompson 2015 .
4. H.L.Ahuja-"Advanced Economic Theory"' S.Chand.
5. M.L.Seth-"Micro Economics", Laxmi Narayana Agarwal, 2015.
6. Bilas, A.-"Micro Economic Theory", International Student Edition, Mc.Graw Hill, 1971.
7. Telugu Academy Publications
8. D.M. Mithani & G.K. Murty - Business Economics, Himalaya Publishing, 2015.

ADIKAVI NANNAYA UNIVERSITY: RAJAMAHENDRAVARAM

CBCS/ SEMESTER SYSTEM

II SEMESTER: ECONOMICS (Common for BA/B.Sc.)

(FOR 2016-17 ADMITTED BATCH)

Paper – II (Core Paper)

Micro Economics - Production and Price Theory

Module - 1

Production function-Concept of homogeneous production function-Cobb- Douglas Production function- Law of variable proportions-Law of Returns to Scale - Different Concepts of Costs – Explicit & Implicit, Opportunity, Total – fixed and Variable Costs, Marginal & Average Costs & its Relationship. Concept of Revenue – Total, Marginal & Average Revenue.

Module - 2

Analyse different types of Market structures - Perfect Competition - Price determination and equilibrium of firm and industry under perfect competition - Monopoly - Price determination - Price discrimination.

Module - 3

Monopolistic competition - price determination - Oligopoly - Kinked demand curve approach.

Module - 4

Marginal Productivity theory of distribution - Theories of wage determination Subsistence theory of wages, Standard of living theory of wages, Modern theory of wages and collective bargaining - concept of minimum wage.

Module - 5

Theory of Rent: Ricardian theory of rent - Quasi rent concept of Alfred Marshall. Theories of Interest - Classical, Neo-classical and Keynes Liquidity Preference theory - Profit - dynamic, innovations.

REFERENCES:

1. R.G. Lipsey and K.A.Chrystal - "Economics", Oxford University Press, 10/e, 2004.
2. P.A.Samuelson & W.D. Nordhaus-"Economics", Tata Mc.Graw Hill, 18/e, 2005.
3. N.Gregory Mankiw-"Principles of Economics", Thompson 2015.
4. H.L.Ahuja-"Advanced Economic Theory"' S.Chand, 2004.
5. M.L.Seth-"Micro Economics", Laxmi Narayana Agarwal, 2015.
6. Bilas, A.-"Micro Economic Theory", International Student Edition, Mc.Graw Hill, 1971.
7. Telugu Academy Publications
8. D.M. Mithani & G.K. Murty - Business Economics, Himalaya Publishing, 2015.
9. Bilas, A.-"Micro Economic Theory", International Student Edition, Mc.Graw Hill, 1971.

ADIKAVI NANNAYA UNIVERSITY

RAJAMAHENDRAVARAM

CBCS / Semester System

(W.e.f. 2015-16 Admitted Batch)

B.A./B.Sc. ECONOMICS

III Semester Syllabus

Macro Economics - National Income, Employment and Money

Module - 1

Meaning, definition of Macro Economics - Importance of Macro Economics- Difference between Micro and Macro Economics - Paradox of Macro Economics -Limitations

Module - 2

National Income - Definitions, Concepts of National Income - Measurement of National Income - Circular flow of Income in Two, Three and Four Sector Economy.

Module - 3

Classical theory of Employment - Say's Law of Markets.

Module - 4

Keynesian Theory of Employment - Consumption function – Investment Function - Marginal Efficiency of Capital (MEC)- Concepts of multiplier and accelerator

Module - 5

Meaning and Functions of Money - Classification of money - Gresham's Law - RBI classification of Money. Theories of Money - Fisher's Quantity theory of Money Cambridge approach (Marshall, Pigou, Robertson & Keynes).

REFERENCES:

1. G.Ackley - "Macro Economics Theory and Policy", Collier Macmillan, 1978.
2. E.Shapiro - "Macro Economic Analysis", Galgotia Publications, 1999.
3. Central Statistical Organisations - "National Accounts Statistics".
4. R.Dornbush, s.Fisher and R.Startz - "Macro Economics", Tata Mc.Graw Hill, 9/e, 2004.
5. M.L.Seth-"Macro Economics", Lakshmi Narayana Agarwal, 2015.
6. K.P.M. Sundaram - "Money, banking & International Trade", Sultan Chand, 2010.
7. Dillard, D - "The Economics of John Maynard Keynes", Crossby Lockwood & Sons.
8. M.N.Mish ra & S.B.Mishra - "Insurance Principles & Practice" S.Chand 2012.
9. Bharati V.Pathak "The Indian Financial System Markets. Institutions & Services". Pearson 2008.
10. Telugu Academy Publication

ADIKAVI NANNYA UNIVERSITY
CBCS/SEMESTER SYSTEM
IV SEMESTER : **ECONOMICS (Common for B.A./B.Sc**

Paper – IV (Core Paper)

Banking and International Trade

Module - 1

Trade Cycles - meaning and definition - Phases of a Trade Cycle -Inflation - definition - types of inflation - causes and effects of inflation measures to control inflation.

Module - 2

Banking: Meaning and definition -Functions of Commercial Banks - Concept of Credit creation-Functions of RBI - Recent developments in banking sectors.

Module – 3

Non-Bank Financial Institutions – Types of NBFIs - Factors contributing to the Growth of NBFIs –-Money market – Defects of Indian money market

Module – 4

Concepts of Shares-Debentures - Stock Market - Functions - Primary and Secondary Markets - SEBI - - Insurance - Life Insurance and General Insurance.

Module - 5

Macro Economic Policy - Fiscal, Monetary and Exchange rate policies
Objectives and Significance - Importance of International Trade - Regional and International Trade – Defining Balance of Trade and Balance of Payment.

REFERENCES:

1. G.Ackley - "Macro Economics Theory and Policy", Collier Macmillan, 1978.
2. E.Shapiro - "Macro Economic Analysis", Galgotia Publications, 1999.
3. Central Statistical Organisations - "National Accounts Statistics".
4. R.Dornbush, s.Fisher and R.Startz - "Macro Economics", Tata Mc.Graw Hill, 9/e,2004.
5. M.L.Seth-"Macro Economics", Lakshmi Narayana Agarwal, 2015.
6. K.P.M. Sundaram - "Money, banking & International Trade", Sultan Chand, 2010.
7. Dillard, D - "The Economics of John Maynard Keynes", Crossby Lockwood & Sons.
8. M.N.Mish ra & S.B.Mishra - "Insurance Principles & Practice" S.Chand 2012.
9. Bharati V.Pathak "The Indian Financial System Markets. Institutions & Services".
10. Pearson.
11. D.M.Mithani & G.K.Murty - “Business Economics", Himalaya Publishing House, 2015.
12. M.L.Jhingan - Economic Development - Vikas, 2012.
13. G.Omkarnath - Economics - A Primer for India - Orient Blackswan, 2012.
14. Agarwal, V. (2010) Macroeconomics: theory and Policy, Dorling Kindersley (India)
15. Pvt. Ltd., New Delhi
16. Ahuja, H.L. (2012) Macro Economics, Theory and policy, S. Chand and Company Ltd.,
17. New Delhi

B. A. ECONOMICS

III Year B. A. Programme (UG) Courses – Under CBCS

Semester – V

Paper – V (Core Paper)

Economic Development and Indian Economy

Module - 1

Concept of Economic Growth - Distinction between economic growth and development - Measurement of economic development - Theories of Economic Growth: Adam Smith, Rostow, Karl Marx and Harrod & Domar Models.

Module - 2

Sustainable development - Balanced and unbalanced growth-choice of techniques Labour intensive and capital intensive methods.

Module - 3

Basic features of the Indian Economy - Natural Resources - Important Demographic features- Concept of Population Dividend - Population Policy.

Module - 4

National Income in India - trends and composition-poverty, inequalities and Unemployment - Measures taken by the Government. - MGNREGS

Module - 5

Economic reforms - liberalization, privatization and globalisation - concept of inclusive growth.

REFERENCES:

1. Dhingra, I.C - "Indian Economy", Sultan Chand, 2014.
2. Ruddar Dutt and K.P.M. Sundaram - "Indian Economy", S.Chand & Co., 2015.
3. G.M.Meier -"Leading Issues in Economic Development", Oxford University Press, New York,.
4. M.P.Todaro - "Economic Development", Longman, London 6/e, 1996.
5. Reserve Bank of India - Hand book of Statistics on Indian Economy (Latest).
6. S.K.Misra & V,K,Puri - "Indian Economy", Himalaya Publishing House, 2015.
7. R.S.Rao, V.Hanumantha Rao & N.Venu Gopal (Ed) - Fifty Years of Andhra Pradesh (1956-2006), Centre for Documentation, Research and Communications, Hyderabad, 2007.
8. G.Omkarnath - Economics - A Primer for India - Orient Blackswan, 2012.
9. Benjamin Higgins - Economic Development
10. Telugu Academy Publications.
11. Dr. Ch.S.G.K. Murthy, Indian Economy - Gitam University

B. A. ECONOMICS

III Year B. A. Programme (UG) Courses – Under CBCS

Semester – V

Paper – VI (Core Paper)

Indian and Andhra Pradesh Economy

Module - 1

Indian Agriculture - Importance of Agriculture in India - Agrarian structure and relations- Factors determining Productivity- Agricultural Infrastructure - Rural credit - Micro Finance - Self Help Groups (SHGs) - Agricultural Price policy- concept of Crop Insurance - Food Security.

Module - 2

Structure and growth of Indian Industry - Industrial policies of 1956 & 1991 Meaning of Micro small and Medium Enterprises (MSMEs)- Problems and Prospects of small scale Industries in India.

Module - 3

Disinvestment in India - FEMA - Foreign direct investment - Services Sector in India – Reforms in Banking and Insurance -, IT, Education and Health.

Module - 4

Planning in India Economy - Objectives of Five year plans - Review of Five year Plans - Current Five year plan- NITI Aayog

Module - 5

Andhra Pradesh Economy - Population - GSDP - Sector Contribution and trends - IT – Small Scale Industry - SEZs.

REFERENCES:

1. Dhingra, I.C - "Indian Economy", Sultan Chand, 2014.
2. Ruddar Dutt and K.P.M. Sundaram - "Indian Economy", S.Chand & Co., 2015.
3. G.M.Meier - "Leading Issues in Economic Development", Oxford University Press, New York, 3/e.
4. M.P.Todaro - "Economic Development", Longman, London 6/e, 1996.
5. Reserve Bank of India - Hand book of Statistics on Indian Economy (Latest).
6. S.K.Misra & V,K,Puri - "Indian Economy", Himalaya Publishing House, 2015.
7. R.S.Rao, V.Hanumantha Rao & N.Venu Gopal (Ed) - Fifty Years of Andhra Pradesh (1956-2006), Centre for Documentation, Research and Communications,Hyderabad, 2007.
8. G.Omkarnath - Economics - A Primer for India - Orient Blackswan, 2012.
9. Telugu Academy Publications.
10. Dr.Ch.S.G.K.Murthy, Indian Economy - Gitam University.

B. A. ECONOMICS
III Year B. A. Programme (UG) Courses – Under CBCS
Semester – VI
Paper – VII-(A) (Elective Paper VII-(A)
AGRICUTURAL ECONOMICS

Module-1
Nature and Scope of Agricultural Economics. Factors affecting agricultural development: technological, institutional and general. Interdependence between agriculture and industry.

Module-2
Concept of production function : input-output and product relationship in farm production.

Module-3
Growth and productivity trends in Indian agriculture with special reference to Andhra Pradesh. Agrarian reforms and their role in economic development.

Module-4
Systems of farming, farm size and productivity relationship in Indian agriculture with special reference to Andhra Pradesh- New agriculture strategy and Green revolution : and its Impact

Module-5
Emerging trends in production, processing, marketing and exports; policy controls and regulations relating to industrial sector with specific reference to agro-industries in agri-business enterprises.

RECOMMENDED / REFERENCE BOOKS

1. Sadhu An, Singh Amarjit and Singh Jasbir (2014), Fundamentals of Agricultural Economics, Himalaya Publishing House, Delhi
2. Lekhi RK and Singh Joginder, Agriculatural Economics, Kalyani Publishers
3. Bhaduri, A. (1984), The Economic Structure of Backward Agriculture, Macmillan, Delhi.
4. Bilgrami, S.A.R. (1996), Agricultural Economics, Himalayas publishing house, Delhi.
5. Dantwala, M.L. et.al (1991), Indian Agricultural Development Since Independence, Oxford & IBH, New Delhi.
6. Government of India (1976), Report of the National Commission on Agriculture, New Delhi. 5. Government of India, Economic Survey (Annual), New Delhi.
7. Gualti, A. and T. Kelly (1999), Trade Liberalisation and Indian Agriculture Oxford University Press, New Delhi

B. A. ECONOMICS
III Year B. A. Programme (UG) Courses – Under CBCS
Semester – VI
Paper – VII-(B) (Elective Paper VII(B)

Principles of Insurance

Module 1:

Risk Management: Provides an understanding of risk management – different types of risks – management of risks.

Module 2:

The Concept of Insurance and its Evolution: The basics and nature of insurance – evolution and nature of insurance – how insurance operates today.

Module 3:

Insurance Customers: Understanding insurance customers – different customer needs – importance of customers – customer mindsets.

Module 4:

The Insurance Contract: Terms of an insurance contract - disclosure of all relevant information – principle of utmost good faith – the relevance of proximate cause – the insurance contract.

Module 5:

Insurance Terminology and Development: Common terms used in insurance – terms common to both life and non – life insurance - role of insurance in economic development and social security – contribution of insurance to the society.

References :

1. General Insurance, John Magee & David Bicklhaupt.
2. Operational Transformation of General Insurance Industry during the period 1950 to 1990 & Beyond, R D Samarth.
3. Study on Distribution Functions in General Insurance & Role of Intermediaries, Arun Agarwal / P R Rao
4. General Insurance for Information Technology Professionals, Martin Frappoli.

B. A. ECONOMICS
III Year B. A. Programme (UG) Courses – Under CBCS
Semester – VI
Paper – VII(C) (Elective Paper VII(C)

Financial Markets and Institutions

Module I
Introduction to Financial Market – Types of Financial Markets – Meaning and Definitions of Stock Market, Derivative Market, Commodities Market, and Currency Market.

Module II
Stock Markets - Primary & Secondary Markets - Market Participants - Stock Exchanges - Market Index - Trading Mechanism - Broker/Sub-Brokers - Basic Accounting,

Activity: Practical Trading

Module III
Derivative Markets - Meaning & concept of Derivatives – Futures and Options - Trading Mechanism.

Activity: Practical Trading.

Module IV
Commodities Markets - Commodity Derivatives - Commodity Exchanges – Instruments - Pricing Techniques - Accounting & Taxation .

Activity: Practical Trading.

Module V
Currency Markets - Foreign Exchange Derivatives - Exchange Traded Futures - Regulatory Framework - Accounting & Taxation - Code of Conduct.

Activity: Practical Trading.

References:

1. Vasant Desai - The Indian financial system and Development-, Himalaya Publishing House.
2. Dr. S. Gurusamy - Financial Markets and Institutions-,Tata McGraw Hill.
3. Dr. Bharti Pathak - The Indian Financial System, Pearson.
4. M.Y.Khan - Indian Financial System, Mc.Graw Hill
5. C.Sudarsana Reddy - Financial Management-Principles and Practice, Himalaya Publishing House.
6. Thummuuri Siddaiah - Financial Services, Pearson.

B. A. ECONOMICS
III Year B. A. Programme (UG) Courses – Under CBCS
Semester – VI
Paper – VII(D) (Elective Paper VII(D)

RURAL ECONOMICS AND SOCIAL CHANGE

Module 1 :

Nature and scope of rural Economy, Importance of Agriculture in economic Development of India, Rural Economic problems of India; Nature of land Problems-Evolution of Policy-Land Reforms.

Module 2:

Agricultural Holdings, Fragmentation and Sub-division of Holdings, cooperative Farming-Rural Labour Problems-nature of Rural Unemployment- Employment and Wage Policy-Sources of Technological change and Green Revolution.

Module 3:

Rural Society-its Structure and Change; Village and its Social Organization-Indian Village and its types, Rural-Urban Continuum and Rural-Urban relationships.

Module 4:

Rural social Institutions-family, Property, caste, Class, Agarian structure, indebtedness and Poverty, Jajmani System, Religion, Village, Local Self Government, Panchayat Raj and Community Development Prgrommes.

Module 5:

Social Change in Rural India-Impact of Westernization, Secularization, Modernization of Indian Rural Society-Post Modernization and Globalization and Indian Villages.

References:

1. Carver, The Principles of Rural Economics.

2. Desai, A., Rural Sociology in India.

3. Dube, S.C., India's changing villages.

4. Nanavati & Anjala, rural problems in India.

5. Ruddar Dutt & K.P.M.Sundaram, Indian Economy.

6. Sachdeva, D.A.& Vidya Bhushan, An Introduction to Sociology.

B. A. ECONOMICS

III Year B. A. Programme (UG) Courses – Under CBCS

Semester – VI

Paper – VII (E) (Elective Paper VII (E)

Entrepreneurship and Small Business Development

Module -1:

Introduction - Entrepreneurship meaning, nature and Characteristics of entrepreneurship, Barriers to entrepreneurship

Module -2:

Establishing a small enterprise: The startup process, project identification, selection of the product -selection of site/location and legal considerations

Module -3:

Small Enterprises and Enterprise Launching Formalities: Definition of Small Scale; Rationale; Objective; Scope; SSI; Registration; NOC from Pollution Board; Machinery and Equipment Selection

Module -4:

Role of Support Institutions and Management of Small Business: Director of Industries; DIC; SIDO; SIDBI; Small Industries Development Corporation (SIDC); SISI; NSIC; NISBUD; State Financial Corporation SIC.

Module -5:

Project Preparation - project formulation, Project Report Preparation; Specimen of Project Report, assessment of project feasibility, analysis's of project, Project Planning and Scheduling using Networking Techniques of PERT / CPM preparation of project report,

Reference:

1. Desai, Vasant (2003). Small-Scale Industries and Entrepreneurship. Himalaya Publishing House, Delhi.
2. Kaulgud, Aruna (2003). Entrepreneurship Management. Vikas Publishing House, Delhi. 38
3. Cynthia, L. Greene (2004). Entrepreneurship Ideas in Action. Thomson Asia Pvt. Ltd., Singapore.

B. A. ECONOMICS

III Year B. A. Programme (UG) Courses – Under CBCS

Semester – VI

Paper – VII (F) (Elective Paper VII (F)

Public Finance

Module - 1

Meaning and scope of Public Finance - Distinction between Public and Private Finance. Principle of maximum social advantage

Module – 2

Source of Public Revenue - Taxes - administrative revenues - commercial Revenues - Gift and grants - Concept of VAT. Canons of taxation (Adam Smith's and Modern Economists).

Module

Meaning and classification of public expenditure - principles of public Expenditure Wagner's Law - Peacock - Wiseman Hypothesis.

Module - 4

Public debt - classification of public debt - methods of debt redemption

Module - 5

Budget - Meaning and Definition - Components of Budget - Concepts of Budget Deficits - Indian Union Budget.

References:

1. B.P.Tyagi - "Public Finance", Jai Prakash Nath, 2012.
2. H.D.Bhatia - "Public Finance"' Vikas Publishing House 2013.
3. Reserve Bank of India - Hand book of Statistics on Indian Economy (Latest).
4. S.K.Misra & V,K,Puri - "Indian Economy", Himalaya Publishing House, 2015.
5. Budget at a Glance
6. Economic and Functional Classification of the Budget
7. Telugu Academy Publications.

B. A. ECONOMICS
III Year B. A. Programme (UG) Courses – Under CBCS
Semester – VI
Paper – VII (G) (Elective Paper VII (G)

INTERNATIONAL ECONOMICS

Module – 1

Meaning and importance of International Trade - Inter - Regional and International Trade.

Module – 2

Theories of International Trade - theory of absolute advantage - theory of comparative cost and Hecksher - Ohlin theory.

Module – 3

International Trade and Economic growth - Terms of trade - Gross Barter and Net Barter and Income terms of trade.

Module - 4

Tariffs - meanings and definition - Types of tariffs - Concept of optimum tariff Balance of payments - Causes for disequilibrium in balance of payments.

Module - 5

India's Foreign Trade - composition and direction. Recent EXIM policy - changing role IMF, IBRD & WTO. Concept of outsourcing.

References:

1. B.O.Soderston - "International Economics", Macmillan, 1995.
2. C.P.Kindle Berger - "International Economics".
3. 3. J.Bhagawathi - "International Trade - Selected Readings", Cambridg University Press.
4. 4. D.M.Mithani & G.K.Murty - "Business Economics", Himalaya Publishing House, 2015.
5. Salvatore Dominick (2005) International Economics, John Wiley & Sons, Inc
6. Mithani D.M (2003) International Economics, Himalaya Publishing House, Mumbai
7. Mannur H.G (2003) International Economics Vikas publishing House Pvt Ltd, New Delhi
8. Telugu Academy Publications.

B. A. ECONOMICS

III Year B. A. Programme (UG) Courses – Under CBCS

Semester – VI

Paper – VIII-A; Cluster Elective–A: Agribusiness

Paper VIII-A-1: Agribusiness Environment in Andhra Pradesh

Module-1

Role of agriculture in development process in Andhra Pradesh vis-à-vis other developed states. Economy wide effects of agriculture in Andhra pradesh through trickle down effects. Backward and forward linkages of agriculture with rest of economy.

Module-2

Agricultural finance-importance in modern agriculture- performance of agricultural finance in Andhra Pradesh -problems of agricultural finance – Inter linkages of agricultural credit and other input markets and product markets.

Module-3

Dynamics of agriculture-crop (horticulture, field crops), sector-livestock (poultry dairy and fisheries) sector and inter linkages among the sectors. Agribusiness sector in Andhra Pradesh-salient futures, constraints, sub sectors of agribusiness-input sector, production sector, processing sector.

Module-4

Growth performance of major agricultural commodities in Andhra Pradesh-production and processing trends in exports and imports of major agricultural commodities.

Module-5

Marketing policy- structure of agri markets – regulated markets – need – activities – structure – APMC act – market legislations – Role of Farmer Groups in the marketing of Agricultural Produce.

References:

1. Adhikary M. 1986. Economic Environment of Business. S. Chand & Sons.
2. Aswathappa K. 1997. Essentials of Business Environment. Himalaya Publ.
3. Francis Cherunilam 2003. Business Environment. Himalaya Publ.
4. Agarwal Raj, 2001, Business Environment, Excel Books, New Delhi.

B. A. ECONOMICS
III Year B. A. Programme (UG) Courses – Under CBCS
Semester – VI
Paper – VIII-A; Cluster Elective – A: Agribusiness

Paper VIII-A-2: Agricultural Output Marketing

Module-1
Structure and Model of Agri-Marketing Organizations with functions: Functions of intermediaries, Marketing Practices in Primary and secondary and terminal market, Regulated markets, co-operative marketing.

Module-2
Marketing costs and margins, Marketing Finance. Marketing Structure of Major agricultural commodities, food grains: Rice, and Maize. Cash Crops; Cotton, Oil Seeds, Vegetables and Fruits, Milk, Meat and Poultry products.

Module-3:
Problems and Challenges in Agriculture Marketing - Market Yards - Support prices - Rural Warehousing.

Module-4:
State Intervention in Agricultural Marketing, Role of Various agencies (Andhra Pradesh Agro, MARKEED, State Department, and FCI, Tobacco Board, Cotton Corporation) and its impact on market efficiency. Agriculture Price Commission.

Module-5:
Inter-regional and international trade in agriculture; emerging scenario of international trade in agricultural commodities; concept of terms of trade and balance of payments,. WTO and Indian agriculture with special reference to Andhra Pradesh .

References:

1. C.S.G.Krishnamacharyulu & Lalitha Ramakrishnan, "Rural Marketing: Text and Cases", Pearson Education, New Delhi.
2. Awadhesh Kumar Singh & Satyaprakash Pandey, Rural Marketing: Indian Perspective, New Age International Publishers, New Delhi.
3. Mamoria, C.B. & Badri Vishal: Agriculture Problems in India
4. Arora, R.C., "Integrated Rural Development", S. Chand Limited, New Delhi.
5. Gopalaswamy, T.P., "Rural Marketing: Environment, Problems and Strategies, Vikas Publishing House Pvt. Ltd., New Delhi.
6. Bedi & Bedi, "Rural Marketing", Himalaya Publishing House, New Delhi.

B. A. ECONOMICS

III Year B. A. Programme (UG) Courses – Under CBCS

Semester – VI

Paper – VIII-A; Cluster Elective –A: Agribusiness

Paper VIII-A-3: Project Work

B. A. ECONOMICS
III Year B. A. Programme (UG) Courses – Under CBCS
Semester – VI
Paper – VIII-B; Cluster Elective–B: Insurance Practice

Paper VIII-B-1: PRACTICE OF GENERAL INSURANCE

Module 1:
***Introduction to General Insurance*:** Introduction of Indian Insurance Market – Structure, Classification, Salient features of Indian general insurance market.

Module 2:
Policy Documents and forms: Insurance contract & elements – Components of an insurance policy - Interpretation of policies – Contents of insurance proposal form - Certificate of Insurance – Claim forms

Module 3:
Fire, Motor Liability and Personal Accident Insurance: *Fire* insurance Coverage – Exclusions – Conditions of fire insurance policy – Coverage under special polices - Motor insurance policy – Important documents – Types of policies – Liability – Motor claims & procedures - - Personal Accident insurance.

Module 4:
General insurance Products – Part 3 (Engineering & other Insurances): Classes of Engineering insurance - Burglary insurance – Baggage insurance – Fidelity Guarantee insurance – Jeweller's Block insurance – Crime insurance.

Module 5:
Claims: Preliminary procedure – Loss minimization – Procedure – Process of claim management – Arbitration - Modes of settlement – Recoveries - Identifying claim

References:

1. General Insurance, John Magee & David Bicklhaupt
2. Operational Transformation of General Insurance Industry during the period 1950 to 1990 & Beyond, R.D.Samarth
3. Study on Distribution Functions in General Insurance & Role of Intermediaries, ArunAgarwal / P R Rao
4. General Insurance for Information Technology Professionals, Martin Frappoli.

B. A. ECONOMICS

III Year B. A. Programme (UG) Courses – Under CBCS

Semester – VI

Paper – VIII-B - Cluster Elective –B: Insurance Practice

Paper VIII-B-2: AGRICULTURAL INSURANCE

Module 1:

Risks in Agriculture: Agricultural Risks – Changing face of Agricultural Risks in India – Climate Change and Agriculture – Managing Agricultural Risks.

Module 2:

Evolution of Crop Insurance in India: Individual based crop insurance – Pilot Crop Insurance Scheme (PCIS) – Comprehensive Crop Insurance Scheme (CCIS) – Experimental Crop Insurance Scheme (ECIS) – National Agricultural Insurance Scheme (NAIS) – Farm Income Insurance Scheme (FIIS) – Types of Agricultural Insurance –Formation of Agriculture Insurance Co of India Ltd.

Module 3:

Module 4:

Crop Insurance - Yield Index based Underwriting and Claims: National Agricultural Insurance Scheme (NAIS) – Components – Nature, Coverage and Integrity – Underwriting – Claims – Yield Data – Yield Estimation Methodology – Actuarial premium rating – Proposed modifications in NAIS.

Module 5:

Weather Based Crop Insurance Model: Comparison between Area Yield and Weather based Crop insurance – Weather Insurance components – Weather data and Indexes – Product Design – Underwriting and Claims considerations – Understanding Crop Insurance Models.

Reference Books

1. Mayet, P - Agricultural Insurance, Forgotten Books,
2. Ray, P. K. – Agricultural Insurance (Theory and Pratice and Applications to Developing Countries), Elsevier,B.A.
3. Poonam Patwardhan, Bhise Vinayak, Narwade Sunil – An Evaluation of National Agricultural Insurance Scheme in Inida, Lambert
4. Raju S S and Ramesh Chand – Agricultural Risk and Insurance in Inida - Problems and Prospects, Academic Foundation

B. A. ECONOMICS

III Year B. A. Programme (UG) Courses – Under CBCS

Semester – VI

Paper – VIII-B; Cluster Elective-B: Insurance Practice

Paper VIII-B-3: Project Work

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III Year B. A. Programme (UG) Courses – Under CBCS
Semester – VI
VIII-C; Cluster Elective –C: Financial Markets

Paper VIII-C-1: STOCK MARKET OPERATIONS

Module – 1:
Meaning, Nature and Functions of Primary Market - Role of Primary Market– Methods of floatation of capital – Problems of New Issues Market –SEBI measures for primary market.

Module – 2:
Meaning, Nature, Functions of Secondary Market - Organisation and Regulatory framework for stock exchanges in India – Defects in working of Indian stock exchanges.

Module – 3:
Listing of Securities : Meaning – Merits and Demerits – Listing requirements, procedure, fee – Listing of rights issue, bonus issue, further issue – Listing conditions of BSE and NSE.

Module – 4:
Indian Stock Exchanges: BSE – Different trading systems – Share groups on BSE – BOLT System – Different types of settlements – Pay-in and Pay-out – Bad Delivery – Short delivery – Auction – NSE– Market segments.

Module - 5
Market types, Order types and books – De-mat settlement – Physical settlement – Institutional segment – Funds settlement – Valuation debit – Valuation price – Bad and short delivery – Auction.

Suggested Readings:
1.Punithavathy Pandian, Security Analysis and Portfolio Management Vikas Publishing House Pvt. Ltd.

2.V. A. Avadhani, Investment and Securities Market in India, Himalaya Publishing House.

3.Prasanna Chandra, Security Analysis and Portfolio Management, Tata McGraw-Hill.

4.Sanjeev Agarwal, A Guide to Indian Capital Market, Bharat Publishers

5. Ravi Puliani and Mahesh Puliani, Manual of SEBI, Bharat Publicatio

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III Year B. A. Programme (UG) Courses – Under CBCS

Semester – VI

VIII-C: Cluster Elective –C: Financial Markets

Paper VIII-C-2: Securities Market

Module 1

Securities Market in India - An Overview - Securities market and financial system - Products, participants and functions;

Module 2

Primary Market - Book building - Credit rating; Merchant banking; On-line IPOs; DEMAT issues; Private placement; Virtual debt portals; DRs/GDRs; Other regulations; Public issues;

Module 3

Secondary Market –Membership – Listing - Trading and settlement mechanism; Technology; Trading rules - Insider Trading; Unfair trade practices; Takeovers; Buyback.

Module 4

Government Securities Market Indian debt market; Primary market; Secondary market-NDS; NDS-OM; CCIL; Wholesale debt market (WDM) segment of NSE.

Module 5

Derivatives Market Products, Participants and functions; Trading mechanism; Membership; Contract specification; Clearing & Settlement.

References:

1. Sketch of Stock Market in India with Ref. of BSE 1961
2. Kar, Pratip., Capital Market in 1989 (Securities and Exchange Board of India)
3. Smith, B. Mark., A History Of Global Stock Market (Farrar, Straus And Giroux, Chicago, 2003).
4. Armstrong, F.E., The book of the stock exchange (Pitman Publishing Corporation, London)

B. A. ECONOMICS

III Year B. A. Programme (UG) Courses – Under CBCS

Semester – VI

VIII-C - Cluster Elective –C: Financial Markets

Paper VIII-C-3: **Project Work**

B. A. ECONOMICS

III Year B. A. Programme (UG) Courses – Under CBCS

Semester – VI

VIII-D - Cluster Elective –D: Rural Economy

Paper VIII-D-1: *Rural Economy*

Module-I

Concept and Nature of Rural Economy; characteristic of rural Economy; Factors affecting rural Economy.

Module- II

Basic Needs of Rural Economy; Housing; Health, education, Training, drinking water supply; Electricity, sanitation, rural Roads, transport and communation, rural statilisation, Utilization of Local Human & Natural Resources.

Module- III:

The Role of Rural Technology – need & important of rural Technology, appropriate rural Technology, Technology for Rural Women, difficulties in adoption of rural technology.

Module-IV

Rural roads and Rural Transport system (Bus, Railways):- Importance of rural roads and transportation problems, various schemes of rural road development. Rural Health and sanitation:- Need of rural health and sanitation, problems, remedies. Rural Electrification:- Sources of energy/ power, progress, problems, policy.

Module– V

Need, sources of rural communication, government policies. Rural Education:- Overview of the education system in India; need, solutions, future agenda. Training and Rural Development:- Meaning of training, types of training, need of rural development training, national training policy.

Reference Books:

Chaudhari, C.M. **Rural Economics**, Jaipur: Subline Publication, 2009

1. Datt, Rudra & Sundharam Indian Economy New Delhi: S. Chand, 2008.

2. Deogirikar, A. B. W.T.O and Indian Economy, Jaipur: ShriNiwas Publications, 2004

4) Acharya,S.S.& **Agricultural Marketing in India** N.L.Agarwal New Delhi: Oxford & IBH ltd.,2004.

5) Khanna,Sulbha & **Rural Development Strategies and Planning** Upna Diwan New Delhi: Sonali Publications, 2003.

6) Prasad, B.K. **Rural Development Concept Approach and Strategy** New Delhi: Sarup and Sons, 2003.

B. A. ECONOMICS

III Year B. A. Programme (UG) Courses – Under CBCS

Semester – VI

VIII-D: Cluster Elective –D: Rural Economy

Paper VIII-D-2: *Rural Industrialization*

Module– I:

Rural Industrilisation :- Need, rural Infrastructure and industrialization, progress and problem of rural industrialization in Andhra Pradesh Rural Approach. Potential areas for rural self-employment with special reference to agro industries. The role of co-operation in Rural Industrialization

Module–II:

The policies & programmes for rural industrial development during planning era.. Important progrmmes for Industrial development of rural areas, micro, small and medium industries in Andhra Pradesh.

Module–III

Rural Environment & Resources - Rural Environment in Andhra Pradesh(water, soil) :-Causes, effect, status of rural environment, rejuvenating rural environment. Rural Human Resources Utilization Programmes.

Module - IV

Industrial Development - Large and Small scale industries Andhra Pradesh - Agro-base Industries-Agro-processing industries:- Importance, problems, solutions. Rural technology:- Need, effect, advantages.

Module - V:

Rural Employment - Rural employment in Andhra Pradesh, characteristics of rural employment -Incidence and type of Unemployment in rural area. Need based education and training for rural youth -Development of Entrepreneurship abilities among rural students

Reference Books:

1. Desai, Vasant**. Rural Development in India.**
New Delhi: Himalaya, 2005.
2. IGNOU. **Rural Development: Indian Context.**
New Delhi: IGNOU, 2005.
3. Narwani, G. S. **Training for Rural Development**,
New Delhi: Rawat Publications, 2002.
4. Rao K. Hanumantha Rural Development Statics – 2007-08, National Institute of Rural Development Ministry of R. D., Govt. of India, Rajendra Nagar, Hyderabad – 30 July, 2008

B. A. ECONOMICS

III Year B. A. Programme (UG) Courses – Under CBCS

Semester – VI

Paper VIII-D: Cluster Elective –D: Rural Economy

Paper VIII-D-3: ***Project Work***

B. A. ECONOMICS

III Year B. A. Programme (UG) Courses – Under CBCS

Semester – VI

VIII-E; Cluster Elective –E: Entrepreneurship

Paper VIII-E-1: Industrial Economics

Module-1

Industry and economic development industry and sectoral linkages – industrial classification and data information.

Module-2

Public, private joint and co-operative sectors - private corporate sector- MNCs and their role.

Module-3

Industrial productivity - concept - measurement - productivity in Indian industries - industrial sickness - underutilization of capacity - factors accounting for it and its consequences.

Module - 4

Globalization and Indian industry - privatization and issues relating to disinvestment policy.

Module-5

Industrial development in India - industrial policy - Role of the Central and State - Industrial policy and economic reforms - Industrial growth and pattern.

BOOKS FOR REFERENCE:

1. Dhingra, I.c. Indian Industrial Economy

2. Gadgil, P.G. Indian Economy

3. Kuchhal, S.C. Industrial Economy of India

4. Sharma, N.K. Industrial Economics

B. A. ECONOMICS
III Year B. A. Programme (UG) Courses – Under CBCS
Semester – VI
VIII-E: Cluster Elective –E: Entrepreneurship

Paper VIII-E-2: Labour Economics

Module 1:

Introduction - Labour Economics – Concept and definition – Nature, Scope and Importance – Labour as a unique factor of production

Module 2:

Labour Market - Concept of labour Market and its features –Determinants of the supply and the demand for labour – Organized and unorganized labour

Module 3:

Wages - Wage Concept and Definitions – Wage and development – Collecting bargaining – Wage differentials – Wage Ploicy - Objectives and importance

Module 4:

Labour Productivity, State and labour - Concept of Labour Productivity – Measurement and Importance of Labour productivity – Determinants – Causes for Low Labour Productivity and Measures to Increase Labour Productivity – Technology and Labour Productivity

Module 5:
State and labour – Need for State intervention in Labour matters – methods of intervention – Labour Social Security and Labour Welfare Measures – Labour Ploicy, Objectives and Importance – Emerging perception on state intervention.

Reference:

1. Bhagoliwal T.N (2000), Economics of Labour and Industrial relations. Sahitya Bhavan, Agra.

2. McConnel C.R. and S.L. Brue (2002), Contemporary Labour Economics, McGraw Hill, NeYork.

3. Mittal and Sanjay Prakash Sharma (2000), labour Economics, RSBA Jaipur

B. A. ECONOMICS

III Year B. A. Programme (UG) Courses – Under CBCS

Semester – VI

Paper VIII-E: Cluster Elective–E: Entrepreneurship

Paper VIII-E-3: Project Work

Adikavi Nannaya University.

UNIVERSITY
VI SEMESTER
ECONOMICS CLUSTER PAPER- 3 i.e.
Project Work

SUGGESTIVE TOPICS ON CURRENT ECONOMICS PROJECT

1. EVENT ECONOMICS PROJECT [2017-18]
2. CURRENT INDIA'S ECONOMIC EVENTS – WHAT'S GOING AROUND
3. BANK RECAPITALISATION PLAN
4. MAKE IN INDIA
5. DIGITAL INDIA
6. DISINVESTMENT –MUDRA YOJANA
7. SWADESH DARSHAN YOJANA
8. START UP INDIA
9. GST
10. DEMONETISATION
11. SELF HELP GROUP
12. INCLUSIVE GROWTH STRATEGY
13. INFLATION
14. INDIA - A VIBRANT MARKET FOR SOLAR INDUSTRY
15. NATIONAL INTELLECTUAL PROPERTY RIGHT POLICY 2016
16. HUMAN DEVELOPMENT INDEX
17. MICRO AND SMALL SCALE INDUSTRIES
18. BANK'S NPA [NON PERFORMING ASSETS].
19. IMPACT OF FREQUENT RISE IN PERTROL PRICES
20. SUBSIDIES
21. FOREIGN DIRECT INVESTMENT
22. SPECIAL ECONOMIC ZONE
23. INFRASTRUCTURE
24. DIGITAL MONEY WILL REPLACE PAPER MONEY

Any other project related Eco issues.

29/6/18.

29/6/18

29.6.18

AT THE END OF FIFTH SEMESTER DEGREE EXAMINATIONS

ECONOMICS - VI - INDIAN AND ANDHRA PRADESH ECONOMY

(From the Admitted Batch of 2016-2017)

(Common for B.A. , B.Sc under CBCS PATTERN)

Time : 3 Hrs | Max. Marks : 75

Section – A

Answer any five of the following questions (5 x 5 =25)

ఈ క్రింది వాటిలో ఏవైనా ఐదు ప్రశ్నలకు సమాధానము వ్రాయుము.

1. Factors determining agricultural productivity.
వ్యవసాయ ఉత్పాదకతను నిర్ణయించు అంశాలు

2. Food Security.
ఆహార భద్రత

3. Foreign Exchange and Management Act (FEMA).
విదేశీ మారకం విధించు యాజమాన్య చట్టం.

4. Foreign Direct Investment (FDI).
ప్రత్యక్ష విదేశీ పెట్టుబడులు

5. Objectives Of Five Year plans.
పంచ వర్ష ప్రణాళికల లక్ష్యాలు

6. NITI Aayog.
నీతి ఆయోగ్

7. IT in Andhra Pradesh.
ఆంధ్రప్రదేశ్ లో సమాచార సాంకేతిక పరిజ్ఞానం.

8. Gross State Domestic Product.
స్థూల రాష్ట్ర ఉత్పత్తి.

P.T.O

Section – B

Answer All Questions (5 x 10 = 50)

ఈ క్రింది అన్ని ప్రశ్నలకు సమాధానము వ్రాయుము.

9. a) Explain the Importance of Agriculture Sector in India.
భారత దేశం లో వ్యవసాయ రంగం ప్రాముఖ్యత వివరించండి.

(OR)

b) Explain the Implementation of Agricultural Price Policy in India.
భారత దేశం లో వ్యవసాయ ధరల విధానం గురించి వివరించండి.

10. a) Explain the Role of Micro Finance in Rural Credit System.
గ్రామీణ పరపతి వ్యవస్థలో సూక్ష్మ పరపతి గురించి వివరించండి.

(OR)

b) Explain the new Industrial Resolution Policy – 1991
1991 నూతన పారిశ్రామిక విధాన తీర్మానం గురించి వివరించండి.

11. a) Examine the Micro, Small and Medium Enterprises (MSMEs) in India.
భారత దేశం లోని సూక్ష్మ, చిన్న మరియు మధ్య తరహా సంస్థలు గురించి పరిశీలించండి.

(OR)

b) Explain the problems and prospects of small scale Industries in India.
భారత దేశం లోని చిన్న తరహా పరిశ్రమల సమస్యలను, దృక్పథాలను వివరించండి.

12. a) Discuss about Disinvestment Policy in India.
భారత దేశం లో పెట్టుబడుల ఉప సంహరణ విధానం గురించి వివరించ

(OR)

b) Explain the Importance of Service Sector in Indian Economy.
భారత ఆర్థిక వ్యవస్థ లో సేవల రంగం ప్రాముఖ్యతను వివరించండి.

13. a) Explain the Population Structure in Andhra Pradesh.
ఆంధ్ర ప్రదేశ్ లో జనాభా నిర్మాణం గురించి వివరించండి.

(OR)

b) Explain the Importance of Special Economic zones in Employment generation in Andhra Pradesh.
ఆంధ్రప్రదేశ్ లో ఉపాధి కల్పన లో ప్రత్యేక ఆర్థిక మండళ్ళ ప్రాముఖ్యత గురించి వివరించండి.

Convener 29/6/18

Members
(1) (2) 29/6/18 (3)

At the End of V Semester Degree Examination

Economics - V - Economic Development & Indian Econ

(From the Admitted Batch of 2016-17)

Common for BA, B.Sc under CBCS Pattern

(T M & E M)

Time: 3hrs Max. Marks: 75

Section - A

Answer any five of the questions :- 5 x 5 = 25

(1) Distinction between Economic development & Economic Growth.
ఆర్థిక వృద్ధి మరియు ఆర్థికాభివృద్ధి మధ్య గల తేడాలు.

(2) Explain the concept of Sustainable development.
సుస్థిరాభివృద్ధి భావనను వివరించుము.

(3) What are the sources of natural resources.
సహజ వనరుల మూలాలను తెలుపుము.

(4) MGNREGS
మహాత్మా గాంధీ జాతీయ గ్రామీణ ఉపాధి హామీ పథకం.

(5) Importance of Globalisation
ప్రపంచీకరణ యొక్క ప్రాముఖ్యత.

(6) Physical Quality of life Index (PQLI).
భౌతిక జీవన నాణ్యత సూచి

(7) Concept of Inclusive Growth
సమ్మిళిత వృద్ధి భావన

(8) Theory of Demographic Transition
జనాభా పరివర్తన సిద్ధాంతం.

Section - B

Answer all the questions :- 5 x 10 = 50

(1) Explain the Rostow's Stages of Economic Growth.
రోస్టో ఆర్థిక వృద్ధి దశలను వివరించుము
(or).
Explain the Malxian Theory of Economic Growth.
కారల్ మార్క్స్ ఆర్థిక వృద్ధి సిద్ధాంతమును వివరించుము.

(2.) Explain the Unbalanced Growth Strategy.
అసంతులిత వృద్ధి భావనను వివరింపుము.
(లే).

What are Choice of Techniques. Explain which technique is suitable to developing Countries like India.
ఉత్పత్తికి పద్ధతుల ఎంపిక అనగా నేమి. భారత దేశం లాంటి అభివృద్ధి చెందుతున్న దేశాలలో ఏ ఉత్పత్తికి పద్ధతి సరియైనదో వివరింపుము.

(3.) Explain the Logic, features of Indian Economy.
భారత దేశ ఆర్థిక వ్యవస్థ లక్షణాలను వివరింపుము.
(లే)

Explain the New Population Policy 2000.
నూతన జనాభా విధానం, 2000 ను వివరింపుము.

(4.) What are the Causes of Income Inequalities, Suggest remedies.
ఆదాయం అసమానతలకు గల కారణాలను తెలిపి, పరిష్కార మార్గాలను సూచింపుము
(లే).

Explain the Causes of Unemployment, explain the measures taken by the Government in reducing unemployment.
నిరుద్యోగితను తగ్గించుటకు ప్రభుత్వం చేపట్టిన చర్యలను వివరింపుము.

(5.) What are the Economic Reforms introduced in Indian Economy.
భారత ఆర్థిక వ్యవస్థలో ప్రవేశపెట్టిన ఆర్థిక సంస్కరణలను తెలుపుము.
(లే)

What is the impact of LPG in Indian Economy.
భారత ఆర్థిక వ్యవస్థలో సరళీకరణ, ప్రపంచీకరణ, ప్రపంచీకరణ యొక్క ప్రభావాలను తెలుపుము.

× ——— ×

29/6/18.
Convenor

BOS Members

1 29/6/18
2 M. Swamulu 29/6/18
3 29.6.18
29.6.18

BA History CBCS I Semester syllabus_1.pdf

History_IIsem_2016-17AB.pdf

BA History CBCS III Semester Syllabus.pdf

History_IVSem_2015-16AB.pdf

History_Vsem_2015-16AB.pdf

History_VIsem_2015-16AB.pdf

ADIKAVI NANNAYA UNIVERSITY

RAJAMAHENDRAVARAM

Structure of B.A. HISTORY Syllabus under CBCS

Sl. No	Sem	Paper	Name of Paper	Nature	Hours/ Week	Credits	Marks	
							Mid Sem	Sem End
1	I	I	Ancient Indian History & Culture (From earliest times to 600 A.D)	Core	**5**	**4**	**25**	**75**
2	II	II	Early Medieval Indian History & Culture (600 A.D to 1526 A. D.)	Core	**5**	**4**	**25**	**75**
3	III	III	Late Medieval & Colonial History of India (1526 to 1857 A. D.)	Core	**5**	**4**	**25**	**75**
4	IV	IV	Social Reform Movement & Freedom Struggle (1820s to 1947 A.D.)	Core	**5**	**4**	**25**	**75**
5	V	V	Age of Rationalism and Humanism The World Between 15th& 18th Centuries	Core	**5**	**4**	**25**	**75**
6		VI	History & Culture of Andhra Desa (from 12th to 19th Century A.D.)	Core	**5**	**4**	**25**	**75**
7	VI	VII–(A)	History of Modern Europe (from 19th Century to 1945 A. D.)	Elective *	**5**	**4**	**25**	**75**
		VII-(B)	History of East Asia (from 19th Century A.D.to 1950 A.D)					
		VII–(C)	Contemporary History of The World (1945 to Circa 2000 A. D.)					
		VII–(D)	Basics of Journalism					
		VII–(E)	Historical Application in Tourism					
		VII –(F)	Modern Techniques in Archaeology					
8		VIII–A-1	Cultural Tourism In Andhra Pradesh	Cluster Elective (3)	**5**	**4**	**25**	**75**
		VIII–A-2	Popular Movements In Andhra Desa (1848 TO 1956 A.D.)					
		VIII–A-3	Contemporary History of Andhra Pradesh (1956-2014)					
					TOTAL	**32**	**200**	**600**

* **Candidate has to choose only one paper**

ADIKAVI NANNAYA UNIVERSITY
RAJAMAHENDRAVARAM
CBCS / Semester System
(W.e.f. 2016-17 Admitted Batch)
I Semester Syllabus
B.A. HISTORY

ANCIENT INDIAN HISTORY & CULTURE (from earliest times to 600 A.D)

(Indian History and Culture from Earliest Times to 647 A.D)

Unit – 1	Survey of Sources: Literary & Archaeological Sources; Influence of Geography on History; Unity in Diversity; Traces of Stone Age Cultures (Circa 3,50,000 B. C to 3,000 B. C); Indus Valley Civilization (Circa 3000 B. C to 1,500 B. C): Origin, Extent, Salient Features.
Unit – II	Vedic Age & Religious Reform Movements (Circa 1500 B. C to 600 B. C): Society, Polity, Economy, Culture during early and later Vedic period; Jainism and Buddhism: Causes, Doctrines, Spread, Importance and Impact.
Unit - III	Transition from Territorial States to Emergence of Empires (Circa 600to Century to 300 B. C): Rise of Mahajanapadas – Causes for Magadha's Success; Persian and Macedonian Invasions; Mauryan Empire: State, Imperial Administration, Economy, Ashoka'sDhamma, Art & Architecture, Significance & Downfall.
Unit - IV	Conditions during 200 B. C to 300 A. D.: Central Asian Contacts – Kushanas – Aspects of polity, society, Economy, Religion, Art& Architecture; The Age of Satavahanas: Pattern of Administration – Social, Economic, Religious & Cultural Developments; Sangam Age: The Three Early Kingdoms (Chola, Chera& Pandya) – Society, Language & Literature.
Unit – V	India between 300 A. D & 600 A. D.: The Rise and Growth of Guptas: Administration, Society, Economy, Religion, Art, Literature and Science & Technology – Decline.

References:

1	A.L. Basham, The Wonder That Was India, Calcutta ,1971
2	D.N.Jha, Ancient India
3	D.D.Kosambi, An Introduction to the Study of Indian History
4	D.P.Chattopadhyay, Science and Society in Ancient India
5	B.N.Mukherjee, The Rise and Fall of the Kushana Empire
6	K.A. NilakanthaShastri, A History of South India
7	R.C.Majumdar, K.K.Dutta&H.C.RoyChowdhuri (ed.), Advanced History of India
8	Kumkum Roy, The Emergence of Monarchy in North India: eighth to fourth centuries BC
9	RomilaThapar (et. al). India: Historical Beginnings and the Concept of the Aryan
10	M.L.K. Murthy, *Pre-and Protohistoric Andhra Pradesh upto 500 B.C.,* New Delhi, 2003

Study Tour: Study tour to local museum or at least to nearby historical sites is to be conducted.

Students should be asked to prepare an inventory of items preserved in the museum and their usage.

Students can be asked to create a calendar charting the dates of key events. This can be applied to an historical event or the sequence of events.

ADIKAVI NANNAYA UNIVERSITY:: RAJAMAHENDRAVARAM

CBCS/ SEMESTER SYSTEM

II SEMESTER :: BA HISTORY

(FOR 2016-17 ADMITTED BATCH)

Paper – II (Core Paper)

EARLY MEDIEVAL INDIAN HISTORY & CULTURE (600 A.D to 1526 A. D.)

(Indian History and Culture from 647 to 1526 A.D)

Unit – 1	Harsha & His Times: Administration, Religion – Hiuen Tsang -Polity, Society, Economy and Culture from 7th to 11th Century A. D. under Chalukyas of Badami& Eastern Chalukyas of Vengi.
Unit – II	Age of later Pallavas during 7th& 8th Centuries A. D.: Contribution to Cultural Development & Art & Architecture; The Chola Empire from 9th to 12 Century A. D.: Rise of the Empire, Administration and Cultural Life.
Unit - III	Conditions in India on the eve of Turkish Invasions; Early Invasions: Traces of Arab Invasion, Ghazni&Ghori; Delhi Sultanate (1206 to 1290 A.D.) under Slave Dyanasty.
Unit - IV	Delhi Sultanate (1290 to 1526 A.D.): Khaljis: Expansion & Consolidation, Administrative & Economic Reforms - The Tughlaqs - Decline & Disintegration of the Delhi Sultanate; Administration, Society, Economy, Technology, Religion, Art & Architecture under the Sultanate.
Unit – V	Cultural Development in India between 13th& 15th Centuries A. D.: Impact of Islam on Indian Society and Culture – Bhakti and Sufi Movements – Emergence of Composite Culture.

References:

1	Basham, A.L (ed) A Cultural History of India
2	Champakalakshmi, R Trade, Ideology and Urbanization : South India 300 BC – AD 1300
3	Chandra, S History of Medieval India (800 – 1700)
4	Chattopadyay, B.D The Making of Early Medieval India. (Delhi, 1994)
5	Habib, Irfan, Medieval India: The Study of a Civilization
6	Habibullah, A.B.M, The Foundation of Muslim Rule in India
7	Kumar Sunil, The Emergence of the Sultanate of Delhi
8	Nizami, K.A. Some Aspects of Religion and Politics in India in the 13th c
9	K.A. NilakantaSastri, A History of South India from Prehistoric Times to the Fall of Vijayanagara
10	K.A.NilkantaSastri, The Cholas
11	Shireen Moosvi, The Economy of the Mughal Empire
12	Stein, B Peasant, State & Society in Medieval South India
13	Yazdani, G. (ed) The Early History of the Deccan
14	R.C.Majumdar, The Age of Imperial Kanauj

Project: Students may be asked to prepare a project on influence of Islam and Hinduism in their respective areas.

Encourage students to write their autobiography or biography of their inspiring personalities

ADIKAVI NANNAYA UNIVERSITY
RAJAMAHENDRAVARAM
CBCS / Semester System
(W.e.f. 2015-16 Admitted Batch)

III Semester Syllabus

B.A. HISTORY

LATE MEDIEVAL & COLONIAL HISTORY OF INDIA (1526 to 1857 A. D.)

(History and Culture of India (1526 – 1857))

Unit – 1	India from 1526 to 1707 A. D.: Emergence of Mughal Empire - Sources, Conditions in India on the eve of Babur's invasion, Brief Summary of Mughal Polity – Sher Shah & Sur Interregnum – Expansion & Consolidation of Mughal Empire – Rise of Marathas &Peshwas.
Unit – II	Administration, Economy, Society and Cultural Developments under the Mughals – Disintegration of Mughal Empire.
Unit - III	India under Colonial Hegemony : Beginning of European Settlements – Anglo-French Struggle – Policies of Expansion - Subsidiary Alliance & Doctrine of Lapse - Consolidation of British Empire in India up to 1857 A. D.
Unit - IV	Economic Policies of the British (1757-1857): Land Revenue Settlements – Commercialization of Agriculture – Impact of Industrial Revolution on Indian Industry ; Administration of the Company – Regulating Charter Acts; Cultural & Social Policies: Humanitarian Measures & Spread of Modern Education
Unit – V	Anti-Colonial Upsurge –Peasant & Tribal Revolts - 1857 Revolt – Causes, Nature& Consequences.

References:

1	Bipan Chandra, Modern India
2	Bipan Chandra, Rise and Growth of Economic Nationalism in India
3	C.A.Bayly, Indian Society and the Making of the British Empire
4	HarbansMukhia, The Mughals of India
5	Irfan Habib, Medieval India: The study of a Civilization
6	L.P.Sharma, The Mughal Empire
7	R.P.Dutt, India Today
8	Sathis Chandra, Essays on Medieval Indian History
9	Tripathi R.P., The Rise & Fall of the Mughal Empire

Project Work: Students should be asked to identify structures belonging to Mughal period or colonial period and present status.

Make students to create a collage or collection of images related to a topic.

Images can be hand drawn, printed, or clipped from a magazine or newspaper.

ADIKAVI NANNAYA UNIVERSITY

CBCS/SEMESTER SYSTEM

IV SEMESTER : B.A. HISTORY

Paper – IV (Core Paper)

SOCIAL REFORM MOVEMENT & FREEDOM STRUGGLE (1820 to 1947 A.D.)

(History and Culture of India (1857 – 1947))

Unit – 1	Social, Religious & Self-Respect Movements: Social & Cultural Awakening – Brahma Samaj, Arya Samaj, Theosophical Society, Ramakrishna Mission, Aligarh Movement – Emancipation of Women – Struggle Against Caste: JyotibaPhule, Narayana Guru, Periyar, Dr. B. R. Ambedkar.
Unit – II	Growth of Nationalism in the 2nd Half of 19th Century – Impact of British Colonial Policies under Viceroys' Rule and the Genesis of Freedom Movement – Birth of Indian National Congress.
Unit - III	Freedom Struggle from 1885 to 1920: Moderate Phase — Partition of Bengal - Emergence of Militant Nationalism –Swadeshi & Boycott Movement – Home Rule Movement.
Unit - IV	Freedom Struggle from 1920 to 1947: Gandhiji's Role in the National Movement – Revolutionary Movement –Subhas Chandra Bose.
Unit – V	Muslim League & the Growth of Communalism – Partition of India – Advent of Freedom - Integration of Princely States into Indian Union – SardarVallabhai Patel.

References:

1	Anil Seal, Emergence of Indian Nationalism
2	Banerjee, Sekhar, From Plassey to Partition
3	Bayly, C A., Indian Society and Making of the British Empire
4	Brown, Judith: Gandhi's Rise to Power
5	Chandra, Bipan, et. al., India's Struggle for Independence
6	Chatterjee, Jaya, Bengal Divided: Hindu Communalism and Partition 1932-1947
7	Desai, A. R, : Social Background to Indian Nationalism
8	Dutt, R.P., India Today
9	Joshi, P.C., Rammohun and the Forces of Modernisation in India
10	Sarkar Sumit: Modern India 1885 to 1947
11	Stokes, Eric, Peasants and the Raj
12	R.C. Majumdar, The Struggle for Freedom, BharatiyaVidhyaBhavan Series

Project Work: As part of Internal Assessment, Project Work may be given on regional or local history related to culture, economy, struggles, land relations, cultural institutions and their influence on the society.

They can also be asked to create a play centered on any event in social reform movement or freedom struggle.

ADIKAVI NANNAYA UNIVERSITY:: RAJAMAHENDRAVARAM

B. A. HISTORY

III Year B. A. Programme (UG) Courses – Under CBCS

Semester – V

Paper – V (Core Paper)

AGE OF RATIONALISM AND HUMANISM
THE WORLD BETWEEN 15TH& 18TH CENTURIES

(History of Modern World (1453 – 1821 A.D))

Unit – 1	Feudalism -Geographical Discoveries: Causes – Compass & Maps – Portugal Leads and Western World Follows – Consequences;
Unit – II	The Renaissance Movement: Factors for the Growth of Renaissance – Characteristic Features - Transformation from Medieval to Modern World; Reformation & Counter Reformation Movements: The Background – Protestantism – Spread of the Movement– Counter Reformation– Effects of Reformation
Unit - III	Emergence of Nation States: Contributory Factors - England and other Nation States – Impact due to the Emergence of Nation States.;Age of Revolutions: The Glorious Revolution (1688) – Origin of Parliament – Constitutional Settlement – Bill of Rights – Results.
Unit - IV	Age of Revolutions: The American Revolution (1776) – Opening of New World – Causes – Course – Declaration of Independence, 1776 – Bill of Rights, 1791 – Significance.
Unit – V	Age of Revolutions: The French Revolution (1789) – Causes - Teachings of Philosophers - Course of the Revolution – Results.

References:

1	Burke, Peter, The Renaissance
2	C.J.H. Hayes, Modern Europe up to 1870
3	C.D. Hazen, Modern Europe up to 1945
4	Christopher Hill, From Reformation to Industrial Revolution
5	Elton, G.R., Reformation Europe, 1517-1559
6	Ferguson, The Renaissance
7	Gilmore, M.P., The World of Humanism, 1453-1517
8	Hilton, Rodney, Transition from Feudalism to Capitalism
9	J.H.Parry, The Age of Renaissance
10	J.N.L. Baker, History of Geographical Discoveries and Explorations
11	The New Cambridge Economic History of Europe, Vol. I, VII.

Project Work: Individual or group projects may be presented by the students regarding preparation of bibliography on various topics.

Students should also be asked to construct glossaries to help them study and review lessons while helping them to understand a large array of vocabulary words.

B. A. HISTORY

III Year B. A. Programme (UG) Courses – Under CBCS

Semester – V

Paper – VI (Core Paper)

HISTORY & CULTURE OF ANDHRA DESA (from 12th to 19th Century A.D.)

(History and Culture of Andhra from Satavahanas to 1857 A.D)

Unit – 1	Andhra during 12th& 13th Centuries A.D.: Kakatiyas – Origin & its Antecedents – Administration – Social & Economic Life – Industries & Trade - Promotion of Literature and Culture – Architecture & Sculpture – Decline; The Age of Reddy Kingdoms: Patronage to Literature – Trade & Commerce.
Unit – II	Andhra between 14th & 16th Centuries A.D.: Vijayanagara Empire: Polity, Administration, Society & Economy – Sri Krishna Devaraya and his contribution to Andhra Culture – Development of Literature & Architecture – Decline and Downfall.
Unit - III	Andhra through 16th& 17th Centuries A.D.: Evolution of Composite Culture - The QutbShahis of Golkonda – Origin & Decline – Administration, Society & Economy – Literature & Architecture.
Unit - IV	The 18th& 19th Centuries in Andhra: East India Company's Authority over Andhra – Three Carnatic Wars – Occupation of Northern Circars and Ceeded Districts –Early Uprisings – Peasants and Tribal Revolts.
Unit – V	The 18th& 19th Centuries in Andhra: Impact of Company Rule on Andhra – Administration – Land Revenue Settlements – Society – Education - Religion – Impact of Industrial Revolution on Economy – Peasantry & Famines – Contribution of Sir Thomas Munroe, C. P. Brown & Sir Arthur Cotton – Impact of 1857 Revolt in Andhra

References:

1	BalenduSekharam, The Andhras Through the Ages
2	K. Sathyanarayana, A Study of the History and Culture of Andhras
3	Mallampalli Soma SekharaSarma, History of the ReddiKindogms
4	K.A.N.Sastry, A History of South India
5	H.K.Sherwani, History of the KutubShahi Dynasty
6	P.R.Rao, History of Modern Andhra
7	KhandavalliLakxmiranjanam&BalenduSekharam, ఆంధ్రులచరిత్ర – సంస్కృతి
8	SuravaramPratap Reddy, ఆంధ్రులసాంఘికచరిత్ర
9	B.S.L.Hanumanta Rao, ఆంధ్రులచరిత్ర
10	I.K.Sarma, *Early Historic Andhra Pradesh,500 B.C.-624 A.D.*, New Delhi, 2008
11	B. Rajendra Prasad, *Early Medieval Andhra Pradesh, A.D.624 -1000 A.D.*, New Delhi, 2009
12	C. Somasundara Rao, *Medieval Andhra Pradesh, A.D. 1000 -1324 A.D.*, New Delhi, 2011
13	R. Soma Reddy, *Late Medieval Andhra Pradesh, A.D. 1324-1724 A.D.*, New Delhi, 2014

Project Work: Students may be asked to identify families/ areas/ institutions/ personalities/ monuments related to freedom struggle and prepare dissertation under the guidance of a teacher so as to equip them with better understanding of society and historical processes. This exercise should also aim at exposing the spirit of research, analysis, criticism, innovation and invention among the students.

B. A. HISTORY

III Year B. A. Programme (UG) Courses – Under CBCS

Semester – VI

Paper – VII-(A) :: (Elective Paper)

HISTORY OF MODERN EUROPE (from 19th Century to 1945 A. D.)

(History of Modern World (1821 – 1945))

Unit – 1	Industrial Revolution: Origin, Nature and Impact.
Unit – II	Unification Movements in Italy & Germany and their Impact.
Unit - III	Communist Revolution in Russia – Causes, Course and Results – Impact on World Order.
Unit - IV	World War I: Age of Rivalry in Europe Between 1870 and 1914 – Results of the War – Paris Peace Conference - League of Nations.
Unit – V	World War II: Causes, Fascism & Nazism – Results; The United Nations Organization: Structure, Functions and Challenges.

References:

1	J.A.Hobson, Imperialism: A Study
2	C.D. Hazen, Modern Europe up to 1945
3	H.A.L.Fisher, History of Europe
4	C.M.M.Ketelbey, A History of Modern Times
5	Grant and Temperley (ed), Europe in the 18th and 20th Centuries
6	David Thomson, Europe Since Napoleon
7	A.P.J.Taylor, The Struggle for Mastery in Europe
8	S.P.Nanda, History of Modern World
9	S.N.Dhar, International Relations and World Politics Since 1919

Project Work: Project work on the consequences of industrialization & globalization on society and economy should be given to students.

B. A. HISTORY

III Year B. A. Programme (UG) Courses – Under CBCS

Semester – VI

Paper – VII-B :: (Elective Paper)

HISTORY OF EAST ASIA (from 19th Century A.D.to 1950 A.D)

Unit – 1	Pre-colonial China - The nature and structure of the traditional Chinese Society, Polity, Economy; Colonial Penetration in China -Tribute system, Canton system and their collapse - Opium Wars and Treaties with imperialist powers and struggle for concessions in China - Increasing western economic interests- Open-Door Policy.
Unit – II	Chinese Popular Movements with special reference to Taiping Revolt - Cause, Nature & Legacy; The Self-Strengthening Movement - Boxer Rebellion and its consequences - Republican Revolution of 1911- Role of various social classes - Sun Yat Sen.
Unit - III	Nationalism and Communism in China - Emergence of the Republic and Yuan Shi Kai - New Intellectual ideas and May Fourth Movement- Political crisis in the 1920's- The first United Front- Kuomintang-Communist Conflict- Ten years of Nanking Government - The Communist Party under Mao Tse Tung- Red Army- Long March- The Chinese Revolution (1949)- ideology, causes and significance - the Establishment of the Peoples' Republic of China.
Unit - IV	Japan during Pre- Restoration Period - The Tokugawa Shogunate- Encounter with the West- the Perry Mission and the opening up of Japan to the West - The crisis and fall of Shogunate - Meiji Restoration (1867-68) - Processes of modernization- social, military, political and educational - Popular and Democratic Movements - Meiji Constitution - Rise of Political Parties.
Unit – V	Economic Modernization - Emergence of Japan as an Imperial Power - The Sino-Japanese War - The Anglo-Japanese Alliance - The Russo- Japanese War - World War I and after- Japan in the Pacific and the Washington Conference - Manchurian Crisis - Failure of the Democratic System and the Rise of Militarism in the1930's and 1940's - Japan and the World War II - Post War Japan under General MacArthur.

References:

1	Allen George – A Short Economic History of Modern Japan
2	Beckmann George M – Modernization of China and Japan
3	Beckmann George M - The Making of Meiji Constitution
4	Bianco Lucian – Origins of the Chinese Revolution, 1915-1949
5	The Cambridge History of Japan Vols V and VI
6	The Cambridge History of China Vol X
7	Chen Jerome – Mao Tse Tung and the Chinese Revolution
8	Fitzgerald C.P. – Birth of Communist China
9	Peffer Nathaniel – The Far East: A Modern History
10	Vinacke H – A History of the Far East in Modern times

Project Work: A project report on Sino-India Relations; Chinese economic leadership; Japan's present status

B. A. HISTORY

III Year B. A. Programme (UG) Courses – Under CBCS

Semester – VI

Paper – VII-(C) :: (Elective Paper)

CONTEMPORARY HISTORY OF THE WORLD (1945 to Circa 2000 A. D.)

Unit – 1	Debate on the origins of the Cold War - Emergence of Soviet and American economic and military alliances: NATO, WTO, IMF, World Bank, Warsaw, COMECON.
Unit – II	USSR's relation with the East European countries (1945-64) - The US foreign policy in the Post war period: Truman Doctrine and Marshall Plan.
Unit - III	Disintegration of European Empires and the emergence of the Third World - The Non-Aligned Movement - Indo-Pakistan relations - Liberation war of Bangladesh - The Liberation Struggle of Vietnam (1945-54 and 1954-1975) - Sino- Soviet relations - Sino- U.S. relations – SAARC.
Unit - IV	Bi-polarism and regional conflicts: War in Korea – Crisis in Cuba – Conflict in the Middle East (Arab – Israel wars of 1948-49,67, 1973) – Activities of P.L.O- Intifada – Gulf War of 1990-91 -
Unit – V	Reunification of Germany - The end of Socialist regime and the disintegration of USSR; The end of the Cold War - The onset of Globalization - American Uni-polarism and its significance for international politics.

References:

1	C.Brown&J.Mooney, Cold War to Détente 1945-83
2	Chain Herzog, The Arab Israeli War
3	Eric Hobsbawm, Age of Extremes: The Short Twentieth Century 1914-1991
4	H.Higgins, Vietnam
5	J.Bhagwati, In Defense of Globalization
6	J.N.Dixit, Across Borders: Fifty Years of Indian's Foreign Policy
7	Karuna Kaushik, History of Communist Russia 1917-1991
8	LipyongJ.Kim, The Strategic Triangle: China, the United States and the Soviet Union
9	O.Leorose and Richard Sisson, War and Secession: Pakistan, India and the creation of Bangladesh
10	M.Hastings, The Korean War

Project Work: Project work on India's foreign policies – Strengths & Challenges; Regional Cooperation; International Relations

B. A. HISTORY

III Year B. A. Programme (UG) Courses – Under CBCS

Semester – VI

Paper – VII-D (Elective Paper)

BASICS OF JOURNALISM

Unit – 1	Definition of Journalism – Nature and Scope – Principles and Functions – Mass Communication Media – Concept of Fourth Estate – Democracy and the Press – Freedom of Press - Limitation of Freedom.
Unit – II	Early Forms of Mass Communication – Primitive Types of Journalism - Proclamations –War Reports in Medieval times - Significance of Print Revolution– Telegraphic Communication – Morse Code –Radio - Changes in Printing Techniques – Offset – DTP – Electronic Revolution - Digitalization – Online Journalism.
Unit - III	Journalism in the Contemporary World- Press Commission of 1947 – Newspaper Magnates – Corporate Bodies – Commercialization – News Agencies – Reuters – AP, UPI, AFT etc.,. TV & Journalism.
Unit - IV	Ideologies & the Press –Social Responsibility – Woman Issues - Workers & Peasant Issues - Politicization - Competition - Advertising and Journals – Cost of Production and Marketing - Sensationalisation – Networking.
Unit – V	Beginnings of Indian Press – James Hicky – Early Publications from Bengal – Contents of early English Journals – Indian Vernacular Pres – Aims & Objectives of the early Newspapers - Development of Press after Independence

References:

1	Agee Ault & Emery, Introduction to Mass Communication
2	Asa Briggs, A Social History of Media From Gutenberg to the Internet
3	Gardiner Lambert, A History of Media
4	Kamat M V., Professional Journalism
5	Krishnamurthy N, Indian Journalism
6	Herman Edward and Nom Chomsky, The Political Economy of Mass Media
7	Raghavan G N S, The Press in India
8	Rivers Williams, Mass Media and Society

Project Work: Students should be given assignment to collect news on important activities in their local areas and present reports. They should also be asked to prepare reports on college level activities and approach the local reporters for the publication of the same.

Students can also be asked to create a questionnaire and survey in the locality to gather an understanding about thematic issues like water, sanitation, health for a presentation.

B. A. HISTORY

III Year B. A. Programme (UG) Courses – Under CBCS

Semester – VI

Paper – VII-E :: (Elective Paper)

HISTORICAL APPLICATION IN TOURISM

Unit – 1	Tourism: Definition, Nature and Scope, Concepts- History of Tourism and its Development- Motivations for Travel-Types of Tourism - Components of Tourism
Unit – II	Social and Economic significance of Tourism - Tourism as an Industry - Components of Tourism Industry - Attractions, Transport, Accommodation, Shopping, Entertainment, Hospitality, Airlines, Travel Agencies – Impact of Tourism on Physical Environment.
Unit - III	History as Tourism product- Archaeological and Historical Monuments –Ajanta, Ellora , Sanchi, Amaravati, Nagarjunakonda, Mahabalipuram, Kanchi, Badami, TanjavurBrihadisvara temple, Puri, Ramappa temple, Alampur, Halebid, Mukhalingam, Tadiparti, Hampi.
Unit - IV	Cultural and Pilgrimage Tourism- Fairs and Festivals- Ajmir, Amruthsar, Madhurai, Mount Abu, Warangal, Goa, Mahanandi, Tirupati, Lepaskhi, Simhachalam; Kuchapudi dance, Khajuraho Festival, JagannathRathayatra, Flamingo Festival.
Unit – V	Field Trip & Viva-voce: It would be compulsory for the students to attend the field trip to the tourist centers/ historical monuments and submit a comprehensive Report to the Department. The Viva – Voce would be based especially on field trip of tourist centers / historical monuments in surrounding areas. The Viva – Voce will be of 10 marks, and Tour Report should be evolved for 15 marks.

References:

1	Lucas Jr., H. C. *Information Technology for Management,* McGraw Hill, 2005
2	Shobita Chopra, *Tourism and Development in India,* New Delhi, 1992
3	Singh Ratandeep : *Handbook of Environmental Guidelines for Indian Tourism*
4	Bhatia, A.K., *Tourism Development Principles and Practices,* New Delhi, 1983
5	Bhatia, A.K., *Tourismin India,* New Delhi
6	VirendraKaul, *Tourism and the Economy,* New Delhi, 1994
7	Gopal Singh, *The Geography of India* , Delhi ,1988
8	Ghulam Yazdan, The Art and Architecture of Deccan
9	Burkart A.J. and Medlik , Tourism: Past Present & Future : (London, Heinemann)
10	M.P. Bezbaruah, Tourism : Future Challenges and Opportunities.
11	John Anderson, Catalogue and Handbooks of the Archaeological Collections in the Indian Museum, 2 Volumes
12	Seth P.N. *Successful Tourism –Planning and Management,* New Delhi, 1987
13	Allchin F.R. *Cultural Tourism in India; Its scope and Development,* New Delhi

B. A**B. A. HISTORY**

III Year B. A. Programme (UG) Courses – Under CBCS

Semester – VI

Paper – VII-F :: (Elective Paper)

MODERN TECHNIQUES IN ARCHAEOLOGY

Unit – 1	Dating Techniques in Archaeology - Relative Techniques – Stratigraphy - Absolute Dating Methods – Carbon 14 – Fluorine – Potassium Argon – Limitations of Carbon 14.
Unit – II	Dendrochronology – Pollen Analysis – Petrology – Thermo Luminescence – Typology – Terracotta, Metallic, Stone, Sarcophagi.
Unit - III	Post Excavation Activities – Collection and Classification of Artefacts – Field Laboratory – Services of Curator – Preservation of the Finds - Preparation and Publication of Archaeological Report.
Unit - IV	Conservation & Exhibition of Artefacts – Methods of Conservation – Organic Objects – Various kinds of Metallic Objects – Need and Importance.
Unit – V	Recent Trends in Indian Archaeology – Underwater Archaeology – Indian Institute of Oceanography, Goa – Recovery of Submerged Sites – Dwaraka – Environmental Archaeology.

References:

1	Atkinson R.J.C., Field Archaeology
2	Chakrabarti D.K., Theoretical Perspectives in Indian Archaeology
3	Rajan K., Archaeology, Principles and Methods
4	Raman K.V., Principles and Methods in Archaeology
5	Paddya K., *The New Archaeology and Aftermath*
6	Rao, S. R., Dwaraka Excavations

Study Tour: Study tour to archaeological sites & museums at least to nearby historical sites is to be compulsorily undertaken. Students should be asked to prepare notes on the objects, how they are collected and maintained in the museums.

. HISTORY

III Year B. A. Programme (UG) Courses – Under CBCS

Semester – VI

Paper – VIII-A-1 (Cluster Elective Paper –1)

CULTURAL TOURISM IN ANDHRA PRADESH

Unit – 1	Concepts of Tourism: Nature – Scope – Definition – Tourists & Excursionists – Domestic & International Tourists.
Unit – II	Types of Tourism: Heritage Tourism – Pilgrimage Tourism - Recreation Tourism – Sports & Adventure Tourism - Advance Tourism – Health Tourism – Environment Tourism.
Unit - III	History and Tourism – Heritage Sites – Definition – Ancient Monuments Preservation Act of 1904, Act of 1958 and Act of 1972 - Archaeological Survey of India – Stage Museums.
Unit - IV	Planning and Development of A.P. Tourism: APTDC – Aims & Objectives – Fairs & Festivals – Andhra Cuisine –Restaurants - Eco Tourism – Beaches & Hill Resorts – Mountaineering – Tourist Places in A.P.
Unit – V	Modalities of Conducting Tourism: Field Work - Visit to a Site – Conduct of Research – Preparation of Project Report

References:

1	APTDC Publications
2	Ashorth G.J, Marketing in Tourism Industry
3	Bhatia A.K., Tourism Development
4	Clare, Gunn, Tourism Planning
5	Khan, Nafees A, Development Tourism in India
6	Krishna K Karama, Basics of Tourism
7	Marrison A.M, Hospitality and Travel Marketing
8	RangaMukesh, Tourism Potential in India
9	Sarkar H, Museums and Protection of Monuments and Antiquities in India
10	Vijayalaxmi K.S., History of Tourism

Field Trip: Compulsory field trip to destinations of architectural, archaeological, historical and cultural importance is to be conducted. Students should be made to prepare detailed reports on the hand-on experience they gained in such trips.

Students should be encouraged to create **blogs** for local site seeing places and to write and organize articles on those spots.

B. A. HISTORY

III Year B. A. Programme (UG) Courses – Under CBCS

Semester – VI

Paper – VIII-A-2 (Cluster Elective Paper 2)

POPULAR MOVEMENTS IN ANDHRA DESA (1848 TO 1956 A.D.)

(History and Culture of Andhra from 1857 to 2014)

Unit – 1	Social & Self Respect Movements: Social Conditions –KandukuriVeeresalingam, Raghupathi Venkata Rathnam Naidu, GuruzadaApparao, Komarraju Venkata Laxmana Rao; New Literary Movements: Causes – RayaproluSubbarao, ViswanathaSathyanarayana, GurramJashua, BoyiBheemanna, SriSri – Impact.
Unit – II	Freedom Movement in Andhra (1885-1920): Contributory Factors – Vandemataram Movement – Swadeshi & Boycott programs – Glorious Events at Rajahmundry, Kakinada, Kotappakonda& Tenali – Home Rule Movement in Andhra.
Unit - III	Freedom Movement in Andhra (1920-1947): Non-Cooperation Movement – ChiralaPerala, Palanadu&Pedanandipadu Activities – Alluri Seetarama Raju &Rampa Revolt (1922-24) – Anti-Simon Commission Movement – Civil Disobedience Movement – Quit India Movement.
Unit - IV	Movement for Separate Andhra State (1953): Causes – Andhra Maha Sabha – Andhra Provincial Congress Committee – Andhra University – Conflict between Coastal Andhra &Rayalaseema – Sri Bagh Pact – Constitution of Committees & their Contribution – Martyrdom of PottiSriramulu – Formation of separate Andhra State.
Unit – V	Movement for formation of Andhra Pradesh (1956): VisalandhraMahasabha – Role of Communists – States Reorganization Committee – Gentlemen's Agreement – Formation of Andhra Pradesh.

References:

1	B. Kesava Narayana, Political and Social Factors in Modern Andhra
2	K.V.Narayana Rao, The Emergence of Andhra Pradesh
3	M. Venkata Rangaiah, The Freedom Struggle in Andhra Pradesh
4	P.R.Rao, History of Modern Andhra
5	SarojiniRegani, Highlights of Freedom Movement
6	SarojiniRegani, ఆంధ్రలోస్వాతంత్ర్యోద్యమచరిత్ర
7	V. Ramakrishna, Social Reform Movement in Andhra
8	B. Kesava Narayana, Modern Andhra & Hyderabad – 1858 – 1956 A.D., 2016

Project Work: With the aim of understanding of techniques and methods of research and presentation, students should be encouraged to draft a report on local writers, struggles, human rights movements, different types of social discrimination etc.

B. A. HISTORY

III Year B. A. Programme (UG) Courses – Under CBCS

Semester – VI

Paper – VIII-A-3 (Cluster Elective Paper – 3)

COMTEMPORARY HISTORY OF ANDHRA PRADESH (1956-2014)

Unit – 1	Socio-Economic Changes in Andhra Pradesh – River Projects & Infrastructural Development – Education & Scientific Progress – Regional Politics – Emergence of Telugu Desam Party.
Unit – II	Growth of Leftist Ideology – Marxist & Radical Literature – Naxalbary Movement - Communist Activities - Electoral Politics – Present Status of Communist Movement.
Unit - III	Dalit Movement – Understanding Untouchability - Education – Literature - Struggle for Identity – Demand for Political Space.
Unit - IV	Early trends towards Bifurcation: Jai Telengana Movement (1969) – Mulki Rules – Legal Battle - Jai Andhra Movement (1972) – Six Point Formula (1973).
Unit – V	Bifurcation of Andhra Pradesh: Power Politics – Economic Discontentment – Riparian Disputes - Unemployment –Foundation of Telangana RastraSamiti – Movements for separate Telangana & unified Andhra Pradesh – Formation of Telangana State (2014)

References:

1	Barry Pavier, The Telangana Movement - 1944-51
2	Chinnayya Suri, Agrarian Movement in Andhra, 1921-71
3	K. Ramachandra Murthy, Unveiling Telangana State
4	P.R.Rao, History of Modern Andhra
5	S. Ratnakar, A Brief History of Telangana & Andhra Pradesh
6	Sri Krishna Committee Report
7	TarimelaNagireddy, India Mortgaged
8	Y.V.Krishna Rao, Growth of Capitalism in Indian Agriculture: A Case Study of A.P.
9	KattiPadmarao, దళితదర్శనం
10	Y. Chinnarao, దళితఉద్యమచరిత్ర
11	News Paper Clippings (2001-2014)

Project Work: Students may be asked to prepare assignments on local caste struggles; regional disparities; aspirations; recent developments etc., through interviews and verifying press reports.

B.A. Pub. Adm I Sem -Wef 2016-17 AB_1.pdf

Publicadministration_IIsem_2016-17AB.pdf

B.A. Pub. Adm III Sem From 2015-16 AB.pdf

Public Ad_IVSem_2015-16AB.pdf

Public Administration_Vsem_2015-16AB.pdf

Public Administration_VIsem_2015-16.pdf

ADIKAVI NANNAYA UNIVERSITY

RAJAMAHENDRAVARAM

CBCS / Semester System

(W.e.f. 2016-17 Admitted Batch)

B.A. PUBLIC ADMINISTRATION

I Semester Syllabus

THEORIES OF PUBLIC ADMINISTRATION (Core)

UNIT - I: Introduction

1. Meaning, Nature, Scope and importance of Public Administration
2. Evolution and State of Public Administration.

UNIT - II:

3. PA Relationship with other Social Sciences: With special reference to Political Science, Economics, Sociology and Psychology.
4. Politics & Administration Dichotomy- F.J. Good knowand Woodrow Wilson

UNIT-III: Theories and Approaches

5. Classical Approaches :Henry Fayol, Gullick and Urwick
6. Scientific Management Approach:F.W. Taylor

UNIT-IV

7. Bureaucratic Approach:Max Weber and Karl Marx
8. Human Relations Approach: Elton Mayo
9. Behavioural Approach: Herbert A.Simon

UNIT-V

10. Socio - Psychological Approach: Hierarchy of Needs:Abraham Maslow; Theory X and Theory Y: Douglas Mc Gregor
11. Ecological Approach: F.W.Riggs

Reference Books:

1. PrabhutvaPalanaSastram:Bhavanalu,Siddhantalu(Tel),Telugu Akademi
2. D.Ravindra Prasad and Y. Pardhasaradhi (eds.,), Public Administration: Concepts, Theories and Principles (Eng),Telugu Akademi, Hyd, 2011.
3. R.K.Sapru, Administrative Theories and Management Thought (Third Edition), PHI, New Delhi, 2014.
4. Avasthi, Amareswar and Maheswari Sri Ram: Public Administration (30th Edition),Lakshminarayan Aggarwal,Agra , 2010
5. RumkiBasu, Public Administration: Concepts and Theories,(5th revised ed), Sterling Publishers, New Delhi, 2004
6. Nicholas Henry, Public Administration and Public Affairs (10th Edition), PHI, New Delhi, 2007

ADIKAVI NANNAYA UNIVERSITY:: RAJAMAHENDRAVARAM
CBCS/ SEMESTER SYSTEM
II SEMESTER :: BA **PUBLIC ADMINISTRATION**

(FOR 2016-17 ADMITTED BATCH)

PAPER-II- PRINCIPLES OF PUBLIC ADMINISTRATION (Core)

UNIT-I: Concepts and Principles of Public Administration

1. **Administrative Planning**
2. **Leadership and Supervision**

UNIT-II: Emerging trends

3. **Communication and Public Relations: Meaning and Importance**
4. **New Public Administration: Minnow brook Perspectives I, II&III**

UNIT-III

5. **Public Administration and Public Policy, Decision Making**
6. **New Public Management**

UNIT - IV

7. **Governance**
8. **Public Administration in the context of Globalization, Privatization and Liberalization**

UNIT-V

9. **Post Modern Public Administration**
10. **Administrative Accountability-legislative, Executive, Judicial and Popular Control**
11. **Chief Executive- Role and Functions**

Reference Books:

1. **PrabhutvaPalanaSastram:Bhavanalu,Siddhantalu(Tel),Telugu Akademi**
2. **Principles of Public Administration, Telugu Akademi, Hyderabad.**
3. **D.Ravindra Prasad and Y. Pardhasaradhi (eds.,) Public Administration: Concepts, Theories andPrinciples(Eng), Telugu Akademi, Hyd, 2011.**
4. **Avasthi and Maheswari, Public Administration,(30th Edition),Lakshmi Narayan Agarwal, Agra - 2010.**
5. **RumkiBasu, Public Administration: Concepts and Theories,(5th Revised ed), Sterling Publishers, New Delhi,2004**

ADIKAVI NANNAYA UNIVERSITY

RAJAMAHENDRAVARAM

CBCS / Semester System

(From 2015-16 Admitted Batch)

B.A. PUBLIC ADMINISTRATION

III Semester Syllabus

INDIAN ADMINISTRATION (Core)

UNIT-I: Historical Background

- Evolution of Indian Administration - Ancient, Medieval and British Periods-Changing trends in Indian Administration after Independence.
- Context of Indian Administration-Social, Economic and Political

UNIT-II: Central Administration

- Union Government and Administration - President, Role of Prime Minister in the coalition era, Cabinet, Cabinet Secretariat, Cabinet Committees and Prime Minister's Office, Central Secretariat
- Union and State Relations and Agencies - Administrative Relations- Inter State Council, Finance Commission, All India Services, NeetiAyog, ,Staff Selection Commission.

UNIT-III: Local Administration

- Public Enterprises in India: a) Forms of Public Enterprises b) Privatization and Dis-investment
- State Government and Administration: Governor, Chief Minister, Council of Ministers, Secretariat & Directorates, General Administration Department and Chief Secretary

UNIT-IV:

- District Administration: Changing role of District Collector, Mandal and Village Administration in Andhra Pradesh
- Local Governments-Rural and Urban-Structure and functions - 73rd Constitutional Amendment
- 74th Constitutional Amendment

UNIT-V: Administrative Accountability

- Control over Administration
- Legislative and Judicial Control

Reference Books:

1. BharatadesaPalana(Tel), Telugu Akademi
2. Indian Government and Politics, Telugu Akademi, Hyd, 2007.
3. Ramesh k. Arora &Rajni Goyal, Indian Public Administration: Institutions and Issues (2rd Revised Edition), New Age International Publications, New Delhi, 1995.
4. Avasthi and Avasthi, Indian Administration (16th Edition), Lakshmi Narain Agarwal, Agra-2010-11.
5. BhattaCharyaMohit, New Horizons of Public Administration, Jawahar Publishers, New Delhi, 2007.
6. The Constitution of India, Government of India-2006.
7. Hoshiar Singh & Pankaj Singh, Indian Administration,Pearson Education India, 2011.

ADIKAVI NANNAYA UNIVERSITY

CBCS/SEMESTER SYSTEM

SEMESTER-IV

IV-SEMESTER BA : BA PUBLIC ADMINISTRATION

(w.e.f 2015-16 admitted batch)

PAPER IV: ADMINISTRATION - EMERGING ISSUES

UNIT-I: CONTROL OVER GOVERNMENT ADMINISTRATION

1. Lokpal, Lokayukta and Central Vigilance Commission
2. Consumer Protection Forums

UNIT - II:

3. Right to Information Act (RTI)
4. National and State Human Rights Commissions

UNIT - III:

5. Administration of Welfare Programmes for Weaker Section - SCs, STs, BCs, Women and Minorities, SC and ST Atrocity Act
6. Administrative Reforms: Recommendations of important Commissions and Second ARC

UNIT - IV Emerging Issues

7. Mechanisms for Disaster Management - Cyclones, Earth Quakes and Floods
8. Governance and e-Governance Applications in Indian Administration.

UNIT - V

9. Public Private Partnerships and Voluntary Sector.
10. Public Corporations - Independent Regulatory Commissions

Reference Books:

1. Indian Government and Politics , Telugu Akademi,Hyd, 2007
2. Avasthi & Avasthi, Indian Administration (Sixteenth Edition), Lakshmi Narayan Agarwal, Agra- 2010-11.
3. Bhattacharya Mohit, New Horizons of Public Administration, Jawahar Publishers, New Delhi , 2007.
4. Disaster Management Act,2005
5. Siuli Sarkar, Public Administration in India, PHI, New Delhi, 2010.
6. Reports of the Second Administrative Reforms Commission

ADIKAVI NANNAYA UNIVERSITY

BA -PUBLIC ADMINISTRATION -CBCS SEMESTER WISE

w.e.f. 2015-2016, Modified in April, 2016

THIRD YEAR- SEMESTER-V

PAPER- V- Public Policy (Core)

UNIT-I: Introduction to Public Policy

- **Public Policy, Meaning, Nature andScope**
- **Importance of Public Policy Studying the modern and changing context**

UNIT-II: PolicyMaking: Role of Official Policy Makers

- **Role of Political Executive**
- **Role of Bureaucracy**
- **Role of Legislature**
- **Role of Judiciary**
- **Policy Making Process in India**

UNIT-III: Public Policy Making: Major Determinants

- **Interest groups and Pressure Groups**
- **Political Parties**
- **Mass Media**
- **Social Movements**
- **Role of Non-Governmental Agencies in Policy-Implementation**
- **International Agencies**
- **Role of Governmental Agencies in Policy-Implementation.**

UNIT-IV: Policy Intervention- Case Studies - Impact

- **Agriculture Policy-Land Reforms**
- **Anti- Poverty Programmes**
- **Environmental Policy-Industrial Policy**
- **Panchayat Raj Institutions**
- **Policy Impact**
- **Feedback from Stake holders**
- **Non-governmental Agencies**
- **Political Parties- Bureaucracy**

UNIT-V: Policy Evalution – Public Policy Models

- **Policy Evaluation-Criteria for Policy Evaluation-Problems**
- **Neeti Aayog**
- **Survey and Sampling Agencies**

- **International Agencies**
- **Independent Study Groups.**
- **Policy Making Approaches and Models of Policy Analysis**
- **Policy Analysis: An Over View.**

Project Work:

Assess the administration of a Public Policy by any Government Organization.

Reference Books:

1. **R.K. Sapru, Public Policy: Formulation, Implementation and Evaluation, Sterling, New Delhi,2004**
2. **R.K. Sapru, Public Policy: Art and Craft of Policy Analysis, PHI, New Delhi.,2011**
3. **Madhan K.D, Policy Making in Government, Publications Division, Govt.of India.**
4. **Dye, Thomas R ,Understanding Public Policy, Pearson,2012**
5. **Anderson James E, Public Policy Making, (8th Revised Ed.)Cengage Learning, 2014**
6. **DrorY, Policy Science Developments and implications, Rand Corporation ,Santa Monica (1970).**

BA- PUBLIC ADMINISTRATION-CBCS SEMESTER WISE
w.e.f. 2015-2016, Modified in April, 2016

THIRD YEAR- SEMESTER: V

PAER-VI: e- Governance in India (Core)

UNIT-I: Introduction to E-Governance and Digital Technology

- **Concept of Governance and Good Governance**
- **E-Governance: Meaning, Scope and Importance**
- **Digital Technology and Services delivery**
- **E-Governance-Prospects and emerging challenges**

UNIT-II: E-Governance and theoretical Aspects

- **E-Governance Theories**
- **Public-Private Partnerships**
- **Right to information Act**
- **Information Technology Act,2000**

UNIT-III: Organisation of Govt.Information in various Departments

- **NICNET**
- **Detailed study of Information and Broadcasting Ministry of Government of India**
- **E-Governance in Agricultural and Rural development**
- **E-Governance in Urban Administration**
- **E-Governance in Social Welfare department**

UNIT-IV: Application of E-Governance in several Departments of Andhra Pradesh

- **E-Seva - Mee-Seva**
- **CARD and E-Procurement**
- **FAST**
- **E-Governance in Higher Education**
- **E-Governance in Health administration**
- **E-Hearing**

UNIT-V: E-Governance - Administrative issues – Security Issues

- **Public Participation-**
- **Administrative Reforms-**
- **Grievance Redressal**
- **Accountability and Transparency.**
- **IT Security**
- **Hacking**
- **Cyber Crimes**
- **E-Governance opportunities, Challenge and Barriers**

Project Work:

Assess the methods of E-Governance which offer services to the citizens through E-Seva, Mee-Seva and CARD etc.

Reference Books:

1. **Bhatnagar Subhash, E. Government from Vision to Implementation, SAGE publication, New Delhi, 2004.**
2. **Government of India, National e-governance Plan, India.gov.in.**
3. **Information and communication Technology (ICT) Policy of Govt. of Andhra Pradesh -ICT Policy 2010-15 -**
4. **Bidisha Chaudhuri, E-Governance in India…,Import, 2014.**
5. **D N Gupta, E Governance: A Comprehensive Framework,New Century Pubs, Verlag, 2008.**
6. **Pankaj SharmaE-Governance,A.P.H.Pubs,New Delhi 2012.**
7. **S Pankaj, Electronic Governance, 2013.**
8. **Pardhasaradhi,Y. E-Governance and Indian Society, Kanishka, New Delhi,2009**
9. **Sinha,R.P.E. Governance in India: Initiatives and Issues, Concept, New Delhi,2006**

ADIKAVI NANNAYA UNIVERSITY

BA -PUBLIC ADMINISTRATION-CBCS SEMESTER WISE SYLLABUS

w.e.f. 2015-2016

Structure of the Syllabus/Curriculum

Year	Seme-ster	Paper	Category	Hrs/ wk	Credits	Marks	Internal	External
3	V	V	Public Policy	5	4	100	25	75
		VI	E-Governance in India	5	4	100	25	75
	VI	VII	Elective * A: Comparative & Development Administration in India Or B:Environmental Administration or C:Citizen and Administration	5	4	100	25	75
		VIII	Cluster Electives** A1: Management of Resources	5	4	100	25	75
			+A2 : Financial Administration in India	5	4	100	25	75
			+A3: Rural and Urban Governance in India (or) B1: Office Management +B2: Public Relations +B3: Administration of NGO's (Or) (C1 : Administrative Law +C2: Police Administration +C3: Social Welfare Administration	5	4	100	25	75

Note: Student Activities like Data/picture analysis, Seminars, Assignments, Group Discussions, Case studies, Fieldwork, Surveys, Study Projects, Models are Part of Curriculum in all papers. The teacher shall identify appropriate activities for each unit and assign them to the students for improving domain skills.

*** Candidate has to choose only one paper**

**** Candidates are advised to choose Cluster (A) if they have chosen VII (A) and Choose Cluster (B) if they have chosen VII(B) etc. However, a candidate may choose any cluster irrespective of what they have chosen in paper VII**

BA PUBLIC ADMINISTRATION-CBCS SEMESTER WISE (2015-2016)
THIRD YEAR- SEMESTER-Vi
PAPER: VI I-(A) -: Comparative& Development Administration in India (Elective)

UNIT-I: Comparative Public Administration (CPA)

- **Concept, Nature ,Scope and Significance of Comparative Public Administration**
- **Theories and Models of CPA**

UNIT-II: Development Administration-Concepts and Approaches:

- **Development Administration: Concept and Meaning**
- **Scope and importance of the study**
- **Features of Development Administration**
- **Evolution and Growth of Development Administration**
- **Various Approaches to Development Administration**

UNIT - III: Development Strategies and Administrative Planning:

- **India's Socio-Economic profile at the time of Independence:**
- **Mixed Economy Model and its Rationale and Significance**
- **Role of Planning**
- **Goals of Development**

UNIT-IV: Development Projects and Bureaucracy

- **Colonial Legacy**
- **National Development Council**
- **State, District and Grass Root Level Planning**
- **Role of Bureaucracy-**
- **Social back ground of Indian Bureaucracy**
- **Enhancing Bureaucratic capability**
- **NeetiAayog**

UNIT-V: Development and Decentralisation and Support Agencies

- **Concept of Democratic Decentralisation**
- **Evaluation and Role of Panchayat Raj.**
- **Problems and Prospects of Panchayat Raj Institutions**
- **People's Participation**
- **Role of Non Governmental Organizations.**

UNIT - VI: Development Administration-Related Agencies

- **Role of Public Sector Banks.**
- **Role of Regional Rural Banks.**
- **Role of Co-operatives**

- **Specialised Agencies for Development.**
- **Evolution and Expansion of Public Sector.**
- **Role of Development Corporations.**

Project Work:

Assess any Government Organization which undertaker's developmental functions. The Project work should concentrate on how the concerned Government Organization monitors the developmental activities.

Reference Books:

1. **R.K. Sapru, Development Administration, Streling Publishers, New Delhi.2002**
2. **V. A. PaiPanandiker, Development administration in India, Macmillan, 1974.**
3. **AvasthiAmareswar and MaheswariShri Ram, Public Administration (30th Edition), Laxminarayana Agarwal, Agra, 2010.**
4. **R. K. Sapru, Administrative Theories and Management Thought(3rd Revised Edition), PHI, New Delhi, 2013**
5. **R.K Arora, Comaprative PublicAdministration.,Associated Pub, New Delhi**
6. **R.K.Arora and Sharma,Sangeeta, Comparative and Development Administration: Ideas and Actions (eds.,), Arihand Centre for Administrative Change, Jaipur,1993**
7. **S.L.Goel, Development Administration, Deep &Deep, New Delhi, 2010**

BA- PUBLIC ADMINISTRATION-CBCS SEMESTER WISE (2015-2016)

THIRD YEAR- SEMESTER-VI

PAPER: VII-(B): ENVIRONMENTAL ADMINISTRATION (Elective)

UNIT-I:

1. Environment: Meaning, Elements and Significance

2. Importance of Environmental Administration-Environmental Degradation-Nature and Dimensions

UNIT-II

3. Causes of Environmental pollution-Sources and effects of pollution-Types of pollution-Water pollution-Air pollution-Noise pollution-Tourism andEnvironment-Ozone Layer Protection.

UNIT-III

4. Environmental Policy-Pre-Independence Period-Post-Independence Period Environmental Information System (ENVIS)

UNIT-IV

5. Environmental Law-Constitutional aspects of Environmental Law-Statutory Control of Environmental pollution.

UNIT-V

6. Judicial Response-public Interest Litigation and Environment Protection-New Trends In Judicial Approach-Strategies for Environmental Management

Project Work:

Asses the Government Organization in implementing the Environmental laws.

REFERENCE BOOKS:

1. **ParyavaranaAdyananam(Tel),Telugu Akademi,Hyd,2007**
2. **Raj Mohan Satth, Environmental Administration in India, A.P.H.Pubs, New Delhi, 2004.**
3. **A.K. Tiwari, Environmental Laws in India, Deep & Deep Publications, New Delhi, 2006.**
4. **Kailash Thakur, Environmental Protection Law and Policy in India, Deep & Deep, New Delhi, 2007**

BA- PUBLIC ADMINISTRATION-CBCS SEMESTER WISE (2015-2016)
THIRD YEAR -SEMESTER-VI
Paper: VII-(C): Citizen and Administration (Elective)

Unit-I

Concept of Citizen Centric Administration: Evolution, Concept, Features and Significance. Functions of Government: Regulatory functions, Service providing functions and Developmentalfunctions.

Unit-II

Citizens' Charters: Evolution, Features and Applications. Citizens' Participation in Administration: Concept, Agencies, Significance and Limitations

Unit-III

Decentralization and Delegation: Concept and Benefits. Grievance Redressal Mechanism: Grievance-Meaning and Agencies for Redressal of Grievances at centre and state levels

Unit-IV

Consumer Protection: Consumer Protection Act and Working of the Consumer Courts in India.National Consumer Disputes Redressal Commission

Reference Books:

1. **Arora, K., Public Administration in India – Tradition, Trends and transformation, Paragon International Publishers, New Delhi.2006**

2. Arora. K. Ramesh, People Centred Administration, Aalekh Publishers, Jaipur,2001

3. CitizensCharters , A Handbook (2008) Centre for Good Governance: Bangalore

4. CitizensCharters ,A Handbook Government of India Ministry of Personnel Public Grievancesand Pension Department of Administrative Reforms and Public Grievances: New Delhi

5. India's Citizen's Charters, A Decade of Experience (2007) Public Affairs Centre: Bangalore

6. P.K. Majumdar, Law of Consumer Protection in India, Orient Publishing Company,2008

7. R.N.P. Chaudhary ,Consumer Protection Law: Provisions and Procedure, Deep & Deep Publications Pvt. Ltd., Rajouri Garden, New Delhi,2010

8. SatyaSundaram, Consumer Protection in India, B.R. Publishing Corporation, New Delhi.2009

BA- PUBLIC ADMINISTRATION-CBCS SEMESTER WISE (2015-2016)
THIRD YEAR -SEMESTER-VI
Cluster Elective: PAPER-VIII-A-1:-MANAGEMENT OF RESOURCES

UNIT-I: Human Resource Management

1. Meaning, Nature, Scope and Significance of Human Resource Management

2. Human Resource Strategy and Planning.

UNIT - II:

3. Recruitment, Selection, Appointment and Promotion.

4. Pay - Components, Principles of Pay & Pay Commissions

UNIT - III Capacity Building

5. Performance Appraisal - Rewards and Incentives Management.

6. Human Resource Development- Concept of HRD; Training - Objectives, Types, Evaluation.

UNIT - IV

7. Employee Capacity Building Strategies and Quality Management

8. Human Resource Management Effectiveness and Human Resource Audit, Human Resource Mobilisation.

9. Issues in HRM - Downsizing, Outsourcing, Consultancies

UNIT - V: Financial Management

10. Meaning, Scope and Importance of Financial Management

11. Budget-Preparation, Enactment and Execution

12. Centre- State Financial Relations, Parliamentary Committees- Public Accounts Committee, Estimates Committee, Committee on Public Undertaking, C&AG

13. Material Management - Procurement, Storage and Distribution and Logistics Management.

Project Work:/ Internship

Asses the performances of the employees work in a Government Organization.

Reference Books:

1. **VanarulaNirvahana(Tel),Telugu Akademi**
2. **Avasthi and Maheswari: Public Administration, (30th Edition),Lakshmi Narayan Agarwal, Agra ,2010.**
3. **K. Aswathappa, Human Resource and Personnel Management, McGraw-Hill, New Delhi, 2002.**
4. **L.M.Prasad: Principles and Practice of Management, Sultan Chand and Sons, New Delhi, 2005.**
5. **Gangadhar Rao: Human Resource Management, EXCEI Books ,New Delhi ,2009.**

BA -PUBLIC ADMINISTRATION-CBCS SEMESTER WISE (2015-2016)

THIRD YEAR- SEMESTER-VI

Cluster Elective: PAPER: VIII-A-2:- FINANCIAL ADMINISTRATIONIN INDIA

UNIT-I: Financial Administration-Introduction

- **Meaning, Nature and Scope and significance of Financial Administration**
- **Goals, Objectives and Principles of Financial Administration**
- **Mixed Economy**
- **Planning Commission(NeetiAayog)**

UNIT-II: Budgeting and Budgeting Systems:

- **Fiscal Policy -Equity-and Social Justice-Government Budgeting**
- **Principles and Functions-Indian Budgetary System**
- **Classification of Government Expenditure**
- **Public Expenditure, Theories and growth**
- **Performance Budgeting**
- **Zero Based Budgeting**

UNIT-III: Resource Mobilisation and Funds-Fiscal Federalism

- **Sources of Revenue-Tax and Non-Tax**
- **Deficit Financing**
- **Public Debt Management and Role of Reserve Bank of India.**
- **Financial Appraisal**
- **Economic and Social Appraisal**
- **Centre-State Financial Relations**

UNIT-IV: Financial Control and Accounts and Audit

- **Legislative Control**
- **System of Financial Committees**
- **Executive Control**
- **Accounting system in India**
- **Auditing system in India**
- **Role of Controller and Auditor General of India**

UNIT-V: Financial Administration of Public Enterprises and Local Bodies

- **Financial Administration of Public Enterprises-liberalisation and privatisation**
- **Financial autonomy and Accountability of Public Enterprises-Disinvestment**
- **Financial Administration of Urban Governments**
- **Financial Administration of Rural Governments**

Project Work:

This project involves the assessment of how the Urban or Rural Local bodies administer its own finances.

Reference Books:

1. **Indian Administration: Telugu Akademi , 2007**
2. **Mahajan, Sanjeev Kumar and Mahajan AnupamaPuri, Financial Administration in India, PHI, New Delhi, 2014.**
3. **Avasthi and Maheswari: Public Administration(30th Edition),Laxmi Narayan Agarwal, Agra, 2010.**
4. **Bhattacharya Mohit, New Horizons of Public Administration,Jawahar Publishers, New Delhi, 2007**
5. **B.P.R.Vithal and M.Shastri,Fiscal Federalism in India,OUP, New Delhi,2004**
6. **S.L.Goel, Financial Administration, Sterling, New Delhi, 2002**
7. **Report of the 2nd ARC on Financial Management**

BA- PUBLIC ADMINISTRATION-CBCS SEMESTER WISE (2015-2016)
THIRD YEAR -SEMESTER-VI
Cluster Elective: PAPER: VIII-A-3:- RURAL AND URBAN GOVERNANCE IN INDIA

UNIT-I : Concept ofDemocratic Decentralization

1. Local Government: Concept, Features and Importance.

2. Democratic Decentralization: concept, Evolution and Significance

3. Evolutionof Local Government inIndia: Community DevelopmentProgramme and National Extension Service.

Unit-II – Rural Local Governance

4. Balwant Rai Mehta and Ashok Mehta Committee Reports: Structures, Functions and Finances; Second Generation and Third Generation Panchayats

5. Reformsin Panchayat Raj-Features of 73rdCAAct and Organizational Structures for Panchayathi Raj

6. Intra-Rural Local Government Relationship: Gram Sabha and Gram panchayats; Distribution of Powers and Functions; Intra Tier Responsibilities (The Eleventh Schedule)

UNIT-III:Urban Governance

7. Urbanization in India and Policy and Strategies

8. Evolution of Urban Local Governments in India: Reforms in Urban Local Bodies-Features of 74th CAAct

9. Urban Local Government-Structure, Functions, Functionaries,Committee System, Finances, Officials and Political Executives (With Special Reference to Andhra Pradesh)

UNIT-IV: Urban Bodies/ Control

10. MunicipalCorporations: Structure, Committee System, Finances, Officials and Political Executives (With Special Reference in Andhra Pradesh)

11. Urban Development Authorities in Andhra Pradesh and their working.

12. State Control and Supervision over Local Bodies.

UNIT-V

13. Micro planning and implementation, Social Audit, Capacity building of Grassroots functionaries.

14. Parallel Bodies and voluntary sector:Self Help Groups,Users Associations

15. Sustainable Development and Challenges to decentralized governance.

16. Rural and Urban Development programmes,Employment and Poverty Alleviation programmes.

Project Work:

Undertake a survey to identity the major sources of revenue of the Local Government (Rural or Urban Local Bodies).

Reference Books:

1. **SthanikaPrabhutvalu(Tel), Telugu Akademi**
2. **Ramesh k. Arora &Rajni Goyal, Indian Public Administration: Institutions and Issues (2nd Revised Edition) New Age International Publications, New Delhi, 1995**
3. **Avasthi&Avasthi, Indian Administration (Sixteenth Edition), Lakshmi Narayan Agarwal, Agra-2010-11.**
4. **Siuli Sarkar, Public Administration in India, PHI, New Delhi, 2010.**
5. **S.R.Maheswari: Local Government in India, Orient Longman, New Delhi, 1971.**
6. **ShriramMaheshwari, Local Government in India, Lakshmi Narayan Agarwal, Agra, 2009.**
7. **Pradeep Sachdeva, Local Government in India, Pearson Education India, 2011.**
8. **Niraja Gopal Jayal, Amit Prakash, and Pradeep K. Sharma (eds) Local Governance in India: Decentralization and Beyond, Oxford University Press, New Delhi, 2007.**

BA- PUBLIC ADMINISTRATION-CBCS SEMESTER WISE (2015-2016)

THIRD YEAR - SEMESTER-VI

Cluster Elective-2: PAPER: VIII-B-1:- OFFICEMANAGEMENT

UNIT-I: Interduction

1. **Office Administration: Nature, Scope and Importance**
2. **Basic Principles of Office Organisation**

UNIT - II: Office Organisation and Management

3. **Office Planning and Lay-out -Office Environment**
4. **Form: Management and Control**

UNIT - III: OfficeOrganisation and Management

5. **Filing Systems and Periodical Reports**
6. **Office Communication, Correspondence Outward and Inward Tapals**
7. **Accounting and Auditing.**

UNIT - IV: Office Management Process and Issues

8. **Management of Office Records, Stationery**
9. **Work Study, Work Measurement, Work Simplification**
10. **Management by Objectives**
11. **Office Supervision**
12. **Staff Welfare**

UNIT - V: Trends and Issues in Office Management

13. **Office Automation and Paperless Office**
14. **Back Office Operations and Front Office Delivery**
15. **Social System and Public Office Administration**
16. **Office Management in Government: Issues**

Project Work:

How filing systems are organized in a Government Organization?

Reference Books:

1. **KaryalayaNirvahana(Tel),Telugu Akademi**
2. **Arora S.P, Office Organisation and Management,Vikas, New Delhi – 1982**
3. **Aswathappa K.&Shridhara Bhat K. , Production and Operation Management, Himalaya Publishing House, New Delhi-2002**
4. **ThukaramRao,M.E., Office Organisation and Management, Atlantic Pubs,2000**

BA- PUBLIC ADMINISTRATION-CBCS SEMESTER WISE (2015-2016)

THIRD YEAR -SEMESTER-VI

Cluster Elective-2: PAPER:VIII-B-2:- PUBLICRELATIONS

UNIT-I

- **Public Relations: Evolution, Meaning,**
- **Essentials and Principles of Public Relations.**
- **Major Areas of PR Activity: Public Relations, Advertising Publications, Media & Co- ordination,**
- **Ministry of Information and Broadcasting: organization, functions**

UNIT-II

- **Media and Publicity: Publicity Media, Types of Publicity,**
- **Corporate Public Relations: Process, elements and management of corporate Public Relations.**
- **Aids to Public Relations: Photography Exhibitions, trade fair, Radio, Television and special events in Public Relations.**
- **Advertising in Public Relations: Role, features and states of advertising in India**

UNIT-III

- **Employee Relations.**
- **Stake holder Relations.**
- **Education Relations.**
- **Community Relations.**

UNIT-IV:

- **Professional code : Meaning , Principles and Code of Ethics (International, IPRA)**
- **Research: Objectives and types of Research.**
- **International Public Relation**
- **Public Relations and Social Responsibility.**

References Books:

1 **Mehta, D.S, Handbook of Public Relations in India, Allied PublishersLtd, New Delhi. (1998)**
2 Sharma, Diwaker Public Relations: An Emerging Specialized Profession, Deep&Deep , New Delhi 2004
3.Balan, K.R. Applied Public Relations and Communication, Sultan Chand& Co., New Delhi, 2002
4. Singh, U.K. & Narayan, B., Public Relations Management, Anmol Publications ,New Delhi ,1999
5.Saileshsen Gupta, Management of Public Relations and Communication(2nd Edition),2006
6.Diwaker Sharma, Public Relations:An Emerging Specialised Profession,2004
7. The Art of Public Relations,2005
8.IqbalSachdeva, Public Relations: Principles and Practices, Oxford Higher Education,2009

BA- PUBLIC ADMINISTRATION-CBCS SEMESTER WISE (2015-2016)

THIRD YEAR -SEMESTER-VI

Cluster Elective-2: PAPER: VIII-B-3:- ADMINISTRATION OF NGOs

UNIT-I

- **Non Governmental Organisations (NGOs): Concept, Significance and Rationale.**
- **Role of NGOs in the Provision of Public Goods and Services.**
- **NGO as a Trust: Features, Procedures for Registration and Working.**
- **NGO as a Society: Features, Procedures for Registration and Working.**

UNIT II:

- **Sources of NGO Funding:**
- **Internal Sources: Concept, Significance and Types.**
- **External Sources: Concept, Significance and Types.**
- **Salient features of Foreign Contributions (Regulations) Act, 1976.**

UNIT-III:

- **Governing Board: Composition, Functions and Role.**
- **Administrative Staff, Recruitment and Capacity Building.**
- **Government Control over NGOs**

UNIT-IV:

- **Red Cross Society of India: Organisation, Functions and Role.**
- **Critical Evaluation of NGO's**

ReferencesBooks:

1. **Bawa, Noorjahan (ed.) Non-Government Organisations in Development: Theory and Practice, Kanishka,New Delhi,1997**
2. **Government of India ,An Action Plan to bring about Collaborative Relationship between Voluntary Organizations and Government. CAPART, (New Delhi: Government of India, 1994**
3. **----- Report of the Steering Committee on Voluntary Sector for the Tenth fiveyear Plan (2002-07), Planning Commission, New Delhi,2002**
4. **Gangrade, K.D. and NGOs: Retrospect and Prospect, in Randhir B.,Sooryawoorthy, R. Jain, NGOs in Development Perspective (New Delhi: latest ed.).**
5. **Prasad, Kamta (ed.) NGOs and socio-Economic Development Opportunities (New Delhi: Deep and Deep Publications Pvt. Ltd, latest ed.).**
6. **Jain, Nabhi Kumar, Handbook for NGOs: An Encyclopaedia for Non-GovernmentalOrganisations and Voluntary Agencies , Nabhi Publications,New Delh,2003**
7. **Jain, R.B., NGOs in Development Perspective,VivekPrakashan,New Delhi, 1995**
8. **AnithaAbraham,Formation and Management of NGOs, Universal law Pubs,2011**
9. **Chandra,s.,mNon Governmental Organisations:Structure,Relevance and Functions,Kanishka, New Delhi,2001**
10. **Kumar R and S.L.Goewl., Administration and Management of NGOs: Text and Case Studies, Deep&Deep, New Delhi,2005**

BA- PUBLIC ADMINISTRATION-CBCS SEMESTER WISE (2015-2016)

THIRD YEAR -SEMESTER-VI

Cluster Elective-3: PAPER: VIII-C-1:- ADMINISTRATIVELAW

UNIT I:

- **Administrative Law : Meaning , Nature and Scope**
- **Growth of Administrative Law : Reasons**
- **Rule of Law: Concept of Rule of Law**
- **Rule of Law under Indian Constitution.**

UNIT II:

- **Principles of Natural Justice & their Judicial interpretation**
- **Administrative discretion and Judicial control.**
- **Administration Tribunals: Meaning, Reasons and Features Difference between Court and Tribunal, Limitations**

UNIT III:

- **Delegated Legislation : Meaning & Need of delegated Legislation-Types,**
- **Parliamentary control over delegated legislation**
- **Procedural & Judicial Control.**
- **Judicial Review: Principles and modes (writs).**

UNIT IV:

- **Fundamental Rights and**
- **Fundamental Duties.**
- **Amendment of Indian Constitution: Procedure, Basic Structure Concept**

References Books:

1.Kagzi, M.C.J. Indian Administrative Law, 97th edition), (Delhi Metropolitan) ,2014

2.Kesri, U.P.D. Lectures on Administrative Law (Central Law Publications) latest edition.

3. Chhabra, S. Administrative Tribunals, New Delhi 2007.

4. Pandey, J. N., Constitutional Law ,Central law Agency Allahabad, 2005.

5. Takwani,C.K., Lectures on Administrative law(5th edition), Eastern Book Co, Lucknow,2014

6. Massey, I.P, Administrative Law(8th edition),Eastern Book Company,New Delhi,2012

7.Basu,D.D and S.P.Sen Gupta, Administrative Law(7th edition),2015

8. Kesari,U.P.D., Administrative Law(8th edition),2014

BA- PUBLIC ADMINISTRATION-CBCS SEMESTER WISE (2015-2016)

THIRD YEAR -SEMESTER-VI

Cluster Elective-3: PAPER: VIII-C-2:- POLICEADMINISTRATION

UNIT- I: Police Administration

- **Nature, scope and significance of police administration**
- **Role of Police in the Contemporary Society.**

UNIT- II: Police in India

- **Evolution of Police in India-Pre-British System of police in India-Indian Police Act 1861**
- **Central Police Organisations : Their structure and functions - IB-CBI-CRPF-RPF-BSF - and CISF**
- **Report of the National Police Commission (1979-82)**

UNIT- III: Protection of society

- **Police objectives**
- **Protection of the society – ThroughMaintenance of peace and order, protection of life property.**
- **Functions of the police - Prevention of crime, Patrolling,Surveillance, Intelligence –investigation and prosecution**
- **Maintenance of law and order - upholding human rights etc.**

UNIT- IV: Police organisation

- **State level police: Its structure and function**
- **Other police organizations - CID, Finger Print Bureau, Dog Squad,DVAC**

UNIT- V: Accountability of Police

- **Issue areas: Autonomy and d Accountability of police**
- **Police neutrality - Corruption**
- **Role of Police in society**
- **Women police - their need and importance**
- **Recruitment and training of constables, Sub-Inspectors and DeputySuperintendent of police.**

Reference Books:

1**. Saha. B.P., Indian Police**
2. Venugopal Rao. S., Criminal Justice, Problems and perspectives in India
3. Report of the National Police Commission, Central Government Publications

4.Chaturvedi,J.C., Police Administration and Investigation of Crime,2006

5.Alexander,K. Police Reforms in India: An Analytical Study,2006

BA- PUBLIC ADMINISTRATION-CBCS SEMESTER WISE (2015-2016)

THIRD YEAR -SEMESTER-VI

Cluster Elective-3: PAPER: VIII-C-3:- SOCIAL WELFAREADMINISTRATION

UNIT-I:

- **Meaning, Nature, Scope,principles and Significance of Social Welfare Administration.**
- **Difference between Welfare State and Socialist State**
- **Difference between Social Security and Social Welfare.**

UNIT-II:

- **Analysis of relevant Constitutional provisions relating to Social Welfare,**
- **Social Welfare programmes in India: with special reference to Women**
- **Welfare of Weaker Sections: Schedule Castes, Schedule Tribes and OBC's**

UNIT-III:

- **Welfare of Children, Women and Aged,**
- **Role of NGOs in Social Welfare.**
- **National Commission for SCs and STs: Organization, Functions and role.**

UNIT-IV:

- **Department of Social Justice & Empowerment: Organization & Functions.**
- **Directorate of Social Justice and Empowerment: Organization, Functions and Role.**
- **State Social Welfare Boards: Organization, Functions and Role**.

Reference Books:

1. Sachdeva, D.R.: Social Welfare Administration in India, Kitab Mahal, Allahabad, 2013.
2. Goel, S.L. & Jain, R.K.: Social Welfare Administration, Vol. I&II, Deep and Deep, New Delhi, 2010
3AnandSirohi, Fundamentals of Social Welfare,Domonant Pubs, New Delhi, 2012
4. Chowdhry Paul D.: Social Welfare Administration through Voluntary Agencies, Atma Ram & Sons.,Delhi, 1962.
5.K.D.Gangrade, Social Welfare Legislations in India,Concept, New Delhi, 2012.
6. Dean Paul, Appleby H.; Public Administration for a Welfare State, Bombay, Asia Publishing House, 1961

ADIKAVI NANNAYA UNIVERSITY
RAJAMAHENDRAVARAM

CBCS/Semester System
(W.e.f. 2016-17 Admitted Batch)
I Semester Syllabus

B.COM. (General &Computer Applications)

Accounting-I

Unit-I – Introduction to Accounting
Need for Accounting – Definition – Objectives, Advantages – Book keeping and Accounting– Accounting concepts and conventions - Accounting Cycle - Classification of Accounts and its rules - Double Entry Book-keeping - Journalization - Posting to Ledgers, Balancing of ledger Accounts (problems).

S**ubsidiary Books:**
Types of Subsidiary Books - Cash Book, Three-column Cash Book- Petty cash Book (Problems).

Unit-II: Trail Balance and Rectification of Errors:
Preparation of Trail balance - Errors – Meaning – Types of Errors – Rectification of Errors (Problems)

Unit-III: **Bank Reconciliation Statement:**
Need for bank reconciliation - Reasons for difference between Cash Book and Pass Book Balances- Preparation of Bank Reconciliation Statement - Problems on both favorable and unfavourable balances.

Unit-IV: **Bills of Exchange**
Meaning of Bill – Features of bill – Parties in the Bill – Discounting of Bill – Renewal of Bill – Entries in the books of Drawer and Drawee (Problems).

Unit -V: Final Accounts:
Preparation of Final Accounts: Trading account – Profit and Loss account – Balance Sheet – Final Accounts with adjustments (Problems).

Reference Books

1. T.S.Reddy & A. Murthy, Financial Accounting , Margham Publications
2. R L Gupta & V. K Gupta, Principles and Practice of Accounting, Sultan Chand & Sons
3. S.P. Jain & K.L Narang, Accountancy-I, Kalyani Publishers
4. Tulasian, Accountancy -I, Tata McGraw Hill Co.
5. V.K.Goyal, Financial Accounting, Excel Books
6. K. Arunjothi, Fundamentals of Accounting; Maruthi Publications

ADIKAVI NANNAYA UNIVERSITY
RAJAMAHENDRAVARAM

CBCS/Semester System
(W.e.f. 2016-17 Admitted Batch)
B.COM. (General &Computer Applications)
I Semester Syllabus

DSC 2 A - Business Organization & Management

Unit-I: Introduction: Concepts of Business, Trade , Industry and Commerce – Features of Business -Trade Classification - Aids to Trade – Industry – Classification – Relationship among Trade, Industry and Commerce.

Unit-II: Forms of Business Organizations: Forms of Business Organization: Sole Proprietorship, Joint Hindu Family Firm, Partnership firm, Joint Stock Company, Cooperative Society; Choice of Form of Organization. Government - Business Interface; Public Sector Enterprises (PSEs) - Multinational Corporations (MNCs).

Unit-III: Joint Stock Company: Company Incorporation: Preparation of important Documents for incorporation of Company – Memorandum of Association – Articles of Association – Differences Between Memorandum of Association and Articles of Association - Prospectus and its contents - Companies Act, 2013.

Unit-IV: Management and Organization: Process of Management: Planning; Decision-making; Organizing: Line and Staff - Staffing - Directing and Controlling; Delegation and Decentralization of Authority.

Unit-V: Functional Areas of Management: Production - Manufacturing - Make in India - Marketing Management: Marketing Concept; Marketing Mix; Product Life Cycle; Pricing Policies and Practices. Financial Management: Objectives; Sources and Forms of Funds – Human Resource Management: Functions.

Suggested Readings:

1. Kaul, V.K., *Business Organization and Management*, Pearson Education, New Delhi.
2. Chhabra, T.N., *Business Organization and Management*, Sun India Publications, New Delhi.
3. Koontz and Weihrich, *Essentials of Management*, McGraw Hill Education.
4. Basu, C. R., *Business Organization and Management*, McGraw Hill Education.
5. Jim, Barry, John Chandler, Heather Clark; *Organization and Management*, Cengage Learning.
6. Allen, L.A., *Management and Organization*; McGraw Hill, New York.
7. R.K.Sharma and Shashi K Gupta, Business Organization - Kalyani Publications.
8. C.B.Guptha, Industrial Organization and Management, Sultan Chand.
9. Y.K.Bushan, Business organization and Management, Sultan Chand.
10. Sherlekar, Business Organization and Management, Himalaya Publications.

ADIKAVI NANNAYA UNIVERSITY
RAJAMAHENDRAVARAM

CBCS/Semester System
(W.e.f. 2016-17 Admitted Batch)
B.COM. (General)
I Semester Syllabus

DSC 3A - Business Economics-I

Unit-I- Introduction
Meaning and Definitions of Business Economics - Nature and scope of Business Economics- Micro and Macro Economics and their differences.

Unit-II- Demand Analysis
Meaning and Definition of Demand - Determinants of Demand -- Demand function – Law of demand- Demand Curve - Exceptions to Law of Demand.

Unit –III- Elasticity of Demand
Meaning and Definition of Elasticity of Demand – Types of Elasticity of Demand – Measurements of Price elasticity of demand – Total outlay Method – Point Method – Arc Method.

Unit – IV- Cost and Revenue Analysis
Classification of Costs – Total - Average – Marginal and Cost function – Long-run – Short-run – Total Revenue - Average revenue – Marginal Revenue.

Unit-V- Break-Even Analysis
Type of Costs – Fixed Cost – Semi-variable Cost – Variable Cost– Cost behaviour - Breakeven Analysis - Its Uses and limitations.

Reference Books

1. S.Sankaran, Business Economics, Margham Publications, Chennai.
2. Business Economics - Kalyani Publications.
3. Business Economics – Himalaya Publishing House.
4. Aryasri and Murthy Business Economics , Tata McGraw Hill.
5. Business Economics, Maruthi Publications.

ADIKAVI NANNAYA UNIVERSITY

CBCS/SEMESTER SYSTEM

II SEMESTER : B.Com/B.Com(CA)

w.e.from 2016-17 admitted batch

Semester - II

Accounting-II

w.e.f 2016-17 A.B

Unit-I: Depreciation

Meaning of Depreciation - Methods of Depreciation: Straight line – Written down Value – Sum of the Years' Digits - Annuity and Depletion (Problems).

Unit-II: Provisions and Reserves

Meaning – Provision vs. Reserve – Preparation of Bad debts Account – Provision for Bad and doubtful debts – Provision for Discount on Debtors – Provision for discount on creditors - Repairs and Renewals Reserve A/c (Problems).

Unit-III: Consignment Accounts

Consignment - Features - Proforma invoice - Account sales – Del-credre Commission - Accounting treatment in the books of consigner and consignee - Valuation of closing stock - Normal and Abnormal losses (Problems).

Unit-IV: Joint Venture Accounts

Joint venture - Features - Differences between Joint-venture and consignment – Accounting procedure - Methods of keeping records (Problems).

Unit-V: Non Trading Organizations

Differences between Trade and Non Trade Organizations in Accounting Treatment – Income and Expenditure Account and Receipts and Payment Account with Balance Sheet (Problems).

Reference Books:

1. R.L. Gupta & V.K. Gupta, Principles and Practice of Accounting, Sultan Chand
2. T. S. Reddy and A. Murthy - Financial Accounting, Margham Publications.
3. S.P. Jain & K.L Narang, Accountancy-I, Kalyani Publishers.
4. Tulsan, Accountancy-I, Tata McGraw Hill Co.
5. V.K. Goyal, Financial Accounting, Excel Books
6. T.S. Grewal, Introduction to Accountancy, Sultan Chand & Co.
7. Haneef and Mukherjee, Accountancy-I, Tata McGraw Hill
8. Arulanandam, Advanced Accountancy, Himalaya Publishers
9. S.N.Maheshwari & V.L.Maheswari, Advanced Accountancy-I, Vikas Publishers.

C. Satyadev

ADIKAVI NANNAYA UNIVERSITY

CBCS/ SEMESTER SYSTEM

SEMESTER - II :B.COM

(for 2016-17 admitted batch)

DSC 2 B: BUSINESS ENVIRONMENT

Unit-I: Overview of Business Environment

Business Environment – Meaning – Macro and Micro Dimensions of Business Environment – Economic – Political – Social – Technological – Legal – Ecological – Cultural – Demographic – Changing Scenario and implications – Indian Perspective – Global perspective.

Unit-II: Economic Growth

Meaning of Economic growth – Factors Influencing Development – Balanced Regional Development.

Unit-III - Development and Planning

Rostow's stages of economic development - Meaning – Types of plans – Main objects of planning in India – NITI Ayog and National Development Council – Five year plans.

Unit-IV : Economic Policies

Economic Reforms and New Economic Policy – New Industrial Policy – Competition Law – Fiscal Policy – Objectives and Limitations – Union budget – Structure and importance of Union budget – Monetary policy and RBI.

Unit-V -Social, Political and Legal Environment

Concept of Social Justice - Schemes - Political Stability - Leal Changes.

References:

1. Rosy Joshi and Sangam Kapur, Business Environment.
2. Francis Cherunilam, Business Environment.
3. S.K. Mishra and V.K. Puri, Economic Environment of Business.
4. K. Aswathappa, Essentials of Business Environment.

ADIKAVI NANNAYA UNIVERSITY
CBCS/SEMESTER SYSTEM
SEMESTER- II : B.COM
for 2016-17 admitted batch

DSC 3 B - BUSINESS ECONOMICS-II

Unit-I: Production and Costs: Techniques of Maximization of output, Minimization of costs and Maximization of profit - Scale of production - Economies and Dis-economies of Scale - Costs of Production – Cobb-Douglas Production Function.

Unit-II: Market Structure-I: Concept of Market - Market structure - Characteristics - Perfect competition -characteristics equilibrium price - profit maximizing output in the short and long run Monopoly- characteristics - Profit maximizing out-put in the short and long run - Defects of Monopoly – Distinction between Perfect competition and Monopoly.

Unit-III Market Structure-II: Monopolistic Competition - Characteristics - Product differentiation - Profit maximization - Price and output in the short and long - run – Oligopoly - characteristics - Price rigidity - Kinked Demand Curve - Distribution - Concepts - Marginal Productivity - Theory of Distribution.

Unit-IV National Income And Economic Systems: National Income - Definition Measurement - GDP - Meaning Fiscal deficit - Economic systems - Socialism - Mixed Economic System - Free Market economy.

Unit-V Structural Reforms: Concepts of Economic liberalization, Privatization, Globalization -WTO Objectives Agreements - Functions - Trade cycles - Meaning - Phases - Benefits of International Trade - Balance of Trade and Balance of payments.

Reference Books:

1. Aryasri and Murthy, Business Economics, Tata McGraw Hill
2. H.L Ahuja, Business Economics, Sultan Chand & Sons
3. KPM Sundaram, Micro Economics
4. Mankiw, Principles of Economics, Cengage Publications
5. Mithani, Fundamentals of Business Economics, Himalaya Publishing House
6. DAR Subrahmanyam &V Hari Leela, A Text Book on Business Economics, Maruthi Publishers.
7. A.V. R. Chary, Business Economics, Kalyani Publishers, Hyderabad.

ADIKAVI NANNAYA UNIVERSITY
RAJAMAHENDRAVARAM

CBCS/Semester System
(From 2015-16 Admitted Batch)
B.COM. (General & Vocational)
III Semester Syllabus

DSC 1 C - Corporate Accounting

Unit-I:

Accounting for Share Capital - Issue, forfeiture and reissue of forfeited shares- concept & process of book building - Issue of rights and bonus shares - Buyback of shares (preparation of Journal and Ledger).

Unit-II:

Issue and Redemption of Debentures - Employee Stock Options – Accounting Treatment for Convertible and Non-Convertible debentures (preparation of Journal and Ledger).

Unit –III:

Valuation of Goodwill and Shares: Need and methods - Normal Profit Method, Super Profits Method – Capitalization Method - Valuation of shares - Need for Valuation - Methods of Valuation - Net assets method, Yield basis method, Fair value method (including problems).

UNIT – IV:

Company Final Accounts: Preparation of Final Accounts – Adjustments relating to preparation of final accounts – Profit and loss account and balance sheet – Preparation of final accounts using computers (including problems).

Unit –V

Provisions of the Companies Act, 2013 relating to issues of shares and debentures - Book Building- Preparation of Balance Sheet and Profit and Loss Account – Schedule-III.

Reference Books:

1. Corporate Accounting – Haneef & Mukherji,
2. Corporate Accounting – RL Gupta & Radha swami
3. Corporate Accounting – P.C. Tulsian
4. Advanced Accountancy: Jain and Narang
5. Advanced Accountancy : R.L. Gupta and M.Radhaswamy, S Chand.
6. Advanced Accountancy : Chakraborthy
7. Modern Accounting: A. Mukherjee, M. Hanife Volume-II McGraw Hill
8. Accounting standards and Corporate Accounting Practices: T.P. Ghosh Taxman
9. Corporate Accounting: S.N. Maheswari, S.R. Maheswari, Vikas Publishing House.
10. Advanced Accountancy: Arutanandam, Raman, Himalaya Publishing House.
11. Advanced Accounts: M.C. Shukla, T.S. Grewal, S.C. Gupta, S. Chand & Company Ltd.,
12. Management Accounting: Shashi K. Gupta, R.K. Sharma, Kalyani Publishers.

ADIKAVI NANNAYA UNIVERSITY
RAJAMAHENDRAVARAM

CBCS / Semester System
(From 2015-16 Admitted Batch)
B.COM. (General &Vocational)

III Semester Syllabus

DSC 2C - Business Statistics

Unit 1: Introduction to Statistics:
Definition, importance and limitations of statistics - Collection of data - Schedule and questionnaire – Frequency distribution – Tabulation -Diagrammatic and graphic presentation of data using Computers (Excel).

Unit 2: Measures of Central Tendency:
Characteristics of measures of Central Tendency-Types of Averages – Arithmetic Mean, Geometric Mean, Harmonic Mean, Median, Mode, Deciles, Percentiles, Properties of averages and their applications.

Unit 3: Measures of dispersion and Skewness:
Properties of dispersion – Range - Quartile Deviation –Mean Deviation-Standard Deviation-Coefficient of Variation-Skewness definition-Karl Pearson's and Bowley's Measures of skewness-Normal Distribution.

Unit 4: Measures of Relation:
Meaning and use of correlation – Types of correlation-Karlpearson's correlation coefficient – Spearman's Rank correlation-probable error-Calculation of Correlation by Using Computers.
Regression analysis comparison between correlation and Regression – Regression Equations-Interpretation of Regression Co-efficient.

Unit 5: Analysis of Time Series & Index Numbers:
Components of Time series- Measurement of trend and Seasonal Variations – Index Numbers-Methods of Construction of Index Numbers – Price Index Numbers – Quantity Index Numbers – Tests of Adequacy of Index Numbers – Cost of Index Numbers-Limitations of Index Numbers – Use of Computer Software.

Suggested Readings:

1. Business Statistics — Reddy, C.R Deep Publications.
2. Statistics-Problems and Solutions — Kapoor V.K.
3. Fundamentals of Statistics — Elhance.D.N
4. Statistical Methods — Gupta S.P
5. Statistics — Gupta B.N.
6. Fundamentals of Statistics — Gupta S.C
7. Statistics-Theory, Methods and Applications — Sancheti,D.C. &Kapoor V.K
8. Business Statistics — J.K.Sharma
9. Business Statistics — Bharat Jhunjhunwala

ADIKAVI NANNAYA UNIVERSITY
RAJAMAHENDRAVARAM

CBCS / Semester System

(From 2015-16 Admitted Batch)

B.COM. (General)

III Semester Syllabus

DSC 3C - Banking Theory & Practice

Unit-I: Introduction

Meaning & Definition of Bank – Functions of Commercial Banks – Kinds of Banks - Central Banking Vs. Commercial Banking.

Unit-II: Banking Systems

Unit Banking , Branch Banking, Investment Banking- Innovations in banking – E banking - Online and Offshore Banking , Internet Banking - Anywhere Banking - ATMs - RTGS.

Unit-III: Banking Development

Indigenous Banking - Cooperative Banks, Regional Rural banks, SIDBI, NABARD - EXIM Bank.

Unit-IV: Banker and Customer

Meaning and Definition of Banker and customer – Types of Customers - General Relationship and Special Relationship between Banker and Customer - KYC Norms.

Unit-V: Collecting Banker and Paying Banker

Concepts - Duties & Responsibilities of Collecting Banker – Holder for Value – Holder in Due Course – Statutory Protection to Collecting Banker - Responsibilities of Paying Banker - Payment Gateways.

Books for Reference

1. Banking Theory: Law & Practice : K P M Sundram and V L Varsheney
2. Banking Theory, Law and Practice : B. Santhanam; Margam Publications
3. Banking and Financial Systems : Aryasri
4. .Introduction to Banking : Vijaya Raghavan
5. Indian Financial System : M.Y.Khan
6. Indian Financial System : Murthy & Venugopal

ACCOUNTING FOR SERVICE ORGANIZATIONS

Unit-I: Non-Trading/ Service Organizations:

Concept - Types of Service Organizations – Section (8) and other Provisions of Companies Act, 2013.

Unit – II Electricity Supply Companies:

Accounts of Electricity supply companies: Double Accounting system – Revenue Account – Net Revenue Account – Capital Account – General Balance Sheet (including problems).

Unit – III - Bank Accounts

Bank Accounts – Books and Registers to be maintained by Banks – Banking Regulation Act, 1969 - Legal Provisions Relating to preparation of Final Accounts (including problems).

Unit-IV: Insurance Companies

Life Insurance Companies –Preparation of Revenue Account, Profit and Loss Account, Balance Sheet (including problems) – LIC Act, 1956.

Unit – V: General Insurance

Principles – Preparation of final accounts – with special reference to fire and marine insurance (including problems) – GIC Act, 1972.

Suggested Readings

1. Corporate Accounting – RL Gupta & M. Radha Swami
2. Corporate Accounting – P.C. Tulsian
3. Company Accounts : Monga, Girish Ahuja and Shok Sehagal
4. Advanced Accountancy: Jain and Narang
5. Advanced Accountancy : R.K. Gupta and M. Radhaswamy
6. Advanced Accountancy : Chakraborty
7. Advanced Accountancy: S.P. Iyengar
8. Modern Accounting: A. Mukherjee, M. Hanife McGraw Hill Company Ltd., New Delhi.
9. Accounting standards and Corporate Accounting Practices: T.P. Ghosh Taxman
10. Corporate Accounting: S.N. Maheswari, S.R. Maheswari, Vikas Publishing.
11. Advanced Accountancy: Arutanandam, Raman, Himalaya Publishing House.
12. Advanced Accounts: M.C. Shukla, T.S. Grewal, S.C. Gupta, S. Chand.

ADIKAVI NANNAYA UNIVERSITY

CBCS/SEMESTER SYSTEM

IV SEMESTER : B.COM GENERAL

W.E.F 2015-16 ADMITTED BATCH

BUSINESS LAWS

Unit-I: Contract

Meaning and Definition of Contract-Essential elements of valid Contract -Valid, Void and Voidable Contracts - Indian Contract Act, 1872.

Unit-II: Offer and Acceptance

Definition of Valid Offer, Acceptance and Consideration -Essential elements of a Valid Offer, Acceptance and Consideration.

Unit-Ill: Capacity of the Parties and Contingent Contract

Rules regarding to Minors contracts - Rules relating to contingent contracts - Different modes of discharge of contracts-Rules relating to remedies to breach of contract.

Unit-IV: Sale of Goods Act 1930

Contract of sale - Sale and agreement to sell - Implied conditions and warranties - Rights of unpaid vendor.

Unit-V: Cyber Law and Contract Procedures - Digital Signature - Safety Mechanisms.

References: /

1. J. Jay^sahlcar, Business Laws, Margham Publication. Chennai-17
2. .Ktfpoor ND, Mercentile Law , Sultan Chand
3. Balachandram V, Business law Tata
4. Tulsian, Business Law Tata
5. Pillai Bhagavathi, Business Law , S.Chand.
6. Business Laws, Maruthi Publishers

ADIKAVI NANNAYA UNIVERSITY

CBCS/SEMESTER SYTEM
IV SEMESTER : B.COM
W.E.FROM 2015-16 ADMITTED BATCH

INCOME TAX

Unit-I: Introduction: Income Tax Law - Basic concepts: Income, Person, Assesse, Assessment year, Agricultural Income, Capital and revenue, Residential status, Income exempt from tax (theory only).

Unit-II: Income from salary: Allowances, perquisites, profits in lieu of salary, deductions from salary income, computation of salary income and qualified savings eligible for deduction u/s 80C (including problems).

Unit-Ill: Income from House Property: Annual value, let-out/self occupied/ deemed to be let-out house, deductions from annual value - computation of income from house property (including problems). - Profits and Gains from Business or Profession

Unit-IV: Income from Capital Gains - Income from other sources - (from Individual point of view) - chargeability - and assessment (including problems).

Unit-V: Computation of total income of an individual - Deductions under section - 80 (including problems).

Reference Books:

1. **Dr. Vinod; K. Singhania; Direct Taxes - Law and Practice, Taxman Publications**
2. **B.B. Lai; Direct Taxes; Konark Publications**
3. **Dr. Mehrotra and Dr. Goyal; Direct Taxes - Law and Practice; Sahitya Bhavan Publication**
4. **Gaur and Narang; Income Tax, Kalyani Publishers, New Delhi.**

SBC E 5.1 Business Leadership

Unit-I: Introductory: Leadership - Traits, Skills and Styles- Leadership Development - Qualities of a Good Leader.

Unit-II: Decision-Making and Leadership: Leadership for Sustainability - Power, Influence, Impact - Leadership Practices - Organizations and Groups**:** Organizational Culture and Leadership - Leadership in Business Organizations

Unit-III: Special Topics: Profiles of a few Inspirational Leaders in Business – Jemshedji Tata - Aditya Birla - Swaraj Paul - L N Mittal - N R Narayana Murthy - Azim Premji, etc.

References:

1. Northouse, Peter G., Leadership: Theory and Practice, Sage Publications.

2. Daloz Parks, S., Leadership can be taught: A Bold Approach for a Complex World, Boston: Harvard Business School Press.

3. Drucker Foundation (Ed.), Leading Beyond the Walls, San Francisco: Jossey Bass.

4. Al Gini and Ronald M. Green, Virtues of Outstanding Leaders: Leadership and Character, John Wiley & Sons Inc.

5. S Balasubramanian, The Art of Business Leadership – Indian Experiences, Sage Publications.

DSC - 1E 5.2 Cost Accounting

Unit-I:Introduction: Distinguish between Financial Accounting, Cost Accounting and management accounting - Cost Concepts and Classification – Cost Centre and Cost Unit – Preparation of Cost Sheet.

Unit-II: Elements of Cost: Materials: Material control – Selective control, ABC technique – Methods of pricing issues – FIFO, LIFO, Weighted average, Base stock methods, choice of method (including problems).

Unit-III: Labour and Overheads: Labour: Control of labor costs – time keeping and time booking – Idle time –Methods of remuneration – labour incentives schemes - Overheads: Allocation and apportionment of overheads – Machine hour rate.

Unit-IV: Methods of Costing: Job costing – Process costing - treatment of normal and abnormal process losses – preparation of process cost accounts – treatment of waste and scrap, joint products and by products (including problems).

Unit -V: Costing Techniques: Marginal Costing – Standard costing – Variance Analysis (including problems).

References:

1. S.P. Jain and K.L. Narang – Advanced Cost Accounting, Kalyani Publishers, Ludhiana.
2. M.N. Aurora – A test book of Cost Accounting, Vikas Publishing House Pvt. Ltd.
3. S.P. Iyengar – Cost Accounting, Sultan Chand & Sons.
4. Nigam & Sharma – Cost Accounting Principles and Applications, S.Chand & Sons.
5. S.N .Maheswari – Principles of Management Accounting.
6. I.M .Pandey – Management Accounting, Vikas Publishing House Pvt. Ltd.
7. Sharma & Shashi Gupta – Management Accounting, Kalyani Publishers. Ludhiana.

ANDHRA PRADESH STATE COUNCIL OF HIGHER EDUCATION

B.Com. CBCS SYLLABUS

V-Semester

DSC: 2E: 5.3 GOODS &SERVICE TAX FUNDAMENTALS

Unit Introduction: Overview of GST - Concepts - Limitations of VAT - Need for Tax Reforms - Justification for introduction of GST - Shortcomings and advantages at the Central Level and State Level on introduction of GST- Process of Introduction of GST - Constitutional Amendments.

Unit II: GST: Principles - Comprehensive structure of GST model in India: Single, Dual GST- Transactions covered under GST.

Unit-III: Taxes and Duties: Subsumed under GST - Taxes and Duties outside the purview of GST: Tax on items containing Alcohol - Tax on Petroleum products - Tax on Tobacco products - Taxation of Services

Unit-IV: Inter-State Goods and Services Tax: Major advantages of IGST Model - Interstate Goods and Service Tax: Transactions within a State under GST - Interstate Transactions under GST - Illustrations.

Unit-V: Time of Supply of Goods & Services: Value of Supply - Input Tax Credit - Distribution of Credit -Matching of Input Tax Credit - Availability of credit in special circumstances- Cross utilization of ITC between the Central GST and the State GST.

References:

1. Goods and Services Tax in India - Notifications on different dates.
2. GST Bill 2012.
3. Background Material on Model GST Law, Sahitya Bhawan Publications, Hospital Road, Agra - 282 003.
4. The Central Goods and Services Tax Act, 2017, NO. 12 OF 2017 Published by Authority, Ministry of Law and Justice, New Delhi, the 12th April, 2017.

DSC 3E 5.4 Commercial Geography

Unit –I: The Earth: Internal structure of the Earth – Latitude – Longitude – Realms of the Earth – Evolution of the Earth – Environmental pollution - Global Warming - Measures to be taken to protect the Earth.

Unit -II: India – Agriculture: Land Use - Soils - Major crops – Food and Non-food Crops – Importance of Agriculture – Problems in Agriculture – Agriculture Development.

Unit -III: India – Forestry: Forests – Status of Forests in Andhra Pradesh – Forest (Conservation) Act, 1980 – Compensatory Afforestation Fund (CAF) Bill, 2015 - Forest Rights Act, 2006 and its Relevance – Need for protection of Forestry.

Unit -IV: India – Minerals and Mining: Minerals – Renewable and non Renewable – Use of Minerals – Mines – Coal, Barites, etc. – Singareni Coal mines and Mangampeta Barites - District-wise Profile.

Unit-V: India – Water Resources – Rivers: Water resources - Rationality and equitable use of water – Protection measures - Rivers - Perennial and peninsular Rivers - Interlinking of Rivers - Experience of India and Andhra Pradesh.

References:

1. Shabiar Ahmad; Quazi ,Natural Resource Consumption and Environment Management, APH Publishing Corporation.
2. Tarachand, Economic and Commercial Geography of India, Vikas Publishing House.
3. Dr. S. Sankaran, Commercial Geography, Margam Publications, Chennai.
4. C. B. Memoria, Commercial Geography, Lal Agarwal & Co.
5. C. B. Memoria, Economic and Commercial Geography, Lal Agarwal & Co.
6. Vinod N. Patel, Commercial Geography, Oxford Book Company

DSC F 5.5 e-Commerce

Unit-I: e-Commerce: Features of Electronic Commerce - Distinction between e-Commerce and e-Business - Types of Business Models: B2B, B2C, C2C - Benefits and Limitations of e-Commerce - Apps.

Unit-II: **e-Business Applications:** Integration and e-Business suits - ERP, e-SCM, e-CRM - Methods and benefits of e-Payment Systems –e-Marketing – Applications and issues

Unit-III: **e-Business on different Fields**: e-Tourism – e-Recruitment – e- Real Estate – e-Stock Market – e-Music/Movies - e-Publishing and e-Books.

Unit-IV: **Concept of Online Education:** Process - Methods - e-Content development and Deliveries - Major technologies used in e-Education - Online Testing - Methods - Future Trends.

Unit-V: Mobile Commerce: Ticketing - Me-Seva; Government and Consumer Services – e-Retailing - e-Groceries – Security challenges - Case Studies.

References:

1. Turban E. Lee J., King D. and Chung H.M: Electronic commerce-a Managerial Perspective, Prentice-Hall International, Inc.
2. Bhatia V., E-commerce, Khanna Book Pub. Co. (P) Ltd., Delhi.
3. Daniel Amor, E Business R (Evolution), Pearson Education.
4. Krishnamurthy, E-Commerce Management, Vikas Publishing House.
5. David Whiteley, E-Commerce: Strategy, Technologies and Applications, Tata McGraw Hill.
6. P. T. Joseph, E-Commerce: A Managerial Perspectives, Tata McGraw Hill.

DSC F 5.6 Business Networks

Unit-I: Business Forms: Interrelation among Stakeholders – Business and Government – Business and Society: Social Network and Facebook.

Unit-II: Business Networking through ICT: Basic concepts – Uses and Application of Business Networks – Different Layers of Business Networks – Internet and Business Networks – Network Security.

Unit-III: Business Networking Systems and Devices: Communication Satellites – Servers – Cloud Computing – Sharing – Spectrum – Commercial issues.

Unit-IV: Customer Relationship Management: Establishing Network connection with customers – Forward and Backward Integration – Customer Data Base – Creation and Maintenance – Legal and Ethical Issues.

Unit-V: Business Analytics: Master Data Management – Data Warehousing and Mining – Data Integration – OLTP and OLAP.

References:

1. Jerry, FitzGerald and Alan Dennis, Business Data Communications and Networking, John Wiley & Sons.
2. Tanenbaum, A. S., Computer Networks, Pearson Education.
3. David A Stamper, Business Data Communications. Addison Wesley.
4. Business Analytics – Methods, Models and Decisions, James R. Evans, Prentice Hall.
5. Business Analytics - An Application Focus, Purba Halady Rao, PHI learning
6. R.N Prasad and Seema Acharya, Fundaments of Business Analytics, Wiley India.

DSC F 5.5 Purchase Management

Unit-I: Introduction: Purchase Function - Supply Management – Sources of Purchase: Local vs. Global - Negotiation & Bargaining - Purchasing Methods - e-Procurement –DGS & D.

Unit-II: **Purchasing Function**: Right Quantity - Economic Order Quantity - Re-order Levels - ABC Analysis - Right Price, Time - Tendering: Single, Limited, Open, Global tenders.

Unit-III: **Vendor Analysis**: Identification of vendor – Selection - Criteria and Methodology of evaluation - Vendor Rating – Maintenance of Vendor relations.

Unit-IV: **Buyer-Supplier Relationships**: Transformation of buyer-supplier relationships - Developing and managing collaborative and alliance relationships – joint problem solving, Information sharing.

Unit-V: Supply Chain Management: JIT in the supply management - Cross-Functional Teams: Cross-functional teams and supply management - challenges of cross-functional teams, prerequisites to success.

References:

1. Dobler & Burt, Purchasing and Supply Management, McGraw Hill.
2. P. Gopala Krishan, Purchasing and Materials Management, Tata McGraw-Hill Education.
3. L.N. Aggarwal & Parag Diwan, Management & Production Systems, National Publishing House.
4. N.G. Nair, Production and Operations Management, Tata McGraw Hill Publishing Co. Ltd.
5. Gopalakrishnan P. & Sundaresan. M., Materials Management-An Integrated Approach, PHI.

DSC F 5.6 Stores Management

Unit-I: Stores Function: Layout and Organization - Stores Responsibilities - Relationships with Other Departments - Logistics - Supply Chain - Coding of materials - Methods of Coding

Unit-II: Material Receipt and Issue: Receipts from Suppliers - Inspection - Authorization of issues - Methods of issue - Records and Systems - Manual Systems - Computerized Systems - Recent Developments.

Unit-III: Stock Control Techniques: Approaches to Control - ABC Analysis - Provision of Safety Stock - Stocktaking Procedure - Obsolescence and Redundancy - Prevention of Deterioration - Stock Checking.

Unit-IV: Stores Operations: Storehouse Location - Centralization of Storage - Measurement of Stores efficiency - Health and Safety directives on stores operations - Manual and Mechanical lifting - Control of Substances Hazardous to Health Regulations - Storage Equipment.

Unit-V: Procedure Manuals: Need for Manuals - Preparation of the Manual - Contents of the Manual - Publication and Distribution - Implementation of the Manuals.

References:

1.Jessop David & Morrison Alex, Storage and Supply of Materials, Pearson Education Ltd. England.

2.Saleemi N.A., Store keeping and Stock Control Simplified, Saleemi Publications Ltd., Nairobi.

3. Gopalakrishnan P. & Sundaresan. M., Materials Management-An Integrated Approach, PHI.

4. P. Gopala Krishan, Purchasing and Materials Management, Tata McGraw-Hill Education.

DSC F 5.5 Accounting & Auditing Standards

Unit-I: Introduction: Significance of Accounting Standards - National and International Accounting Standards - Accounting Standards in India.

Unit-II: Accounting Standards (AS-1 to AS-16): AS-1: Disclosure of Accounting policies – AS-2: Valuation of inventories –AS-3: Cash flow statement – AS-4: Contingencies in balance sheet – AS-5: Net profit or loss, prior period items and changes – AS-6: Depreciation Accounting – AS-7: Construction Contracts – AS-9: Revenue Recognition – AS 10: Accounting for Fixed assets - AS-11: Effects of changes in foreign exchange rates- AS-12: Accounting for government grants – **AS-13: Accounting for investments** – AS-14: Accounting for Amalgamation – AS-15: Employee benefits – AS-16: Borrowing costs .

Unit-III: Accounting Standards (AS17 to AS-32): – AS-17: Segment reporting – AS-18: Related party disclosures – AS-19: Leases – AS-20: Earning per share - AS-21: Consolidated financial statements – AS-22: Accounting for taxes – AS-23: Accounting for investments – AS-24: Discontinuing operations – AS-25: Interim Financial Reporting – AS-26: Intangible assets – AS-27: Financial reporting of interests in joint ventures – AS-28: Impairment of assets – AS-29: Provisions, Contingent liabilities and assets; AS-30: Financial Instruments: Recognition and Measurement; AS-31: Financial Instruments: Presentation – AS-32:Financial Instruments: Disclosures.

Unit-IV: Auditing Standards: Procedure - International Federation of Accountants - Auditing and Assurance Standards Board - Indian Auditing Standards (issued so far) Overview.

Unit-V: International Financial Reporting Standards (IFRS): Origin - Procedure - International Accounting Standards Board - Adoption in India.

References:

1. Taxman's Students' Guide to Accounting Standards, D. S. Rawat, Taxman Publications.
2. Compendium of Statements and Standards on Accounting, The Institute of Chartered Accountants of India, New Delhi.
3. British Accounting Standards, Ronal Leach and Edward Stamp, Woodhead Faulkner Ltd, Cambridge.
4. T. P. Ghosh, Accounting Standards and Corporate Accounting Practices, Taxman Publications.

DSC F 5.6 Accounting for Government Entities

Unit-I: General Principles - Government Accounting System - Consolidated Fund of India - Comparison with Commercial Accounting system.

Unit-II: Role of Comptroller and Auditor General of India - Role of Public Accounts Committee, Review of Accounts - Civil and Commercial Entities.

Unit-III: Government Accounting Standards issued by Government Accounting Standards Advisory Board (GASAB) - Adoption and Review.

Unit-IV: Financial Reporting in Public Sector Undertakings and Government Companies.

Unit-V: Case Studies: Railway Accounts - Defense Accounts - CPWD Accounts, etc.

References:

1. Jain, S.P., Narang, K.L., Advanced Accountancy (Vol-1), Kalyani Publishers, Ludhiana.
2. Paul Marcus Fischer, William James Taylor & Rita Hartung Cheng, Advanced Accounting, Cengage Learning, USA.
3. K.K. Bhardwaj, Public Accounting and Auditing (office of the Comptroller and Auditor General of India), Mittal Publications, New Delhi.
4. Mortimer A. Dittenhofer, Applying Government Accounting Principles, LexisNexis.
5. Warren Ruppel, Governmental Accounting: Made Easy, John Wiley & Sons, INC., USA.
6. A Mukherjee & M. Hanif, Modern Accountancy, Tata McGraw Hill Publishing Company Limited, New Delhi.
7. K. B. Verma, Reading in Indian Railway Finance, Academic Foundation, Delhi.

DSC F 5.5 Financial Markets

Unit-I: **Financial Markets**: Financial Instruments - Intermediaries - Services - Structure of Financial Market in India.

Unit-II: **Capital Market**: Role, Evolution in India - Future Trends - Primary Market - Issue of Capital: Process, Pricing, Methods of Issue, Book-building - Managing Shareholders Relations.

Unit-III: Secondary Market: Growth, Development, Regulation - Stock Exchange Mechanism: Trading, Settlement - Carry Forward, Badla system - Insider Trading, Price Rigging.

Unit-IV: **Players on Stock Exchange**: Investors, Speculators, Market Makers, Bulls, Bears, Stags - Stock Exchange Regulations - Stock Indices - Regulations and Regulatory Agencies (SEBI).

Unit-V: **Bond Market in India:** Bond Market and its Interface with Equity Market and Debt Market - Mutual Funds.

References:

1. Gupta, L.C: Stock Exchange Trading in India; Society for Capital Market Research and Development, Delhi.

2. Bhole, I.M., Financial Institutions and Market, Tata McGraw Hill.

3. Vasant Desai, Indian Financial System, Himalaya Publishing House.

4. Pathak, Bharati V., Indian Financial System: Markets, Institutions and Services, Pearson Education (Singapore), New Delhi.

5. Gordon E. & K. Natarajan, "Financial Markets and Services", Himalaya Publishing House, New Delhi.

DSC F 5.6 Stock Market Operations

Unit-I: **Listing of Securities:** Merits and demerits - Listing requirements, Procedure, Fee - Listing of rights issue, bonus issue, further issue - Listing conditions of BSE and NSE- Delisting.

Unit-II: Indian Stock Exchanges: BSE – NSE - BOLT System – Demat and Electronic transfer of Securities – Institutional segment – RETDEBT market (RDM).

Unit-III: Trading System: Different trading systems - NEAT system, Market types, Order Types - Order management, Trade Management, Auction Internet Broking.

Unit-IV: Clearing and Settlement: Transaction cycle - Settlement process and agencies - Risks in settlement – Securities and Funds settlement - De-mat settlement – Shortages handling - Identification Number.

Unit-V: Stock Market Indices: Purpose and Considerations in developing index - Stock market indices in India - BSE Sensex - Scrip selection criteria - Construction – NSE indices – S&P CNX Nifty – OTCEI.

References:

1. Punithavathy Pandian, Security Analysis and Portfolio Management, Vikas Publishing House, New Delhi.
2. V. A. Avadhani, Investment and Securities Market in India, Himalaya Publishing House.
3. Prasanna Chandra, Security Analysis and Portfolio Management, Tata McGraw-Hill.
4. Sanjeev Agarwal, A Guide to Indian Capital Market, Bharat Publishers
5. Ravi Puliani and Mahesh Puliani, Manual of SEBI, Bharat Publication

DSC F 5.5 Central Banking

Unit-I: Introduction: Evolution and Functions of Central Bank - Development of Central Banks in Developed and Developing countries - Trends in Central Bank Functions.

Unit-II: Central banking in India: Reserve Bank of India - Constitution and Governance, Recent Developments, RBI Act. - Interface between RBI and Banks.

Unit-III: Monetary and Credit Policies: Monetary policy statements of RBI - CRR - SLR - Repo Rates - Reverse Repo Rates - Currency in circulation - Credit control measures.

Unit-IV: Inflation and price control by BRI: Intervention mechanisms - Exchange rate stability - Rupee value - Controlling measures.

Unit-V: **Supervision and Regulation**: Supervision of Banks - Basle Norms, Prudential Norms, Effect of liberalization and Globalization - Checking of money laundering and frauds.

References:

1. Reserve Bank of India Publication, Functions and Working of the RBI.
2. Vasant Desai, Central Banking and Economic Development, Himalaya Publishing.
3. S. Panandikar, Banking in India, Orient Longman.
4. Reserve Bank of India Publication, Report on Trends and Progress of Banking in India.
5. Annual Reports of Reserve Bank of India.
6. Rita Swami, Indian Banking System, International Publishing House Pt. Ltd..
7. S.V. Joshi, C.P. Rodrigues and Azhar Khan, Indian Banking System, MacMillan Publishing.

DSC F 5.6 Rural and Farm Credit

Unit-I: Rural Credit: Objectives and Significance of Rural credit - Classification of rural credit - General Credit Card (GCC) – Financial Inclusion - Rupay Card.

Unit-II: Rural Credit Agencies: Institutional and Non-institutional Agencies for financing agriculture and Rural development - Self-Help Groups (SHG) - Financing for Rural Industries.

Unit-III: Farm Credit: Scope - Importance of farm credit - Principles of Farm Credit - Cost of Credit - Types - problems and remedial measures - Kisan Credit Card (KCC) Scheme.

Unit-IV: Sources of Farm Credit: Cooperative Credit: PACS - APCOB - NABARD - Lead Bank Scheme - Role of Commercial and Regional Rural Banks - Problems of recovery and over dues.

Unit-V: Farm Credit Analysis: Eligibility Conditions - Analysis of 3 R's (Return, Repayment Capacity and Risk-bearing Capacity) - Analysis of 3 C's of Credit (Character, Capacity and Capital) - Crop index reflecting use and farm credit - Rural Credit Survey Reports..

References:

1. National Bank of Agricultural and Rural Development (NABARD) Annual report.
2. Economic Survey, Government of India.
3. Rural Development, Sundaram I.S., Himalaya Publishing House, Mumbai.
4. Rural Credit in India, C.S.Rayudu, Mittal Publications.
5. Farm Credit and Co-operatives in India, Tiruloati V., Naidu. V T Naidu, Vora & Co. Pub. Ltd.

DSC F 5.5 Assessment of Tax: Individual, HUF and Partnership

Unit-I: **Deductions u/s 80:** Basic rules of deductions, deductions in computing total income.

Unit-II: Set off and Carry forward of Losses: Set off of loss from one source against income from another source, carry forward and set off of losses - brought forward of losses.

Unit-III: **Assessment of Individuals:** Computation of Total income of Individuals and Tax liability - Rates of Income tax.

Unit-IV: Assessment of Tax of HUF: Computation of Gross Total Income and Total Income of a Hindu Undivided Family - Rates of Income tax.

Unit-V: Assessment of Tax of Partnership: Computation of Gross Total Income and Total Income of Partnership Firm - Deductions U/S 80.

References:

1. H C Meharotra & S P Goyal, Income Tax Law & Accounts: Sahitya Bhavan Publications.
2. Vinod. K. Singhania; Direct Taxes – Law and Practice, Taxman Publications
3. B.B. Lal, Direct Taxes, Konark Publications.
4. Vinod K Singhania, Students' Guide to Income Tax, Taxman Publication.

DSC F 5.6 Corporate Taxation

Unit-I: Tax Provisions of Companies: Income from Business or Profession, Tax Provisions for certain types of businesses.

Unit-II: Tax Provisions of Companies: Capital Gains, Income from Other Sources - Tax Provisions for Off shore and Special Tax Zones.

Unit-III: Computation of Taxable Income: Computation of Gross Total Income - Deductions - Carry-forward and set-off of losses - Minimum Alternative Tax (MAT).

Unit-IV: Filing of Return and Assessment: Procedure for Filing Returns, e-Filing, Assessment, Reassessment and Settlement of Cases, Special Procedure for Assessment of Search Cases.

Unit-V: Tax Authorities and Administration: Powers and Duties – Appeals and Revisions - Tax Administration - Collection of Tax at Source – Advance payment of Tax – Recovery and Refund of Tax – Penalties, Offences and Prosecution.

References:

1. T.S.Reddy & Y.Hari Prasad Reddy, Income Tax Theory, Law and Practice, Margham Publications, Chennai.
2. Vinod K Singhania, Students' Guide to Income Tax, Taxman Publication.
3. R. Bupathy, A study on Income Tax & CST, Prime Knowledge Series, Chennai.
4. Mehrotra & Sr. Goyal, Income tax Law and Accounts, Sahitya Bhavan Publication
5. Vinod. K. Singhania; Direct Taxes – Law and Practice, Taxman Publications

DSC F 5.5 Life Insurance

Unit-I: Principles of Life Insurance: Life Insurance Products - Pensions and Annuities - Risk Assessment and Underwriting - Premium Setting- Product Development - Tax planning.

Unit-II: Principal of Utmost Good Faith: Insurable Interest, Medical Examination - Age proof, Special reports - Premium payment - Lapse and revival – Premium, Surrender Value, Non-Forfeiture Option - Assignment Nomination Loans – Surrenders - Foreclosure.

Unit-III: Features of Life insurance contract: Types of Policies – Investment of funds – Bonus option – Annuity Contracts - Group Insurance – Group Gratuity Schemes - Group Superannuation Schemes, Social Security Schemes, etc.

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Unit-IV: Plans of Life Insurance: Types of Plans: Basic - Popular Plans - Convertible - Joint Life Policies - Children's Plans - Educational Annuity Plans - Variable Insurance Plans – Riders - For Handicapped, etc.

Unit-V: Policy Claims: Maturity claims, Survival Benefits, Death Claims, Claim concession - Procedures - Problems in claim settlement - Consumer Protection Act relating to life insurance and insurance claims.

References:

1. G. S. Pande, Insurance – Principles and Practices of Insurance, Himalaya Publishing.
2. C. Gopalkrishna, Insurance – Principles and Practices, Sterling Publishers Private Ltd.
3. G. R. Desai, Life Insurance in India, MacMillan India.
4. M. N. Mishra, Insurance Principles and Practices, Chand & Co, New Delhi.
5. M.N.Mishra, Modern Concepts of Insurance, S.Chand & Co.
6. P.S. Palandi, Insurance in India, Response Books – Sagar Publications.
7. Taxman, Insurance Law Manual.

DSC F 5.6 Non-Life Insurance

Unit-I: Introduction: General Insurance Corporation Act - Areas of General Insurance - Structure - Classification - Salient features of Indian general insurance market.

Unit-II: **Motor Insurance**: Motor Vehicles Act 1988 - Requirements for compulsory third party insurance - Certificate of insurance – Liability without fault – Compensation on structure formula basis - Hit and Run Accidents.

Unit-III: **Fire Insurance**: Features – Kinds of policies – Policy conditions – Payment of claims – Standard Fire and Special peril Policy - Documentation - Cover Note - Calculation of premium.

Unit-IV: Marine Insurance: Contract of Marine Insurance – Classes of policies – Function of Marine insurance - Policy conditions – Marine Losses - Insurance intermediaries.

Unit-V: **Agriculture Insurance**: Types of agricultural insurances - Crop insurance - Problems of crop insurance - Crop Insurance vs Agricultural relief - Considerations in Crop insurance - Live Stock Insurance.

References:

1. M. N. Mishra, Insurance Principles and Practices, Chand & Co, New Delhi.
2. M.N.Mishra, Modern Concepts of Insurance, S.Chand & Co.
3. P.S. Palandi, Insurance in India, Response Books – Sagar Publications.
4. C. Gopalkrishna, Insurance – Principles and Practices, Sterling Publishers Private Ltd.
5. G. R. Desai, Life Insurance in India, MacMillan India.

DSC F 5.5 Logistics Management - Surface

Unit-1: Logistics: Logistics and Physical Distribution - Functions of Logistics Management - Structure of logistics - Logistics Costs - Customer Service –Logistics in 21st Century.

Unit-II: Logistics and Customer Relationship Management: Customer Service as a Link between Logistics and Marketing - Customer Service and Customer Retention – Integrating Logistics and Customer Relationship Management.

Unit-Ill: Managing the Lead Time: Role of Time in Competitive Advantage - P:D Ratios and Lead Time Gap - Time-based Mapping - Managing Timeliness in the Logistics Pipeline -Methods for implementing Time based practices.

Unit-IV: Transport Operations: Means of Surface Transport: Rail – Road – Network connections – Problems of Surface transport.

Unit-V: Logistics International Scenario: Drivers and Logistics implications of Internationalization - Trend towards Internationalization - Organizing for International Logistics - Challenges of International Logistics - General Tendencies.

References:

1. Shailesh Kasande, Materials and logistics Management, Nirali Prakashan
2. L. C. Jhamb, Materials and logistics Management, Everest Publishing House.
3. Purchasing and Supply Management - Dobler and Burt, McGraw Hill Company
4. Purchasing and Inventory Management - K S Menon, Shroff Publishers.
4. Introduction to Materials Management – J R Tony Arnold, Prentice Hall
7. Logistics & Supply Chain Management – Martin Christopher, Prentice Hall.

DSC F 5.6 Logistics Management - Air and Sea

Unit 1: Airline Logistics: History - Regulatory Bodies - Navigation systems - Air Transport System - Operations - Civil Aviation - Safety and Security - Industry regulations.

Unit II: Air Cargo: Air freight - Exports and Imports - Documentation - Cargo Operations Process - Air-way bill - Consignee controlled cargo - Customs clearance - Routing Instructions - Future trends.

Unit -III: Sea Cargo: Shipping Liners - Advices - Booking - Containerization -Container Numbering - Process flow - Shipping Sales - Leads - Quotations - Customer Service.

Unit IV: Shipping Operations: Volume/Weight calculations - Shipment Planning - Preparing and loading containers- Types of Container services - FCL - LCL - Container de-stuffing.

Unit V: Documentation: Bill of Lading - MBL - HBL - CY - CFS - Sea Way bill - Multimodel Transport Document (MTD) - Invoicing - Release of cargo - Consortium.

References:

1. Peter S. Smith (Faber), Air freight: Operations, Marketing and Economics, Research and Development Bureau, Illinois Central System.

2. P.S.Senguttavan, Fundamental of Air Transport Management, Excel Books.

3. John F. Wilson (Harlow: Longman), Carriage of goods by Sea, Longman

4. Yuen Ha Lun, Kee Hung Lai, Tai Chiu Edwin Cheng (Springer), Shipping and Logistics Management, Springer

5. Alan Rushton, Phil Croucher & Peter Baker (CILT), Logistics and Distribution Management, Kogan Page Ltd.

DSC F 5.5 Advertising and Media Planning

Unit-I: **Advertising Functions:** Types of Advertising - Economic and Social aspects of advertising - Advertising process - Advertising objectives and Budget.

Unit- II: **Consumer Behaviour:** Consumer decision making process – Consumer perception process - Consumer Choices - Consumer surplus.

Unit- III: **Creativity Advertising:** Creative thinking – Process – Appeals – Copy Writing – Print Copy elements, Headlines – body Copy – Slogan elements of design and principles of design.

Unit- IV: **Media Planning and Strategy**: Market Analysis - Development of Media Plan - Implementing Media Strategies, Media Mix and Target Market Coverage - Media Reach and Frequency - Scheduling.

Unit-V: Designing Print Advertisement: Print Format Lay-out – Designing page – Working with visuals – Print and Electronic Media - Present trends - Class Vs. Mass media.

References:

1. Chunawalla & K.C.Sethia, Foundation of Advertising Theory & Practice, Himalaya Publishing House, New Delhi.
2. William H. Bolew, Advertising, John Wiley & Sons, New York.
3. Asker, David and Myers John G., Advertising Management, Prentice Hall of India, New Delhi.
4. Aaker David A, Batra Rajeev, Myers G., Advertising Management, PHI, New Delhi.
5. Sundage, Fryburger, Rotzoll, Advertising Theory and Practice, AITBS, New Delhi.

DSC F 5.6 Brand Management

Unit-I:Brand Concept: Brands vs. Products, Benefits of branding; Brand attributes, Significance of branding to consumers and Firms, selecting brand names - Brand life cycle - Brand loyalty.

Unit-II: Brand Equity: Cost, Price and Consumer Based methods - Sustaining Brand Equity - Brand Personality - Formulation - Brand Image vs. Brand Personality - Brand Reinforcement, Brand Revitalization.

Unit-III: **Brand Building and Positioning**: Brand Positioning vs. Brand Building - Brand knowledge, Brand hierarchy, Strategy, Extension and Transfer, Managing brand over time.

Unit-IV: Brand Portfolios and Segmentation: Identifying and establishing brand portfolio - Brand Segmentation - Portfolio and Brand values - Evaluation and Revision.

Unit-V: Branding in Different Sectors: Agriculture - Education - Health - Tourism - Hospitality and other services - Role of e-Communities in Brand Management.

References:

1. Aaker, David, Managing Brand Equity, Prentice Hall of India.
2. Brand Positioning Strategies for Competitive Advantage -Subrato Sen Gupta
3. Kumar, Ramesh, Managing Indian Brands, Vikas Publishing House, Delhi.
4. Keller K. L., Strategic Brand Management, 2nd Edition, Pearson Education.
5. Strategic Brand Management - Kevin Lane Keller, Prentice Hall.
6. Branding Concepts and Process - Debashish Pati, McMillan Publishers.
7. Successful Branding - Pran K Choudhary, University Press, New Delhi.

DSC F 5.5 - Programming IN C

Unit- I: Introduction to Algorithms and Programming Languages: Algorithm – Key features of Algorithms – Some more Algorithms – Flow Charts. **Introduction to C:** Structure of C Program – Writing the first C Program – File used in C Program – Compiling and Executing C Programs – Using Comments – Keywords – Identifiers – Basic Data Types in C – Variables – Constants – I/O Statements in C- Operators in C- Programming Examples – Type Conversion and Type Casting

Unit-II: Decision Control and Looping Statements: Introduction to Decision Control Statements – Conditional Branching Statements – Iterative Statements – Nested Loops – Break and Continue Statement – Go to Statement

Unit- III: Functions: Introduction – using functions – Function declaration/ prototype – Function definition – function call – return statement – Passing parameters – Scope of variables – Storage Classes – Recursive function

Unit- IV: Arrays: Introduction – Declaration of Arrays – Accessing elements of the Array – Storing Values in Array – Calculating the length of the Array – Operations on Array – one dimensional array for inter-function communication – Two dimensional Arrays –Operations on Two Dimensional Arrays, **Strings:** Introduction String and Character functions

Unit-V: Pointers: Understanding Computer Memory – Introduction to Pointers – declaring Pointer Variables – - Passing Arguments to Functions using Pointer – Pointer and Arrays – Passing Array to Function. **Structure, Union, and Enumerated Data Types:** Introduction – Nested Structures – Arrays of Structures – Structures and Functions - Unions – Enumerated Data Types.

Reference Books:

1. Reema Thareja, Introduction to C programming, Oxford University Press.
2. E Balagurusamy, Computing Fundamentals & C Programming – Tata McGraw-Hill, 2008.
3. Ashok N Kamthane, Programming with ANSI and Turbo C, Pearson Publisher, 2002.
4. Henry Mulish & Hubert L.Coo Reema Thareja: The Spirit of C: An Introduction to Modern Programming, Jaico Publishing House,1996.

DSC F 5.6 - Database Management System

Unit-I: Overview of Database Management System: Introduction, Data and Information, Database, Database Management System, Objectives of DBMS, Evolution of Database Management Systems, Classification of Database Management System.

Unit-II: File-Based System, Drawbacks of File-Based System , DBMS Approach, Advantages of DBMS, Data Models , Components of Database System, Database Architecture, DBMS Vendors and their Products.

Unit-III: Entity–Relationship Model: Introduction, The Building Blocks of an Entity–Relationship, Classification of Entity Sets , Attribute Classification, Relationship Degree, Relationship Classification, Generalization and Specialization, aggregation and composition, CODD'S Rules, Relational Data Model , Concept of ,Relational Integrity.

Unit-IV: Structured Query Language: Introduction, History of SQL Standard, Commands in SQL, Data types in SQL, Data Definition Language (DDL), Selection Operation Projection Operation, Aggregate Functions, Data Manipulation Language, Table Modification, Table Truncation, Imposition of Constraints, Set Operations.

Unit -V: PL/SQL: Introduction, Structure of PL/SQL, PL/SQL Language Elements ,Data Types, Control Structure,, Steps to Create a PL/SQL Program, Iterative Control ,Cursors , Steps to Create a Cursor , Procedure, Function ,Packages ,Exceptions Handling, Database Triggers, Types of Triggers.

Reference Books:

1. Paneerselvam: Database Management Systems, PHI.
3. David Kruglinski, Osborne, Data Management System McGraw Hill Publication.
4. Shgirley Neal and Kenneth LC Trunik Database Management Systems in Business – PHI.
5. Godeon C. EVEREST, Database Management – McGraw Hill Book Company.
6. MARTIN, Database Management – Prentice Hall of India, New Delhi.
7. Bipin C. Desai, "An Introduction to Database Systems", Galgotia Publications.
8. Korth, Database Management systems.
9. Navathe, Database Management systems.
10. S. Sumathi, S. Esakkirajan, Fundamentals of Relational Database Management Systems

DSC F 5.7 - Web Technology

Unit-I: Introduction: HTML, XML, and WWW, Topologies, Bus, Star, Ring, Hybrid, Tree, Lan,Wan,Man. **HTML**: Basic HTML, Document body, Text, Hyper links, Adding more formatting, Lists, Tables using colors and images. **More HTML**: Multimedia objects, Frames, Forms towards interactive, HTML document heading.

Unit-II: Cascading Style Sheets: Introduction, using Styles, simple examples, your own styles, properties and values in styles, style sheet, formatting blocks of information, layers.

Unit-III: Introduction to JavaScript: What is DHTML, JavaScript, basics, variables, string manipulations, mathematical functions, statements, operators, arrays, functions.

Unit-IV: Objects in JavaScript: Data and objects in JavaScript, regular expressions, exception handling, built-in objects, events.

Unit-V: DHTML with JavaScript: Data validation, opening a new window, messages and confirmations, the status bar, different frames, rollover buttons, moving images, multiple pages in single download, text only menu system.

Reference Books

1. Uttam Kumar Roy, Web Technologies, Oxford University Press.
2. Black Book HTML 5.0
3. Complete reference HTML 5.0
4. Web Technology, PHI Publications.

SBS G 6.1 Tally

Unit-I: Fundamentals of Tally.ERP 9: Features - Start Tally, Create and Alter a Company - Creating Single Group/Multiple Groups, Display, Deleting Groups - Ledger: Creating Single Ledger / Multiple Ledgers.

Unit-II: Create Accounting Masters in Tally.ERP 9 - Chart of Accounts - Creating Single and Multiple charts, Displaying and Altering charts – Walkthrough for creating Chart of Accounts – Back-up of data and Restoring - Tally Audit Features.

Unit-III: Creating Inventory Master: Creating Stock Groups, Displaying, Deleting, Altering - Creating Stock Unit of Measure, Displaying and Deleting Unit Measures - Creating, Altering, Displaying, Deleting Stock items - Generating Reports.

References:

1. Tally 9 in Simple Steps, Kogent Solutions Inc., John Wiley & Sons.
2. Tally 9.0 (English Edition), (Google eBook) Computer World
3. Tally.ERP 9 Made Simple Basic Financial Accounting by BPB Publisher.
4. Tally ERP 9 For Real Time Accounting by Avichi Krishnan
5. Fundamentals of Computers, by V. Rajaraman, PHI.

DSC 1 G 6.2 Marketing

Unit-I: **Introduction:** Concepts of Marketing: Product Concept – Selling Concept - Societal Marketing Concept – Marketing Mix - 4 P's of Marketing – Marketing Environment.

Unit-II: **Consumer Markets and Buyer Behaviour:** Buying Decision Process – Stages – Buying Behaviour – Market Segmentation – Selecting Segments – Advantages of Segmentation.

Unit-III: Product Management: Product Life Cycle - New products, Product mix and Product line decisions - Design, Branding, Packaging and Labeling.

Unit-IV: Pricing Decision: Factors influencing price determination, Pricing strategies: Skimming and Penetration pricing.

Unit-V: Promotion and Distribution: Promotion Mix - Advertising - Publicity – Public relations - Personal selling and Direct marketing - Distribution Channels – Online marketing- Global marketing.

References:

1. Philip Kotler, Marketing Management, Prentice Hall of India.
2. Philip Kotler & Gary Armstrong, Principles of Marketing, Pearson Prentice Hall
3. Stanton J. William & Charles Futrel, Fundamentals of Marketing, McGraw Hill Company
4. V.S. Ramaswamy S. Nama Kumari, Marketing Management – Planning, McMillan

DSC 2G 6.3 Auditing

Unit-I: Auditing: Meaning – Objectives – Importance of Auditing – Auditing as a Vigil Mechanism – Role of Auditor in checking corporate frauds.

Unit-II: Types of Audit: Based on Ownership and time - Independent, Financial, Internal, Cost, Tax, Government, Secretarial audits.

Unit-III: Planning of Audit: Steps to be taken at the commencement of a new audit - Audit programme - Audit note book - Internal check, internal audit and internal control.

Unit-IV: Vouching and Investigation: Vouching of cash and trading transactions - Investigation, Auditing vs. Investigation

Unit-V: Company Audit and Auditors Report: Auditor's Qualifications – Appointment and Reappointment – Rights, duties, liabilities and disqualifications - Audit report: Contents – Preparation - Relevant Provisions of Companies Act, 2013.

References:

1. S.Vengadamani, "Practical Auditing", Margham Publications, Chennai.
2. Ghatalia, "Principles of Auditing", Allied Publishers Pvt. Ltd., New Delhi.
3. Pradeesh Kumar, Baldev Sachdeva & Jagwant Singh, "Auditing Theory and Practice, Kalyani Publications, Ludhiana.
4. N.D. Kapoor, "Auditing", S. Chand, New Delhi.
5. R.G. Saxena, "Principles and Practice of Auditing", Himalaya Publishing House, New Delhi.
6. Jagadesh Prakesh, "Principles and Practices of Auditing" Kalyani Publications, Ludhiana.
7. Kamal Gupta and Ashok Gupta, "Fundamentals of Auditing", Tata McGraw Hill
8. B.N. Tondan, "Practical Auditing", S.Chand, New Delhi.

DSC 3G 6.4 Management Accounting

Unit–I: Management Accounting: Interface with Financial Accounting and Cost Accounting - Financial Statement analysis and interpretation: Comparative analysis – Common size analysis and trend analysis (including problems).

Unit–II: Ratio Analysis: Classification, Importance and limitations - Analysis and interpretation of Accounting ratios - Liquidity, profitability, activity and solvency ratios (including problems).

Unit–III: Fund Flow Statement: Concept of fund: Preparation of funds flow statement. Uses and limitations of funds flow analysis (including problems).

Unit–IV: Cash Flow Statement: Concept of cash flow – Preparation of cash flow statement - Uses and limitations of cash flow analysis (including problems).

Unit–V: Break-Even Analysis and Decision Making: Calculation of Break-even point - Uses and limitations - Margin of safety – Make/Buy Decision - Lease/own Decision (including Problems).

References:

1. S.N. Maheswari, A Textbook of Accounting for Management, S. Chand Publishing, New Delhi.
2. I.M Pandey, "Management Accounting", Vikas Publishing House, New Delhi,
3. Shashi K. Gupta & R.K. Sharma, "Management Accounting: Principles and Practice", Kalyani Publishers, Ludhiana.
4. Jawahar Lal, Accounting for Management, Himalaya Publishing House, New Delhi.
5. Charles T. Horngren, et.al, "Introduction to Management Accounting" Person EducationIndia, New Delhi, 2002.
6. Murthy & Guruswamy – Management Accounting, Tata McGraw Hill, New Delhi.
7. Dr. Kulsreshtha & Gupta – Practical problems in Management Accounting.
8. Bhattacharya, D., "Management Accounting", Pearson Education India, New Delhi.
9. S.P. Gupta – Management Accounting, S. Chand Publishing, New Delhi.

DSC H 6.5 e-Payments System

Unit-I: e-Cash and Virtual Money: Electronic Data Interchange (EDI) - NEFT/RTGS/Electronic Payment modes - Foundations of e-Cash and Issues; Security, Anonymity, Untraceability, Virtual currencies, Bitcoin.

Unit-II: Automated Clearing and Settlement: Process of Real Time Gross Settlement System - Net Settlement -ATM Networks - Fedwire, CHIPS and SWIFT.

Unit-III: e-Payment Security and Digital Signature: Cryptographic Methods - Hash functions - Public/Private Key methods: RSA - Digital Signatures - Certification Process - Digital identity Documents and Remote Authentication.

Unit-IV: **Mobile Payments:** Wireless payments, Digital Wallets, Google Wallet – Obopay - Security Challenges.

Unit-V: Electronic Invoice and Payment System: Electronic Statement Delivery - EIPP providers - Biller service providers - Customer service providers - Reconciliation through Bank -Invoice Paper elimination - Scan-based trading (SBT).

References:

1. Domonique Rambure and Alec Nacamuli, "Payment Systems: From the Salt Mines to the Board Room", Palgrave MacMillan.
2. Weidong Kou, *"Payment Technologies for E-Commerce".* Springer, Germany.
3. Donal O'Mahony, Michael Peirce and Hitesh Tewari, "Electronic Payment Systems", Artech House, Inc.
4. M. H. Sherif, Protocols for Secure Electronic Commerce, Boca Raton, Fla, CRC Press.

DSC H 6.6 Social Media and e-Marketing

Unit-I: Social Media: Career in Social Media Marketing - Strategic Marketing - Social media Planning process - Campaigns (tactics and results).

Unit-II: Social Consumers: Social media marketing segments - Digital consumers - Digital communities - Online communities - Strong & Weak Ties - Social Community - Social Publishing.

Unit-III: Social Media Sites: Face book - Twitter - LinkedIn - YouTube and their Operations - Data mining and Social Media - Role of Social Media in Marketing Research - Social Media and Privacy/Ethics.

Unit-IV: e-Marketing: Objectives, Online Advertising - Distribution in e-Marketing, Lead Generation Platform - Customer Service mechanism - Relationship Building medium.

Unit-V: **Methods of e-Marketing**: Advertising Techniques, Selling Methods, Sales Promotion - Public Relations - Sponsorship, Merchandising, Teleconferencing - Chatting.

References:

1. Chaffey, D., e-Marketing Excellence: Planning and Optimizing Your Digital Marketing, Burlington: Elsevier.

2. Hanson, W. A. & Kalyanam, K., Internet Marketing & e-Commerce, Thomson Southwestern, Mason, Ohio.

5. Harris, L., Marketing the e-Business, Hoboken: Taylor & Francis.

6. Krishnamurthy, S., Contemporary research in e-Marketing, Hershey, PA: Idea Group Publication.

7. Stephen Dann & Susan Dann, E-Marketing: Theory and Application, Macmillan, New York.

8. Seth Godin, E-Marketing, Berkley Publishing Group.

9. Irvine Clarke & Theresa B. Flaherty Advances in Electronic Marketing, Idea Group Publishing, Hershey.

DSC H 6.5 Agricultural and Rural Marketing

Unit-I Concept of Rural Market: Rural market Characteristics - Rural markets and Environmental factors - Agricultural Market Yards.

Unit-II Rural Consumer Behaviour: Rural vs. Urban Consumer – Relevance of Marketing mix for Rural market/Consumers - Problems in rural market - Life Style Marketing – Rural market Segmentation.

Unit-III: Agricultural Marketing: Problems and Challenges in Agriculture Marketing - Market Yards - Support prices - Rural Warehousing.

Unit-IV: Agriculture Support Mechanism: Role of CCI, Tobacco Board, Spices Board, Coffee Board, Tea Board - Agriculture Price Commission.

Unit-V: **Export potential for Agro-products:** Role of Government and Non-Govt. Agencies in the development of rural and agricultural Marketing - Strategies for supply of Seed, Fertilizers, Pesticides, Farm Equipment.

References:

1. C.S.G.Krishnamacharyulu & Lalitha Ramakrishnan, "Rural Marketing: Text and Cases", Pearson Education, New Delhi.
2. Awadhesh Kumar Singh & Satyaprakash Pandey, Rural Marketing: Indian Perspective, New Age International Publishers, New Delhi.
3. Mamoria, C.B. & Badri Vishal: Agriculture Problems in India
4. Arora, R.C., "Integrated Rural Development", S. Chand Limited, New Delhi.
5. Gopalaswamy, T.P., "Rural Marketing: Environment, Problems and Strategies, Vikas Publishing House Pvt. Ltd., New Delhi.
6. Bedi & Bedi, "Rural Marketing", Himalaya Publishing House, New Delhi.

DSC H 6.6 Warehouse Management

Unit-I: **Concept of Warehouse**: Functions of Warehouses - Warehousing Cost - Warehousing Management Systems (WMS) - Strategic planning for Warehousing - Supply Chain and Warehousing.

Unit-II: Role of Warehousing in Retail: Challenges in retail warehousing, Warehousing in fashion retail - Retail product tracking in warehouse using RFID - Role of government in warehousing - Warehousing and Supply Chain.

Unit-III: Warehouse Operations: Structure - Inventory Receiving - Picking - Locating - Dispatching Maintenance - Security and Safety - Records Maintenance.

Unit-IV: **Health and Safety Perspective**: Health and Safety Risks at Warehouse, Assessment of Risks, Management of Health and Safety risks - Bar Code Scanners, Wireless LAN, Mobile Computers, Radio Frequency Identification (RFID).

Unit-V: Warehousing Practices: FCI, CWC, Reliance - Wal-Mart - KFC - ICT Applications in Warehouse - World-class Warehousing.

References:

1. Edward H. Frazelle, World Class Warehousing and Material Handling.
2. Gwynne Richards, Warehouse Management: A Complete guide to improving efficiency and minimizing costs in the modern warehouse, Kogan Page, London.
3. Stuart Emmett, Excellence in Warehouse Management: How to Minimize costs and Maximize Value, John Wiley & Sons, Ltd., London.
4. James A. Tompkins & Jerry D. Smith, The Warehouse Management Handbook, Tompkins Press, North Carolina.
5. David E. Mulcahy & Joachim Sydow, Supply Chain Logistics Program for Warehouse Management, CRC Press, New York.

DSC H 6.5 Financial Reporting

Unit-I: Corporate Financial Reporting: Issues and problems of financial statements - Balance sheet and profit and loss account - Recent trends in reporting.

Unit-II: Consolidated Financial Statements: Purposes of consolidated financial statements - Consolidation procedures – Minority interests, Goodwill, Treatment of pre- acquisition and post-acquisition profits.

Unit-III: Companies Act 2013 - Reporting requirements - National Finical Reporting Authority (NFRA).

Unit-IV: Companies Act, 2013 - Board of Directors - Director's Report - Business Responsibility report - Corporate Governance Reporting - Corporate Social Responsibility reporting.

Unit-V: Developments in Financial Reporting: Value Added Statements: Economic Added Value, Market Value - Shareholders' Value - Human Resource Reporting – Reporting on Price Level changes.

References:

1. P.C. Tulsian & Bharat Tulsian, Financial Reporting, S. Chand, New Delhi.
2. RSN Pillai, Bhagirathi & S. Uma, Fundamentals of Advanced Accounting, Vol.1, S.Chand, New Delhi.
3. Nehru J. Financial Reporting by diversified Companies, Vision Books, New Delhi.
4. Hawkins David, Financial Statements Corporations, Dow Jones- Irwin Homewood.
5. Paul Marcus Fischer, William James Taylor & Rita Hartung Cheng, Advanced Accounting, Cengage Learning, USA.
6. Maheswari S N., Maheswari S K., Corporate Accounting, Vikas Publishing House Pvt. Ltd., New Delhi.
7. S.K.Gupta, Financial Analysis and Reporting, Kalyani Publishers, Ludhiana.

DSC H 6.6 Emerging Areas in Accounting

Unit-I: Human Resource Accounting: Methods: Cost approach - Replacement cost approach - Present value of future earnings approach – Expense model - Model on human resource accounting (including problems).

Unit-II: Social Accounting: Rationale for Social Accounting - Qualitative and quantitative social accounting disclosures - Evaluation of social accounting reports.

Unit-III: Inflation Accounting: Historical Cost basis of Financial statements – Limitations – Evolution of Inflation accounting - Constant-rupee accounting - International standard for hyperinflationary accounting (including problems)

Unit-IV: Environmental Accounting: Qualitative and quantitative Environmental accounting disclosures - Evaluation of Environmental accounting reports - Green Accounting - Concept and implementation.

Unit-V: Special Areas in Accounting: Intrinsic Value Accounting – Resource Consumption Accounting – Forensic Accounting – Fund Accounting – Hedge Accounting.

References:

1. Gupta R. L. – Advanced Financial Accounting – S. Chand & Sons

2. Shukla and Grewal: Advanced Accounts, S. Chand & Ltd. New Delhi.

3. Jain and Narang: Advanced Accounts, Kalyani Publishers, Ludhiana.

4. Gupta, Shashi K. & Sharma, R.K., Management Accounting: Principles and Practice, Kalyani Publishers, Ludhiana.
5. L. S. Porwal : Accounting Theory, Tata McGraw Hill

6. S. N. Maheshwari : Corporate Accounting,Vikas Publishing House Pvt. Lit. New Delhi.

7. Ashok Sehgal& Dr. Deepak Sehgal: Advanced Accounting, Taxmen, New Delhi.

8. Mukherji and Hanif - Modern Accounts, Vol. I and II, Tata McGraw Hill.

9. R. L. Gupta & V. K. Gupta - Advanced Accounting, Sultan Chand, New Delhi.

DSC H 6.5 Derivatives Trading

Unit-I: Derivatives: Forward and Futures Contracts – Options – Swaps – Types of Traders – OTC and Exchange Traded Securities - Risks in Derivatives.

Unit-II: Futures Contract: Specifications - Margin Requirements – Marking to Market – Types of Futures - Relationship between Future, Forward and Spot Prices - Futures Trading and operations.

Unit-III: Options: Types: Call and Put – American and European – Intrinsic value and Time value of Options – Option payoff – Futures vs. Options - Trading operations.

Unit-IV: Swaps: Types: Interest Rate – Currency – Role of financial intermediaries in Swaps trading - Credit Risk - Swaps trading in India.

Unit-V: Derivatives Trading in India: Regulations - Framework – Exchange trading in Derivatives – Stock Futures and Index futures in NSE – Interest Rate Derivatives.

References:

1. John.C.Hull, Options, Futures and other Derivative Securities, PHI Learning.
2. Keith Redhead, Financial Derivatives: An Introduction to Futures, Forwards, Options and Swaps, PHI Learning.
3. Stulz, Risk Management and Derivatives, Cengage Learning.
4. Varma, Derivatives and Risk Management.
5. David Dubofsky, 'Option and Financial Futures – Valuation and Uses, McGraw Hill
6. S.L.Gupta, Financial Derivatives- Theory, Concepts and Practice, Prentice Hall of India.

DSC H 6.6 Stock Market Regulatory Framework

Unit-I: Stock Market Regulations: Regulations of Companies Act, 2013 - Registrar of Companies - Powers and Functions - Securities Contract and Regulations Act.

Unit-II: **Stock Exchanges**: Listing of Securities - Conditions - Listing Agreement - Problems in Implementation.

Unit-III: **Securities Exchange Board of India**: SEBI Act - SEBI Guidelines on Initial Public Offerings - Investors' Protection.

Unit-IV: Legal Process of Company: Expansion and Restructuring - Takeover, Amalgamation and Merger – Regulations - Repurchase of own company shares - consequences of non-compliance with the rules.

Unit-V: **Function of Dealers:** Investment advisors and representatives in the capital market - Statutory control on Dealers - Common law and statutory liabilities for malpractices.

References:

1. E. Gordon & H. Natarajan, Capital Market in India, Himalaya publishing House,
2. H.R. Machiraju, Indian Financial system, Vikas publishing House Pvt, Ltd
3. Sanjeev Agarwal, Guide to Indian Capital Market, Bharat Law House
4. V.L. Iyer, SEBI practice Manual, Taxman Allied Service (P) Ltd
5. M.Y. Khan, Indian Financial Systems, Tata McGraw Hill,
6. SEBI Manual, Taxman

DSC H 6.5 Financial Services

Unit-I: Financial Services: Role of Financial Services - Banking and Non Banking Companies – Activities of Non Banking Finance Companies- Fund Based Activities - Fee Based Activities .

Unit-II: Merchant Banking Services: Scope and importance of merchant banking services - Venture Capital - Securitization - Demat services - Commercial Paper.

Unit-III: Leasing and Hire-Purchase: Types of Lease, Documentation and Legal aspects – Fixation of Rentals and Evaluation - Hire Purchasing- Securitization of debts - House Finance.

Unit-IV: **Credit Rating**: Purpose – Types – Credit Rating Symbols – Agencies: CRISIL and CARE – Equity Assessment vs. Grading – Mutual funds.

Unit-V: Other Financial Services: Factoring and Forfaeiting - Procedural and financial aspects - Installment System - Credit Cards - Central Depository Systems: NSDL, CSDL.

References:

1. B. Santhanam, Financial Services, Margham Publication, Chennai.

2.M.Y. Khan, Financial Services, Tata McGraw – Hill, New Delhi.

3. Machendra Raja, Financial Services, S.Chand Publishers, New Delhi.

4. V. A. Avdhani, Marketing of Financial Services.

5. Machiraji, "Indian Financial System", Vikas Publishers.

6. Sandeep Goel, Financial Services, PHI Learning.

7. L.M. Bhole, Financial Institutions and Markets, Tata McGraw Hill.

8. SEBI Guidelines, Bharat Publications, New Delhi.

9. E. Gordon & H. Natarajan, Capital Market in India, Himalaya publishing House.

DSC H 6.6 Marketing of Financial Services

Unit-I: Difference between Goods and Services: Managing Service Counters – Integrated Service Management – Service Elements.

Unit-II: Constructing Service Environment – Managing People for service Advantage – Service Quality and Productivity – Customer Loyalty.

Unit-III: Pricing and Promotion Strategies: Pricing strategies – Promotion strategies – B2B Marketing – Marketing Planning and Control for services.

Unit-IV: Distributing Services: Cost and Revenue Management – Approaches for providing services - Channels for Service provision – Designing and managing Service Processes.

Unit-V: Retail Financial Services - Investment services – Insurance services - Credit Services - Institutional Financial Services - Marketing practices in select Financial Service Firms.

References:

1. Aradhani "Marketing of Financial Services" Himalaya Publications
2. Sinha and Saho, Services Marketing, Himalaya Publishing House
3. Reddy Appanaiah, Anil Kumar and Nirmala, Services Marketing, Himalaya Publishing.
4. Shajahan, Services Marketing, Himalaya Publishing House.
5. Christopher lovelock, Services Marketing, Pearson Education Asia.
6. Helen Woodroffe – Services Marketing, McMillan India Ltd.
7. S.M. Jha, Services Marketing, New Delhi Himalaya Publishing House.
8. Valarie A. Zeithmal & Mary JoBitner, Services Marketing, New Delhi, Tata McGraw Hill

ANDHRA PRADESH STATE COUNCIL OF HIGHER EDUCATION

B.Com. CBCS SYLLABUS

Semester-VI

DSC H 6.5GOODS & SERVICE TAX AND CUSTOMS ACT

Unit-I: Registration and Filing-Registration of Assesses Under GST - Persons liable for registration - Compulsory registration in certain cases - Procedure for registration - Deemed registration - GST Rate Structure.

Unit-II: Administration: Officers under GST Act: Appointment and Powers of officers- Administration of officers of State tax or Union-territory tax - Accounts and Records - Retention of Records - Audit by Tax Authorities.

Unit-III: Assessment: Self-assessment - Provisional assessment -Security of Returns - Assessment of Non-filers of returns - Assessment of Unregistered persons -Audit and Assessment - Other features of Dual GST model.

Unit-IV: Levy and Exemptionof Tax:Chargeability - Collection at Source -E-Commerce - Composition Levy - Tax under Central GST and State GST - Zero-rating of Exports - GST on Imports -Returns under GST -Taxation of Services-Remission of Tax - Adjustment and Refund of GST.

Unit- V: Customs Act: Types of Custom Duties- Valuation for Customs Duty- Tariff Value- Customs Value- Methods of Valuation for Customs - Problems on Custom Duty Assessment.

References:

1. Goods and Services Tax in India - Notifications on different dates
2. Customs Law Manual and Customs Tariff of India- R K Jain.
3. Background Material on Model GST Law, Sahitya Bhawan Publications, Hospital Road, Agra - 282 003.
4. The Central Goods and Services Tax Act, 2017, NO. 12 OF 2017 Published by Authority, Ministry of Law and Justice, New Delhi, the 12th April, 2017.

DSC H 6.6 Tax Planning and Management

Unit-I: Tax Planning: Difference between tax planning, tax avoidance, tax evasion and tax management - Tax planning with reference to setting up a New Business - Form and Size - Tax Holiday, etc.

Unit-II: Tax Planning of Financial Decisions: Absorption, Mergers, De-mergers and Takeovers - Reorganization or Restructuring of Capital - Decisions such as Borrowing or Investment Decisions.

Unit-III: Tax Planning on Managerial decisions: Own or lease - Make or buy decisions - Repair, replace, renewal or renovation of assets - Shut down or Continue decision.

Unit-IV: Tax planning on Foreign income: Selling in domestic or foreign marker - Avoidance of double taxation agreement - Foreign collaborations and joint ventures.

Unit-V: Foreign Collaborations: Incidence of tax on Domestic companies - Provisions for relief in respect of Double taxation - Double Taxation Avoidance Agreements.

References:

1. E.A. Srinivas, Corporate Tax Planning, Tata McGraw Hill.
2. Vinod K. Singhania, Taxman's Direct Taxes Planning and Management.
3. Taxman, The Tax and Corporate Law Weekly.
4. Bhagawati Prasad, Direct Taxes Laws Practice, Wishwa Prakashan.
5. Ahuja, Girish & Ravi Gupta. Corporate Tax Planning and Management, Bharat Law House.
6. Acharya, Shuklendra and M.G. Gurha, Tax Planning under Direct Taxes. Modern Law Publication, Allahabad.
7. IAS – 12 and AS – 22.
8. T.P. Ghosh, IFRSs. Taxman Publications Pvt. Ltd. New Delhi.

DSC H 6.5 Marketing of Insurance Products

Unit-I: Marketing of Services: Distinction between Product and Service Marketing - 7 Ps of Marketing.

Unit-II: Marketing of Insurance Services: Use of relationship marketing in insurance - Commoditization of insurance - Factors determining service quality of insurance products.

Unit-III: Understanding of Insurance Market - Insurance Market structure and competition - Insurance market penetration and density - Changing profile of Indian insurance buyer - Strategies for marketing of insurance.

Unit-IV: Promotion of insurance: Promotional Mix - Personal Selling vs. Advertising - Factors influencing Promotional Mix - Brand building.

Unit-V: Case Studies: Marketing methods and strategies adopted by LIC, GIC, Bajaj Life, SBI Life, HDFC Life.

References:

1. Gray Armstrong & Philip Kotler, Marketing-An Introduction, Pearson Education, Asia.
2. Shukla A.K, Service Marketing, Vaibhav Laxmi Prakashan Varanasi.
3. Adrian Payne, The Essence of Services Marketing, Prentice Hall of India.
4. K. Rama Mohana Rao, Services Marketing, Pearson Education.

DSC H 6.6 Insurance Regulatory Framework

Unit-I: Insurance Legislation in India: Insurance Act, 1938 - Functions of IRDA – Motor Vehicle Act, 1988 – Marine Insurance Act – Bill of Lading Act – Indian Railways Act – Carriage of Goods by Sea Act.

Unit-II: IRDA Regulatory Functions: Validity and Renewal of license – Regulations for Third Party Administrators (TPA) – Procedure for Registration of Insurance companies - Categorization of Surveyors - Inspection.

Unit-III: Regulations on Conduct of Business: Obligation of Insurers for rural and Social sector – Micro Insurance – IRDA guidelines – Anti Money laundering – IRDA regulations on Advertisements – Compliance and control – Statutory warnings.

Unit-IV: Policy Holders Rights of Assignment: Assignment and Transfer of policies – Nomination – Prohibition of Rebates – Provisions of sec 64 VB – Exemptions to Sec 64 VB.

Unit-V: Protection of Policy Holders Interest: Pre and Post stage of Insurance Cycle – Free look period – Grievance Redressal – Complaint handling.

References:

1. Nalini Prava Tripathy & Prabir Pal, Insurance: Theory and Practice, Prentice Hall of India.
2. Loomba, Jatinder, Risk Management and Insurance Planning, Prentice Hall of India.
3. Venkatesh Babu S., Manjunatha J.M., Manjunatha K.B. & S.K. Podder, Insurance and Risk Management, Himalaya Publishing House Pvt. Ltd.
4. S. Arunajatesan and T.R. Vishwanathan, Risk Management and Insurance, McMillan.
5. Indian Institute of banking and finance, Principles and Practice of Banking, McMillan.
6. Trieschmann, Hoyt and Sommer, Risk Management and Insurance, Cengage Learning
7. George E Rejda Principles of Risk Management and Insurance, Pearson

DSC H 6.5: Supply Chain Management - Products

Unit-I: Introduction: Challenges in Supply chain management, Uncertainty and supply chain management, Supply chain Drivers and Obstacles, Supply chain Network, Different types of Supply Chain Networks.

Unit-II: Demand: Supply Chain Demand - Estimating Demand - Forecasting Techniques - Managing Supply Chain Demand and Supply.

Unit-III: Sources of Inputs: Suppliers - Relations - Sourcing - Vendor Selection - Performance Rating of Suppliers - Suppliers Networks - Supplier Development.

Unit-IV: Output: Customer Selection - Process - Relationship Management - Innovations in Supply Chain Management.

Unit-V: **Logistics:** Logistics and Customer Relationships Management - Functions - Structure - Logistics Costs - Customer Service and Logistics Management - Supply Future Challenges.

References:

1. G. Raghuram , Logics and Supply Chain Management, Macmillan.
2. Emiko Bonafield – Harnessing Value in Supply Chain, Johnwiley, Singapore.
3. Dr. Gopal Krishnan – Material Management Rearview, Pearson New Delhi.
4. B.S. Sahay, Macmillan – Supply Chain Management, Pearson Education.
5. Supply Chain Logistics Management - Bowersox, Closs & Cooper – McGraw-Hill.
6. World Class Supply Management - Burt, Dobbler, Sterling, Tata McGraw-Hill.

DSC H 6.6 Supply Chain Management - Services

Unit-I: Concepts of Supply Chain: Features - Role of Supply Chain Management in Services - Design and development of Supply Chain network for Services.

Unit-II: Customer Service: Service Mix - Cost - Pricing of Service - Channels of Distribution- Customer service linkages - Customer satisfaction Enablers - Sourcing and Availing.

Unit-III: Planning Demand and Supply*:* Planning for supply and demand of Services - Demand Forecasting, Supply and Managing variability - Quick Response and Accurate Response System in SCM - Other Planning Strategies.

Unit-IV: Supply Chain Service Operations: Supply Chain Services Planning - Supply Chain Facilities - Capacity Planning - Services Optimization - Dynamic Routing and Scheduling.

Unit-V: Recent Trends in Supply Chain Management: New Developments - Outsourcing Operations, Co-Makership - Role of e-Commerce in Supply Chain Management - Green Supply Chain Management.

References:

1. Sunil Chopra, Supply Chain Management, Pearson Education Publishing
2. G. Raghuram , Logics and Supply Chain Management, Macmillan.
3. Emiko Bonafield – Harnessing Value in Supply Chain, John Wiley, Singapore.
4. Dr. Gopal Krishnan – Material Management Rearview, Pearson New Delhi.
5. B.S. Sahay, Macmillan – Supply Chain Management, Pearson Education.

DSC H 6.5 Sales Promotion

Unit-I: **Sales Promotion:** Sales Executive Functions - Sales Promotion and control - Sales organization - Setting-up of Sales organization - Types of Sales organization .

Unit-II: **Personal Selling**: Theories of personal selling - analyzing market potential - sales potential and sales forecasting methods - Distribution policies and pricing policies.

Unit-III: **Sales Operations**: Sales budget, Sales territories, Sales Quata's, Point of Sale - Sales contests - Coupons and discounts - Free offers - Display - Showrooms and Exhibitions.

Unit-IV: Salesmanship: Sales Manager Qualities and functions - Types of salesman - prospecting - pre-approach and approach - selling sequence - psychology of customers.

Unit-V: **Sales force Management:** Recruitment and Selection - Training - Induction - Motivation of sales personnel - Compensation and Evaluation of Sales Personnel.

References:

1. Richard R. Still, Edward W. Cundiff & Norman A.P. Govani, "Sales Management: Decisions, Strategies and Cases", Person Education, New Delhi.
2. McMurry & Arnold, "How to Build a Dynamic Sales Organization", McGraw Hill, W.C.
3. Pradhan , Jakate & Mali, Elements of Salesmanship and Publicity, Kitab Mahal.
4. Anderson Robert, "Professional Sales Management", Prentice Hall of India, New Delhi.
5. Gerald A.Michaelson, Strategies for Selling, Tata McGraw Hill Publishing Co. New Delhi.
6. Building a Winning Sales Team – Gini Graham & Scott, ASJA Press.
7. Professional Sales Management – Anderson, Hair and Bush, McGraw Hill.

DSC H 6.6 Direct Marketing

Unit-I Direct Marketing: Features - Different Strategies - Mailing SMS - MMS - New Channels of Direct Marketing - Marketing Communication plan.

Unit-II: Direct Marketing Creativity: Creative Process and Testing – Direct Mail, Catalogs -Print Advertising - Marketing Intelligence - Relational, Direct and Interactive Marketing - 3's USP and Creativity.

Unit-III: Direct Marketing Media – Magazines, Newspapers and TV/Radio - Telemarketing - Evolution of Digital Marketing and New Customer.

Unit-IV: Social Media and Digital Marketing: Facebook, Twitter, LinkedIn, Emailing - Mobile Marketing - Interactive Television - Blended Direct Marketing - Integrating media and channels

Unit-V: Key factors of Direct Marketing - Digital Marketing Tips - Best practices in digital marketing - Legal Aspects - Practical examples of Flipkart, Amazon, Paytm, etc.

References:

1. Kotler, Philip, Armstrong, Gary, Saunders, John and Wong, Veronica, "Principles of Marketing", Prentice Hall Europe.

2. Bob Stone and Ron Jacobs, Successful Direct Marketing Methods, McGraw Hill..

3. Mary Lou Roberts, Paul D. Berger, Direct Marketing Management, Prentice Hall Publications.

4. Chet Meisner, The Complete Guide to Direct Marketing- Creating Breakthrough Programs that Really Work, Kaplan Publishing.

ADIKAVI NANNAYA UNIVERSITY
B.Com.
Revised Papers in Computer Applications Elective

Semester – VI

Sl. No.	Course	Name of the subject	Total Marks	Mid. Sem. Exam	Sem. End Exam	Teaching Hours**	Credits
5.	Elective-DSC 1 H/Inter-disp./Gen. Elec.	**10. Computer Applications** 6.5 Tally with GST Applications	100	25	75	5	4
6.	Elective-DSC 2H/Inter-disp./Gen. Elec.	6.6 e-Commerce	100	25	75	5	4
7.	Elective-DSC 3H/Inter-disp./Gen. Elec.	6.7 Project Work	100		100	5	4

Adikavi Nannaya University

CBCS

B.Com VI Semester

Tally with GST Applications

(common for B.Com(V/CA) and B.Com (G) with Computer Applications Elective)

Unit – I: Introduction to GST, Difference between GST and VAT, Taxes subsumed under GST, Exempt from GST, Components of GST, GST Registration, Benefits of GST.

Unit – II: GST Transition, GST Rates, Ledgers, Ledger Creation – Single and multiple Ledgers, Altering Ledgers, configure Stock Ledger, GST rate allocation to stocks.

Unit – III: GST Invoices – Creating New Voucher types, customizing the Existing voucher types with applicable GST rates, Alteration of vouchers, deletion of vouchers, Input tax credit on purchase vouchers.

Unit – IV: GST Returns – Regular Monthly filing returnss, Composition Quarterly filing returns, Generation of Returns Form GSTR-1, Form GSTR-2 and Form GSTR-3

Unit – V: Payment of GST taxes online, Reverse Charge Mechanism, Records to be maintained

1. C. Satyadev
2. 28/10/17
3.
4.

DSC 2H 6.6 - e-Commerce
Common for B.Com(Voc/CA) and B.Com(G) with Computer Applications Elective

Unit-I: Introduction to E-Commerce: Scope, Definition, e-Commerce and the Trade Cycle, Electronic Markets, Electronic Data Interchange, Internet Commerce. Business Strategy in an Electronic Age: Supply Chains, Porter's Value Chain Model, Inter Organizational Value Chains, Competitive Strategy, First Mover Advantage - Sustainable Competitive Advantage, Competitive Advantage using E-Commerce - Business Strategy.

Unit-II: Business-to-Business Electronic Commerce: Characteristics of B2B EC, Models of B2B EC, Procurement Management by using the Buyer's Internal Market place, Just in Time Delivery, Other B2B Models, Auctions and Services from traditional to Internet Based EDI, Integration with Back-end Information System, Role of Software Agents for B2B EC, Electronic marketing in B2B, Solutions of B2B EC, Managerial Issues, Electronic Data Interchange (EDI), EDI: Nuts and Bolts, EDI and Business.

Unit-III: Internet and Extranet : Automotive Network Exchange, Largest Extranet, Architecture of the Internet, Intranet and Extranet, Intranet software, Applications of Intranets, Intranet Application Case Studies, Considerations in Intranet Deployment, Extranets, Structures of Extranets, Extranet products and services, Applications of Extranets, Business Models of Extranet Applications, Managerial Issues. Electronic Payment Systems: Issues and Challenges.

Unit-IV: Public Policy: From Legal Issues to Privacy : Legal Incidents, Ethical and Other Public Policy Issues, Protecting Privacy, Protecting Intellectual Property, Free speech, Internet Indecency and Censorship, Taxation and Encryption Policies, Other Legal Issues: Contracts, Gambling and More, Consumer and Seller Protection in EC.

Unit-V: Infrastructure For EC : Network of Networks, Internet Protocols, Web- Based client/Server, Internet Security, Selling on the Web, Chatting on the Web, Multimedia delivery, Analyzing Web Visits, Managerial Issues, Equipment required for establishing EC Sites – Problems in Operation – Future of EC.

Reference Books

1. David Whiteley, "E-Commerce", Tata McGraw Hill, 2000.
2. E Business by Parag Kulakarni and Sunitha Jahirabadkar from Oxford University Press.
3. E Business by Jonathan Reynolds from Oxford University Press.
4. Eframi Turban, Jae Lee, David King, K. Michael Chung, "Electronic Commerce", Pearson Education, 2000.
5. R. Kalakota and A. B. Whinston, Frontiers of Electronic Commerce, Addison Wesley.
6. David Kosiur, Understanding Electronic Commerce, Microsoft Press.
7. Soka, From EDI to Electronic Commerce, McGraw Hill.

DSC 3H 6.7 - Project work

Evaluation of Project Work: (External Evaluation)

50 % marks for Record

25% marks calculation of tax on computer system

25% marks for Viva-voce

Accounting I Syllabus (B.Com. G& CA)_1.pdf

B.Com. Business Organization and Management (G &CA)_2.pdf

B.Sc. Computer Science I Sem syllabus_3.pdf

ACCII_IIsem_2016-17AB_4.pdf

BE_IIsem_2016-17AB_5.pdf

ERP_IIsem_2016-17AB_6.pdf

B.Com. (G & V) Corporate Accounting III Sem syllabus_7.pdf

B.Com. (G &V) III Semester Business Statistics syllabus_8.pdf

baca_bcomca_9.pdf

BCOMCA_Banking theory_10.pdf

BCOM_BL_IVSEM_2015-16AB_11.pdf

BCOMCA_BUSINESS ANALYTCS_12.pdf

B.Com_Voc_v_vi_CS_2015-16AB_13.pdf

B.Com_Voc_vi_CS_2015-16AB_14.pdf

ADIKAVI NANNAYA UNIVERSITY
RAJAMAHENDRAVARAM

CBCS/Semester System
(W.e.f. 2016-17 Admitted Batch)
I Semester Syllabus

B.COM. (General &Computer Applications)

Accounting-I

Unit-I – Introduction to Accounting
Need for Accounting – Definition – Objectives, Advantages – Book keeping and Accounting– Accounting concepts and conventions - Accounting Cycle - Classification of Accounts and its rules - Double Entry Book-keeping - Journalization - Posting to Ledgers, Balancing of ledger Accounts (problems).

S**ubsidiary Books:**
Types of Subsidiary Books - Cash Book, Three-column Cash Book- Petty cash Book (Problems).

Unit-II: Trail Balance and Rectification of Errors:
Preparation of Trail balance - Errors – Meaning – Types of Errors – Rectification of Errors (Problems)

Unit-III: **Bank Reconciliation Statement:**
Need for bank reconciliation - Reasons for difference between Cash Book and Pass Book Balances- Preparation of Bank Reconciliation Statement - Problems on both favorable and unfavourable balances.

Unit-IV: **Bills of Exchange**
Meaning of Bill – Features of bill – Parties in the Bill – Discounting of Bill – Renewal of Bill – Entries in the books of Drawer and Drawee (Problems).

Unit -V: Final Accounts:
Preparation of Final Accounts: Trading account – Profit and Loss account – Balance Sheet – Final Accounts with adjustments (Problems).

Reference Books

1. T.S.Reddy & A. Murthy, Financial Accounting , Margham Publications
2. R L Gupta & V. K Gupta, Principles and Practice of Accounting, Sultan Chand & Sons
3. S.P. Jain & K.L Narang, Accountancy-I, Kalyani Publishers
4. Tulasian, Accountancy -I, Tata McGraw Hill Co.
5. V.K.Goyal, Financial Accounting, Excel Books
6. K. Arunjothi, Fundamentals of Accounting; Maruthi Publications

ADIKAVI NANNAYA UNIVERSITY
RAJAMAHENDRAVARAM

CBCS/Semester System
(W.e.f. 2016-17 Admitted Batch)
B.COM. (General &Computer Applications)
I Semester Syllabus

DSC 2 A - Business Organization & Management

Unit-I: Introduction: Concepts of Business, Trade , Industry and Commerce – Features of Business -Trade Classification - Aids to Trade – Industry – Classification – Relationship among Trade, Industry and Commerce.

Unit-II: Forms of Business Organizations: Forms of Business Organization: Sole Proprietorship, Joint Hindu Family Firm, Partnership firm, Joint Stock Company, Cooperative Society; Choice of Form of Organization. Government - Business Interface; Public Sector Enterprises (PSEs) - Multinational Corporations (MNCs).

Unit-III: Joint Stock Company: Company Incorporation: Preparation of important Documents for incorporation of Company – Memorandum of Association – Articles of Association – Differences Between Memorandum of Association and Articles of Association - Prospectus and its contents - Companies Act, 2013.

Unit-IV: Management and Organization: Process of Management: Planning; Decision-making; Organizing: Line and Staff - Staffing - Directing and Controlling; Delegation and Decentralization of Authority.

Unit-V: Functional Areas of Management: Production - Manufacturing - Make in India - Marketing Management: Marketing Concept; Marketing Mix; Product Life Cycle; Pricing Policies and Practices. Financial Management: Objectives; Sources and Forms of Funds – Human Resource Management: Functions.

Suggested Readings:

1. Kaul, V.K., *Business Organization and Management*, Pearson Education, New Delhi.
2. Chhabra, T.N., *Business Organization and Management*, Sun India Publications, New Delhi.
3. Koontz and Weihrich, *Essentials of Management*, McGraw Hill Education.
4. Basu, C. R., *Business Organization and Management*, McGraw Hill Education.
5. Jim, Barry, John Chandler, Heather Clark; *Organization and Management*, Cengage Learning.
6. Allen, L.A., *Management and Organization*; McGraw Hill, New York.
7. R.K.Sharma and Shashi K Gupta, Business Organization - Kalyani Publications.
8. C.B.Guptha, Industrial Organization and Management, Sultan Chand.
9. Y.K.Bushan, Business organization and Management, Sultan Chand.
10. Sherlekar, Business Organization and Management, Himalaya Publications.

ADIKAVI NANNAYA UNIVERSITY
RAJAMAHENDRAVARAM
CBCS / Semester System
(W.e.f 2016-2017 Admitted Batch)
B.Sc. Computer Science, B.A., B.Com.
(Computer Applications) & B C A
I Semester Syllabus
COMPUTER FUNDAMENTALS AND PHOTOSHOP

UNIT-I:

Introduction to computers: Characteristics and limitations of computer, Block diagram of computer, types of computers, uses of computers, computer generations.

Number systems: working with binary, octal, decimal and Hexa decimal numbering system.

UNIT-II:

Input and Output devices: Keyboard and mouse, inputting data in other ways, Pointing Devices, Handheld Devices, Optical Devices, Audio-Visual Input Devices.Output Devices: Monitors, Projectors, Speakers, Printers, Plotters.

Types of Software: system software, Application software, commercial, open source, domain and free ware software.

Memories: Primary, Secondary and cache memory. Secondary Storage Devices: Magnetic Tapes, Floppy Disks, Hard Disks.

Windows basics: Start menu, icons, MSWindows-Desktop, My Computer, My Documents, Pictures, Music, Videos, Recycle Bin, and Task Bar - Control Panel.

Unit –III

Introduction to Adobe photoshop: Getting started with photoshop, creating and saving a document in photoshop, page layout and back ground, photoshop program window-title bar, menu bar, option bar, image window, image title bar, status bar, ruler, paletts, tool box,screen modes, saving files, reverting files, closing files.

Unit –IV

Images: working with images, image size and resolution, image editing, colour modes and adjustments, Zooming & Panning an Image, Rulers, Guides & Grids- Cropping & Straightening an Image, image backgrounds, making selections.

Working with tool box: working with pen tool, save and load selection-working with erasers-working with text and brushes-Colour manipulations: colour modes- Levels – Curves - Seeing Colour accurately -

Patch tool – Cropping-Reading your palettes - Dust and scratches- Advanced Retouching- smoothing skin.

Unit-V

Layers: Working with layers- layer styles- opacity-adjustment layers

Filters: The filter menu, Working with filters- Editing your photo shoot, presentation –how to create adds, artstic filter, blur filter, brush store filter, distort filters, noice filters, pixelate filters, light effects, difference clouds, sharpen filters, printing.

Menus: purpose of menus – new file- open file- print file – copying data – cut data- paste data- saving custom shape- working with modes- define brushes.

Reference Books:

1. Fundamentals of Computers by Reema Thareja from Oxford University Press
2. Adobe Photoshop Class Room in a Book by Adobe Creative Team.
3. Photoshop: Beginner's Guide for Photoshop - Digital Photography, Photo Editing, Color Grading & Graphic...19 February 2016 by David Maxwell.

PRACTICAL SYLLABUS
PHOTOSHOP

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1. Create your Visiting card
2. Create Cover page for any text book
3. Create a Paper add for advertising of any commercial agency
4. Design a Passport photo
5. Create a Pamphlet for any program to be conducted by an organization
6. Create Broacher for you college
7. Create Titles for any forthcoming film
8. Custom shapes creation
9. Create a Web template for your college
10. Convert color photo to black and white photo
11. Enhance and reduce the given Image size
12. Background changes
13. Design Box package cover
14. Design Texture and patterns
15. Filter effects & Eraser effects

ADIKAVI NANNAYA UNIVERSITY

CBCS/SEMESTER SYSTEM

II SEMESTER : B.Com/B.Com(CA)

w.e.from 2016-17 admitted batch

Semester - II

Accounting-II

w.e.f 2016-17 A.B

Unit-I: Depreciation

Meaning of Depreciation - Methods of Depreciation: Straight line – Written down Value – Sum of the Years' Digits - Annuity and Depletion (Problems).

Unit-II: Provisions and Reserves

Meaning – Provision vs. Reserve – Preparation of Bad debts Account – Provision for Bad and doubtful debts – Provision for Discount on Debtors – Provision for discount on creditors - Repairs and Renewals Reserve A/c (Problems).

Unit-III: Consignment Accounts

Consignment - Features - Proforma invoice - Account sales – Del-credre Commission - Accounting treatment in the books of consigner and consignee - Valuation of closing stock - Normal and Abnormal losses (Problems).

Unit-IV: Joint Venture Accounts

Joint venture - Features - Differences between Joint-venture and consignment – Accounting procedure - Methods of keeping records (Problems).

Unit-V: Non Trading Organizations

Differences between Trade and Non Trade Organizations in Accounting Treatment – Income and Expenditure Account and Receipts and Payment Account with Balance Sheet (Problems).

Reference Books:

1. R.L. Gupta & V.K. Gupta, Principles and Practice of Accounting, Sultan Chand
2. T. S. Reddy and A. Murthy - Financial Accounting, Margham Publications.
3. S.P. Jain & K.L Narang, Accountancy-I, Kalyani Publishers.
4. Tulsan, Accountancy-I, Tata McGraw Hill Co.
5. V.K. Goyal, Financial Accounting, Excel Books
6. T.S. Grewal, Introduction to Accountancy, Sultan Chand & Co.
7. Haneef and Mukherjee, Accountancy-I, Tata McGraw Hill
8. Arulanandam, Advanced Accountancy, Himalaya Publishers
9. S.N.Maheshwari & V.L.Maheswari, Advanced Accountancy-I, Vikas Publishers.

C. Satyadev

DSC 2 B - BUSINESS ECONOMICS

Unit-I- Introduction: Meaning and Definitions of Business Economics - Nature and scope of Business Economics- Micro and Macro Economics and their Interface.

Unit-II- Demand Analysis: Definition - Determinants of Demand — Demand function – Law of demand- Demand Curve - Exceptions to Law of Demand - Elasticity of Demand – Types of Elasticity of Demand – Measurements of Price elasticity of Demand – Total outlay Method – Point Method – Arc Method.

Unit – III: Cost and Revenue Analysis

Classification of Costs – Total - Average – Marginal; Cost function – Long-run – Short-run – Total Revenue - Average revenue – Marginal Revenue - Production and Costs: Techniques of Maximization of output, Minimization of costs and Maximization of profit - Scale of production - Economies and Dis-economies of Scale - Cobb-Douglas Production Function.

Unit-IV: Market Structure: Concept of Market - Market structure - Perfect competition -characteristics - equilibrium price - Monopoly- characteristics - Defects of Monopoly – Distinction between Perfect competition and Monopoly - Monopolistic Competition - Characteristics - Product differentiation - Oligopoly - characteristics - Price rigidity - Kinked Demand Curve.

Unit-V: National Income And Economic Systems: National Income - Measurement - GDP - Growth Rates - Problems in Assessment - Economic Systems - Socialism - Mixed Economic System - Free Market Economy - Economic liberalization, Privatization, Globalization - Free Trade - Agreements - Trade cycles - Phases - International Trade - Balance of payments.

References:

1. S.Sankaran, Business Economics, Margham Publications, Chennai.
2. Business Economics - Kalyani Publications.
3. Business Economics – Himalaya Publishing House.
4. Aryasri and Murthy Business Economics , Tata McGraw Hill.
5. Aryasri and Murthy, Business Economics, Tata McGraw Hill
6. H.L Ahuja, Business Economics, Sultan Chand & Sons
7. Mankiw, Principles of Economics, Cengage Publications
8. Mithani, Fundamentals of Business Economics, Himalaya Publishing House
9. A.V. R. Chary, Business Economics, Kalyani Publishers, Hyderabad.

ADIKAVINANNAYA UNIVERSITY
CBCS/SEMESTER SYSTEM
SEMESTER-II: COMMON FOR BA (CA)/B.COM (CA)
(W.E.FROM 2016-17 admitted batch)

DSC 3B: ENTERPRISE RESOURCE PLANNING

Unit-I: Introduction to ERP: Overview -Benefits of ERP -ERP and Related Technologies -Business Process Reengineering - Data Warehousing - Data Mining -On-line Analytical Processing -Supply Chain Management.

Unit-II: ERP Implementation: Implementation Life Cycle -Implementation Methodology - Hidden Costs - Organizing Implementation - Vendors, Consultants and Users-Contracts-Project Management and Monitoring.

Unit-III: Business Modules: Business Modules in an ERP Package-Finance Manufacturing-HumanResource-Plant Maintenance-Materials Management -Quality Management-Sales and Distribution.

Unit-IV: ERP Market - ERP Market Place - SAP AG - PeopleSoft-Baan Company -OracleCorporation.

Unit-V: ERPPresent and Future: ERP and E-Commerce-ERP and Internet-Future Directions in ERP.

Reference Books:

1. Alexis Leon, “ERP Demystified”, Tata McGraw Hill, 1999.
2. Joseph A. Brady, Ellen F. Monk, BretJ. Wangner, “Concepts in Enterprise Resource Planning” , Thomson Learning, 2001.
3. Vinod Kumar Garg and N.K .Venkata Krishnan, “Enterprise Resource Planning - concepts and Planning”, Prentice Hall, 1998.
4. Jose Antonio Femandz, “ The SAP R /3 Hand book”, Tata McGraw Hill

ADIKAVI NANNAYA UNIVERSITY
RAJAMAHENDRAVARAM

CBCS/Semester System
(From 2015-16 Admitted Batch)
B.COM. (General & Vocational)
III Semester Syllabus

DSC 1 C - Corporate Accounting

Unit-I:

Accounting for Share Capital - Issue, forfeiture and reissue of forfeited shares- concept & process of book building - Issue of rights and bonus shares - Buyback of shares (preparation of Journal and Ledger).

Unit-II:

Issue and Redemption of Debentures - Employee Stock Options – Accounting Treatment for Convertible and Non-Convertible debentures (preparation of Journal and Ledger).

Unit –III:

Valuation of Goodwill and Shares: Need and methods - Normal Profit Method, Super Profits Method – Capitalization Method - Valuation of shares - Need for Valuation - Methods of Valuation - Net assets method, Yield basis method, Fair value method (including problems).

UNIT – IV:

Company Final Accounts: Preparation of Final Accounts – Adjustments relating to preparation of final accounts – Profit and loss account and balance sheet – Preparation of final accounts using computers (including problems).

Unit –V

Provisions of the Companies Act, 2013 relating to issues of shares and debentures - Book Building- Preparation of Balance Sheet and Profit and Loss Account – Schedule-III.

Reference Books:

1. Corporate Accounting – Haneef & Mukherji,
2. Corporate Accounting – RL Gupta & Radha swami
3. Corporate Accounting – P.C. Tulsian
4. Advanced Accountancy: Jain and Narang
5. Advanced Accountancy : R.L. Gupta and M.Radhaswamy, S Chand.
6. Advanced Accountancy : Chakraborthy
7. Modern Accounting: A. Mukherjee, M. Hanife Volume-II McGraw Hill
8. Accounting standards and Corporate Accounting Practices: T.P. Ghosh Taxman
9. Corporate Accounting: S.N. Maheswari, S.R. Maheswari, Vikas Publishing House.
10. Advanced Accountancy: Arutanandam, Raman, Himalaya Publishing House.
11. Advanced Accounts: M.C. Shukla, T.S. Grewal, S.C. Gupta, S. Chand & Company Ltd.,
12. Management Accounting: Shashi K. Gupta, R.K. Sharma, Kalyani Publishers.

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CBCS / Semester System
(From 2015-16 Admitted Batch)
B.COM. (General &Vocational)

III Semester Syllabus

DSC 2C - Business Statistics

Unit 1: Introduction to Statistics:
Definition, importance and limitations of statistics - Collection of data - Schedule and questionnaire – Frequency distribution – Tabulation -Diagrammatic and graphic presentation of data using Computers (Excel).

Unit 2: Measures of Central Tendency:
Characteristics of measures of Central Tendency-Types of Averages – Arithmetic Mean, Geometric Mean, Harmonic Mean, Median, Mode, Deciles, Percentiles, Properties of averages and their applications.

Unit 3: Measures of dispersion and Skewness:
Properties of dispersion – Range - Quartile Deviation –Mean Deviation-Standard Deviation-Coefficient of Variation-Skewness definition-Karl Pearson's and Bowley's Measures of skewness-Normal Distribution.

Unit 4: Measures of Relation:
Meaning and use of correlation – Types of correlation-Karlpearson's correlation coefficient – Spearman's Rank correlation-probable error-Calculation of Correlation by Using Computers.
Regression analysis comparison between correlation and Regression – Regression Equations-Interpretation of Regression Co-efficient.

Unit 5: Analysis of Time Series & Index Numbers:
Components of Time series- Measurement of trend and Seasonal Variations – Index Numbers-Methods of Construction of Index Numbers – Price Index Numbers – Quantity Index Numbers – Tests of Adequacy of Index Numbers – Cost of Index Numbers-Limitations of Index Numbers – Use of Computer Software.

Suggested Readings:

1. Business Statistics — Reddy, C.R Deep Publications.
2. Statistics-Problems and Solutions — Kapoor V.K.
3. Fundamentals of Statistics — Elhance.D.N
4. Statistical Methods — Gupta S.P
5. Statistics — Gupta B.N.
6. Fundamentals of Statistics — Gupta S.C
7. Statistics-Theory, Methods and Applications — Sancheti,D.C. &Kapoor V.K
8. Business Statistics — J.K.Sharma
9. Business Statistics — Bharat Jhunjhunwala

ADIKAVI NANNAYA UNIVERSITY : RAJAMAHEDNRAVARAM

CBCS SEMESTER SYSTEM

III SEMESTER : OFFICE AUTOMATION TOOLS

COMMON FOR B.A(CA) and B.Com (CA)

w.e. from 2016-17 Admitted Batch

Unit- I: MS-Excel: features of Ms-Excel, Parts of MS-Excel window, entering and editing data in worksheet, number formatting in excel, different cell references, how to enter and edit formula in excel, auto fill and custom fill, printing options.

Unit-II: Formatting options: Different formatting options, change row height, formulae and functions, excel names. Functions: Meaning and advantages of functions, different types of functions available in Excel, financial functions, date and time, engineering, statistical, math and trig, logical, text, information, look up and reference functions, operators in excel, Database functions.

Unit-Ill: Charts: Different types of charts, Parts of chart, chart creation using wizard, chart operations, data maps, graphs, data sorting, filtering. Excel sub totals, scenarios, what-if analysis Macro; Meaning and advantages of Macros, creation, editing and deletion of macros Creating a macro, how to run, how to delete a macro.
Unit-IV: MS Access: Creating a Simple Database and Tables: Features of Ms-Access, Creating a Database, Parts of Access, Data Types and properties, adding, deleting fields, renaming the fields in a table. Tables: table creation using design view, table wizard, data sheet view, import table, link table. Forms: The Form Wizard, design view, columnar, tabular, data sheet, chart wizard.

Unit- V: Finding, Sorting and Displaying Data: Queries and Dynasts, Creating and using select queries, Returning to the Query Design, Multilevel sorts, Finding incomplete matches, showing All records after a Query, saving queries Crosstab Queries. **Printing Reports:** Simple table. Form and Database Printing, Defining advanced Reports, Manual Reporting, Properties in Reports, Saving Reports. **Relational Databases:** Flat Versus Relational, Types of Relationships, Viewing Relationships, Defining and Redefining Relationships, Creating and Deleting Relationships.

Reference Books:

1. Ron Mansfield, Workirfg in Microsoft Office, Tlala McGraw Htll(200S)
2. Ed Bott, Woody Leonhard, Using Microsoft Office 2007, Pearson Education(2007)
3. Sanjay Saxsena, Microsoft Office, 4.Microsoft Office, BPB Publications

ADIKAVI NANNAYA UNIVERSITY
B.COM COMPUTER APPLICATIONS
W..E.FROM 2016-17 ADMITTED BATCH

DSC 1D - Banking Theory & Practice

Unit-I: Introduction

Meaning & Definition of Bank – Functions of Commercial Banks – Kinds of Banks - Central Banking Vs. Commercial Banking.

Unit-II: Banking Systems

Unit Banking , Branch Banking, Investment Banking- Innovations in banking – E banking - Online and Offshore Banking , Internet Banking - Anywhere Banking - ATMs - RTGS.

Unit-III: Banking Development

Indigenous Banking - Cooperative Banks, Regional Rural banks, SIDBI, NABARD - EXIM Bank.

Unit-IV: Banker and Customer

Meaning and Definition of Banker and customer – Types of Customers - General Relationship and Special Relationship between Banker and Customer -

Unit-V: Collecting Banker and Paying Banker

Concepts - Duties & Responsibilities of Collecting Banker – Holder for Value – Holder in Due Course – Statutory Protection to Collecting Banker - Responsibilities of Paying Banker - Payment Gateways.

Books for Reference

1. Banking Theory: Law & Practice : K P M Sundram and V L Varsheney
2. Banking Theory, Law and Practice : B. Santhanam; Margam Publications
3. Banking and Financial Systems : Aryasri
4. Introduction to Banking : Vijaya Raghavan
5. Indian Financial System : M.Y.Khan
6. Indian Financial System : Murthy & Venugopal

ADIKAVI NANNAYA UNIVERSITY

CBCS/SEMESTER SYSTEM

IV SEMESTER : B.COM GENERAL

W.E.F 2015-16 ADMITTED BATCH

BUSINESS LAWS

Unit-I: Contract

Meaning and Definition of Contract-Essential elements of valid Contract -Valid, Void and Voidable Contracts - Indian Contract Act, 1872.

Unit-II: Offer and Acceptance

Definition of Valid Offer, Acceptance and Consideration -Essential elements of a Valid Offer, Acceptance and Consideration.

Unit-Ill: Capacity of the Parties and Contingent Contract

Rules regarding to Minors contracts - Rules relating to contingent contracts - Different modes of discharge of contracts-Rules relating to remedies to breach of contract.

Unit-IV: Sale of Goods Act 1930

Contract of sale - Sale and agreement to sell - Implied conditions and warranties - Rights of unpaid vendor.

Unit-V: Cyber Law and Contract Procedures - Digital Signature - Safety Mechanisms.

References: /

1. J. Jay^sahlcar, Business Laws, Margham Publication. Chennai-17
2. .Ktfpoor ND, Mercentile Law , Sultan Chand
3. Balachandram V, Business law Tata
4. Tulsian, Business Law Tata
5. Pillai Bhagavathi, Business Law , S.Chand.
6. Business Laws, Maruthi Publishers

ADIKAVI NANNAYA UNIVERSITY
B.COM COMPUTER APPLICATIONS
W..E.FROM 2016-17 ADMITTED BATCH

DSC 3D Business Analytics

Unit-I: **Introduction** - Business Analytics Life Cycle - Business Analytics Process - Data concepts - Data exploration & visualization - Business Analytics as Solution for Business Challenges -

Unit-II**: Automated Data Analysis:** Tabulation and Cross Tabulation of Data: Univariate, Bivariate and Multivariate Data Analysis – ANOVA.

Unit-III: **Hypothesis Testing:** Type 1 & 2 errors - T-test, ANOVA, Chi-Square and correlation - Linear Regression Analysis - Logistic Regression - Cluster Analysis - Market Basket Analysis.

Unit-IV**: Business Data Management:** Master Data Management: Data Warehousing and kinds of Architecture – Data Extraction – Transformation and Up-loading of Data – Data Mining – Meta Data – Data Marts – Creating Data Marts – Data Integration – OLTP and OLAP.

Unit-V: **SPSS Packages** – Applications and Case Studies.

Suggested Books:

1. Gupta S.P. “Statistical Methods”, Sultan Chand, New Delhi, 2010.
2. K.V. Rao, “Research Methodology in Commerce and Management”, Sterling Publishers, New Delhi, 2012.
3. T.S. Wilkinson & P.L. Bhandarkar, “Methodology and Techniques of Social Research”, 2010.
4. Richard A.Johnson & Dean W.Wichern, “Applied Multivariate Statistical Analysis”, Prentice Hall International Inc., 2007.
5. R.N Prasad and Seema Acharya, “Fundaments of Business Analytics”, Wiley India Publication.
6. Pang-Ning Tan, Michael Steinbach & Vipin Kumar, “Introduction to Data Mining”, Pearson, 2009.
7. Alex Berson, Stephen Smith & Kurt Thearling, “Building Data Mining Application for CRM”, Tata McGraw Hill, New Delhi, 2000.

ADIKAVI NANNAYA UNIVERSITY
B.Com. (Vocational)
Revised Common Framework of CBCS for Colleges in Andhra Pradesh
(A.P. State Council of Higher Education)

Semester – V

Sl. No.	Course	Name of the subject	Total Marks	Mid. Sem. Exam*	Sem. End Exam	Teaching Hours**	Credits
1.	Skill Based Course SBC E	5.1 Business Leadership	50	---	50	2	2
2.	DSC 1 E	5.2 Cost Accounting	100	25	75	5	4
3.	DSC 2 E	5.3 Taxation	100	25	75	5	4
4.	DSC 3 E	5.4 Commercial Geography	100	25	75	5	4
5.	Elective-DSC 1F/Inter-disp.	5.5 Programming in C	100	25	75	5	4
6.	Elective-DSC 2F /Inter-disp.	5.6 Data Base Management System	100	25	75	5	4
7.	Elective-DSC 3F/Inter-disp.	5.7 Web Technology	100	25	75	5	4
Total			**650**	**125**	**525**	**27**	**26**

SBC E 5.1 Business Leadership

Unit-I: Introductory: Leadership - Traits, Skills and Styles- Leadership Development - Qualities of a Good Leader.

Unit-II: Decision-Making and Leadership: Leadership for Sustainability - Power, Influence, Impact - Leadership Practices - Organizations and Groups**:** Organizational Culture and Leadership - Leadership in Business Organizations

Unit-III: Special Topics: Profiles of a few Inspirational Leaders in Business – Jemshedji Tata - Aditya Birla - Swaraj Paul - L N Mittal - N R Narayana Murthy - Azim Premji, etc.

References:

1. Northouse, Peter G., Leadership: Theory and Practice, Sage Publications.

2. Daloz Parks, S., Leadership can be taught: A Bold Approach for a Complex World, Boston: Harvard Business School Press.

3. Drucker Foundation (Ed.), Leading Beyond the Walls, San Francisco: Jossey Bass.

4. Al Gini and Ronald M. Green, Virtues of Outstanding Leaders: Leadership and Character, John Wiley & Sons Inc.

5. S Balasubramanian, The Art of Business Leadership – Indian Experiences, Sage Publications.

DSC - 1E 5.2 Cost Accounting

Unit-I:Introduction: Distinguish between Financial Accounting, Cost Accounting and management accounting - Cost Concepts and Classification – Cost Centre and Cost Unit – Preparation of Cost Sheet.

Unit-II: Elements of Cost: Materials: Material control – Selective control, ABC technique – Methods of pricing issues – FIFO, LIFO, Weighted average, Base stock methods, choice of method (including problems).

Unit-III: Labour and Overheads: Labour: Control of labor costs – time keeping and time booking – Idle time –Methods of remuneration – labour incentives schemes - Overheads: Allocation and apportionment of overheads – Machine hour rate.

Unit-IV: Methods of Costing: Job costing – Process costing - treatment of normal and abnormal process losses – preparation of process cost accounts – treatment of waste and scrap, joint products and by products (including problems).

Unit -V: Costing Techniques: Marginal Costing – Standard costing – Variance Analysis (including problems).

References:

1. S.P. Jain and K.L. Narang – Advanced Cost Accounting, Kalyani Publishers, Ludhiana.
2. M.N. Aurora – A test book of Cost Accounting, Vikas Publishing House Pvt. Ltd.
3. S.P. Iyengar – Cost Accounting, Sultan Chand & Sons.
4. Nigam & Sharma – Cost Accounting Principles and Applications, S.Chand & Sons.
5. S.N .Maheswari – Principles of Management Accounting.
6. I.M .Pandey – Management Accounting, Vikas Publishing House Pvt. Ltd.
7. Sharma & Shashi Gupta – Management Accounting, Kalyani Publishers. Ludhiana.

CBCS Semester System
B.Com Computer Applications - V Semester

DSC 2E 5.3 Taxation

Unit-I: **Introduction:** Objectives - Principles of Taxation - Brief History - Basic Concepts; Capital and Revenue; Basis of Charge - Exempted Incomes - Residential Status – Incidence of Taxation.

Unit-II: **Good and Service Tax** and its fundamentals

Unit-III: **Computation of income under different heads**: Income from Salary; Income from House Property; Income from Business/Profession, Charges Deemed Profits to Tax; Deductions u/s 80C to 80U - Income from Capital Gains; Income from Other Sources (simples problems).

Unit-IV**: Taxation System in India**: Objectives; Tax Holiday; Modes of Tax Recovery (Section 190 and 202); Payments and Refunds; Filing of Returns.

Unit-V: **Tax Planning**: Tax Avoidance and Tax Evasion; Penalties and Prosecutions; Income Tax Authorities.

References:

1. Vinod K. Singhania Direct Taxes - Law and Practice, Taxman Publication.
2. B.B. Lal: Direct Taxes, Konark Publisher (P) Ltd.
3. Bhagwati Prasad: Direct Taxes – Law and Practice, Wishwa Prakashan.
4. Dr. Mehrotra and Goyal: Direct Taxes – Law and Practice, Sahitya Bhavan Publication.

DSC 3E 5.4 Commercial Geography

Unit –I: The Earth: Internal structure of the Earth – Latitude – Longitude – Realms of the Earth – Evolution of the Earth – Environmental pollution - Global Warming - Measures to be taken to protect the Earth.

Unit -II: India – Agriculture: Land Use - Soils - Major crops – Food and Non-food Crops – Importance of Agriculture – Problems in Agriculture – Agriculture Development.

Unit -III: India – Forestry: Forests – Status of Forests in Andhra Pradesh – Forest (Conservation) Act, 1980 – Compensatory Afforestation Fund (CAF) Bill, 2015 - Forest Rights Act, 2006 and its Relevance – Need for protection of Forestry.

Unit -IV: India – Minerals and Mining: Minerals – Renewable and non Renewable – Use of Minerals – Mines – Coal, Barites, etc. – Singareni Coal mines and Mangampeta Barites - District-wise Profile.

Unit-V: India – Water Resources – Rivers: Water resources - Rationality and equitable use of water – Protection measures - Rivers - Perennial and peninsular Rivers - Interlinking of Rivers - Experience of India and Andhra Pradesh.

References:

1. Shabiar Ahmad; Quazi ,Natural Resource Consumption and Environment Management, APH Publishing Corporation.
2. Tarachand, Economic and Commercial Geography of India, Vikas Publishing House.
3. Dr. S. Sankaran, Commercial Geography, Margam Publications, Chennai.
4. C. B. Memoria, Commercial Geography, Lal Agarwal & Co.
5. C. B. Memoria, Economic and Commercial Geography, Lal Agarwal & Co.
6. Vinod N. Patel, Commercial Geography, Oxford Book Company

DSC 1F 5.5 - Programming IN C

Unit- I: Introduction to Algorithms and Programming Languages: Algorithm – Key features of Algorithms – Some more Algorithms – Flow Charts. **Introduction to C:** Structure of C Program – Writing the first C Program – File used in C Program – Compiling and Executing C Programs – Using Comments – Keywords – Identifiers – Basic Data Types in C – Variables – Constants – I/O Statements in C- Operators in C- Programming Examples – Type Conversion and Type Casting

Unit-II: Decision Control and Looping Statements: Introduction to Decision Control Statements – Conditional Branching Statements – Iterative Statements – Nested Loops – Break and Continue Statement – Go to Statement

Unit- III: Functions: Introduction – using functions – Function declaration/ prototype – Function definition – function call – return statement – Passing parameters – Scope of variables – Storage Classes – Recursive function

Unit- IV: Arrays: Introduction – Declaration of Arrays – Accessing elements of the Array – Storing Values in Array – Calculating the length of the Array – Operations on Array – one dimensional array for inter-function communication – Two dimensional Arrays –Operations on Two Dimensional Arrays, **Strings:** Introduction String and Character functions

Unit-V: Pointers: Understanding Computer Memory – Introduction to Pointers – declaring Pointer Variables – - Passing Arguments to Functions using Pointer – Pointer and Arrays – Passing Array to Function. **Structure, Union, and Enumerated Data Types:** Introduction – Nested Structures – Arrays of Structures – Structures and Functions - Unions – Enumerated Data Types.

Reference Books:

1. Reema Thareja, Introduction to C programming, Oxford University Press.
2. E Balagurusamy, Computing Fundamentals & C Programming – Tata McGraw-Hill, 2008.
3. Ashok N Kamthane, Programming with ANSI and Turbo C, Pearson Publisher, 2002.
4. Henry Mulish & Hubert L.Coo Reema Thareja: The Spirit of C: An Introduction to Modern Programming, Jaico Publishing House,1996.

DSC 2F 5.6 - Database Management System

Unit-I: Overview of Database Management System: Introduction, Data and Information, Database, Database Management System, Objectives of DBMS, Evolution of Database Management Systems, Classification of Database Management System.

Unit-II: File-Based System, Drawbacks of File-Based System , DBMS Approach, Advantages of DBMS, Data Models , Components of Database System, Database Architecture.

Unit-III: Entity–Relationship Model: Introduction, The Building Blocks of an Entity–Relationship, Classification of Entity Sets , Attribute Classification, Relationship Degree, Relationship Classification, Generalization and Specialization, aggregation and composition, CODD'S Rules, Relational Data Model , Concept of ,Relational Integrity.

Unit-IV: Structured Query Language: Introduction, History of SQL Standard, Commands in SQL, Data types in SQL, Data Definition Language (DDL), Selection Operation Projection Operation, Aggregate Functions, Data Manipulation Language, Table Modification, Table Truncation, Imposition of Constraints, Set Operations.

Unit -V: PL/SQL: Introduction, Structure of PL/SQL, PL/SQL Language Elements ,Data Types, Control Structure,, Steps to Create a PL/SQL Program, Iterative Control ,Cursors , Steps to Create a Cursor , Procedure, Function ,Packages ,Exceptions Handling, Database Triggers, Types of Triggers.

Reference Books:

1. Paneerselvam: Database Management Systems, PHI.
3. David Kruglinski, Osborne, Data Management System McGraw Hill Publication.
4. Shgirley Neal and Kenneth LC Trunik Database Management Systems in Business – PHI.
5. Godeon C. EVEREST, Database Management – McGraw Hill Book Company.
6. MARTIN, Database Management – Prentice Hall of India, New Delhi.
7. Bipin C. Desai, "An Introduction to Database Systems", Galgotia Publications.
8. Korth, Database Management systems.
9. Navathe, Database Management systems.
10. S. Sumathi, S. Esakkirajan, Fundamentals of Relational Database Management Systems

DSC 3F 5.7 - Web Technology

Unit-I: Introduction: HTML, XML, and WWW, Topologies, Bus, Star, Ring, Hybrid, Tree, Lan,Wan,Man. **HTML**: Basic HTML, Document body, Text, Hyper links, Adding more formatting, Lists, Tables using colors and images. **More HTML**: Multimedia objects, Frames, Forms towards interactive, HTML document heading.

Unit-II: Cascading Style Sheets: Introduction, using Styles, simple examples, your own styles, properties and values in styles, style sheet, formatting blocks of information, layers.

Unit-III: Introduction to JavaScript: What is DHTML, JavaScript, basics, variables, string manipulations, mathematical functions, statements, operators, arrays, functions.

Unit-IV: Objects in JavaScript: Data and objects in JavaScript, regular expressions, exception handling, built-in objects, events.

Unit-V: DHTML with JavaScript: Data validation, opening a new window, messages and confirmations, the status bar, different frames, rollover buttons, moving images, multiple pages in single download, text only menu system.

References:

1. Uttam Kumar Roy, Web Technologies, Oxford University Press.
2. Black Book HTML 5.0
3. Complete reference HTML 5.0
4. Web Technology, PHI Publications.

ADIKAVI NANNAYA UNIVERSITY
B.Com. (Vocational)
Revised Common Framework of CBCS for Colleges in Andhra Pradesh
(A.P. State Council of Higher Education)

Semester – VI

Sl. No.	Course	Name of the subject	Total Marks	Mid. Sem. Exam	Sem. End Exam	Teaching Hours**	Credits
1.	Skill Based Course SBC G	6.1 Event Management	50	---	50	2	2
2.	DSC 1 G	6.2 Marketing	100	25	75	5	4
3.	DSC 2 G	6.3 Auditing	100	25	75	5	4
4.	DSC 3 G	6.4 Management Accounting	100	25	75	5	4
5.	Elective-DSC 1 H/Inter-disp./Gen. Elec.	6.5 Tally with GST Applications	100	25	75	5	4
6.	Elective-DSC 2H/Inter-disp./Gen. Elec.	6.6 e-Commerce	100	25	75	5	4
7.	Elective-DSC 3H/Inter-disp./Gen. Elec.	6.7 Project	100	-	100	-	4
Total			**650**	**125**	**525**	**27**	**26**
Grand Total			**3600**				**138**

BS G 6.1 Event Management

Unit-I: Event Concept: Corporate Events and Customer's needs - Types of Events - Corporate hospitality – Exhibitions – Trade Fairs – Conferences –Business and Government Meets - Corporate event packages - Menu Selection - Customization.

Unit-II: Outdoor Events: Logistics, Types of Outdoor events, Risk management - Health and safety, Marketing and sponsorship, HR Management, Programming and Entertainment.

Unit-III: Celebrity Events: Launches, Fashion shows, National festivals and high-profile charity events - Liaison with agents, Contract Negotiations, Client briefings, Celebrity wish lists and expectations - Liaisoning with Govt. Departments.

References:

1. Event Management: A Blooming Industry and an Eventful Career by Devesh Kishore, Ganga Sagar Singh - Har-and Publications Pvt. Ltd.
2. Event Management by Swarup K. Goyal - Adhyayan Publisher.
3. Event Management & Public Relations by Savita Mohan - Enkay Publishing House
4. Event Entertainment and Production - Mark Sonder, CSEP, Wiley & Sons, Inc.
5. Special Event Production - Doug Matthews.
6. Fenich, G. Meetings, Expositions, Events, and Conventions: An introduction to the industry. New Jersey: Pearson Prentice Hall.

DSC 1 G 6.2 Marketing

Unit-I: **Introduction:** Concepts of Marketing: Product Concept – Selling Concept - Societal Marketing Concept – Marketing Mix - 4 P's of Marketing – Marketing Environment.

Unit-II: **Consumer Markets and Buyer Behaviour:** Buying Decision Process – Stages – Buying Behaviour – Market Segmentation – Selecting Segments – Advantages of Segmentation.

Unit-III: Product Management: Product Life Cycle - New products, Product mix and Product line decisions - Design, Branding, Packaging and Labeling.

Unit-IV: Pricing Decision: Factors influencing price determination, Pricing strategies: Skimming and Penetration pricing.

Unit-V: Promotion and Distribution: Promotion Mix - Advertising - Publicity – Public relations - Personal selling and Direct marketing - Distribution Channels – Online marketing- Global marketing.

References:

1. Philip Kotler, Marketing Management, Prentice Hall of India.
2. Philip Kotler & Gary Armstrong, Principles of Marketing, Pearson Prentice Hall
3. Stanton J. William & Charles Futrel, Fundamentals of Marketing, McGraw Hill Company
4. V.S. Ramaswamy S. Nama Kumari, Marketing Management – Planning, McMillan

DSC 2G 6.3 Auditing

Unit-I: Auditing: Meaning – Objectives – Importance of Auditing – Auditing as a Vigil Mechanism – Role of Auditor in checking corporate frauds.

Unit-II: Types of Audit: Based on Ownership and time - Independent, Financial, Internal, Cost, Tax, Government, Secretarial audits.

Unit-III: Planning of Audit: Steps to be taken at the commencement of a new audit - Audit programme - Audit note book - Internal check, internal audit and internal control.

Unit-IV: Vouching and Investigation: Vouching of cash and trading transactions - Investigation, Auditing vs. Investigation

Unit-V: Company Audit and Auditors Report: Auditor's Qualifications – Appointment and Reappointment – Rights, duties, liabilities and disqualifications - Audit report: Contents – Preparation - Relevant Provisions of Companies Act, 2013.

References:

1. S.Vengadamani, "Practical Auditing", Margham Publications, Chennai.
2. Ghatalia, "Principles of Auditing", Allied Publishers Pvt. Ltd., New Delhi.
3. Pradeesh Kumar, Baldev Sachdeva & Jagwant Singh, "Auditing Theory and Practice, Kalyani Publications, Ludhiana.
4. N.D. Kapoor, "Auditing", S. Chand, New Delhi.
5. R.G. Saxena, "Principles and Practice of Auditing", Himalaya Publishing House, New Delhi.
6. Jagadesh Prakesh, "Principles and Practices of Auditing" Kalyani Publications, Ludhiana.
7. Kamal Gupta and Ashok Gupta, "Fundamentals of Auditing", Tata McGraw Hill
8. B.N. Tondan, "Practical Auditing", S.Chand, New Delhi.

DSC 3G 6.4 Management Accounting

Unit–I: Management Accounting: Interface with Financial Accounting and Cost Accounting - Financial Statement analysis and interpretation: Comparative analysis – Common size analysis and trend analysis (including problems).

Unit–II: Ratio Analysis: Classification, Importance and limitations - Analysis and interpretation of Accounting ratios - Liquidity, profitability, activity and solvency ratios (including problems).

Unit–III: Fund Flow Statement: Concept of fund: Preparation of funds flow statement. Uses and limitations of funds flow analysis (including problems).

Unit–IV: Cash Flow Statement: Concept of cash flow – Preparation of cash flow statement - Uses and limitations of cash flow analysis (including problems).

Unit–V: Break-Even Analysis and Decision Making: Calculation of Break-even point - Uses and limitations - Margin of safety – Make/Buy Decision - Lease/own Decision (including Problems).

References:

1. S.N. Maheswari, A Textbook of Accounting for Management, S. Chand Publishing, New Delhi.
2. I.M Pandey, "Management Accounting", Vikas Publishing House, New Delhi,
3. Shashi K. Gupta & R.K. Sharma, "Management Accounting: Principles and Practice", Kalyani Publishers, Ludhiana.
4. Jawahar Lal, Accounting for Management, Himalaya Publishing House, New Delhi.
5. Charles T. Horngren, et.al, "Introduction to Management Accounting" Person EducationIndia, New Delhi, 2002.
6. Murthy & Guruswamy – Management Accounting, Tata McGraw Hill, New Delhi.
7. Dr. Kulsreshtha & Gupta – Practical problems in Management Accounting.
8. Bhattacharya, D., "Management Accounting", Pearson Education India, New Delhi.
9. S.P. Gupta – Management Accounting, S. Chand Publishing, New Delhi.

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CBCS

B.Com VI Semester

Tally with GST Applications

(common for B.Com(V/CA) and B.Com (G) with Computer Applications Elective)

Unit – I: Introduction to GST, Difference between GST and VAT, Taxes subsumed under GST, Exempt from GST, Components of GST, GST Registration, Benefits of GST.

Unit – II: GST Transition, GST Rates, Ledgers, Ledger Creation – Single and multiple Ledgers, Altering Ledgers, configure Stock Ledger, GST rate allocation to stocks.

Unit – III: GST Invoices – Creating New Voucher types, customizing the Existing voucher types with applicable GST rates, Alteration of vouchers, deletion of vouchers, Input tax credit on purchase vouchers.

Unit – IV: GST Returns – Regular Monthly filing returnss, Composition Quarterly filing returns, Generation of Returns Form GSTR-1, Form GSTR-2 and Form GSTR-3

Unit – V: Payment of GST taxes online, Reverse Charge Mechanism, Records to be maintained

1. C. Satyadev
2. 28/10/17
3.
4. 28/10/17

DSC 2H 6.6 - e-Commerce

Unit-I: Introduction to E-Commerce: Scope, Definition, e-Commerce and the Trade Cycle, Electronic Markets, Electronic Data Interchange, Internet Commerce. Business Strategy in an Electronic Age: Supply Chains, Porter's Value Chain Model, Inter Organizational Value Chains, Competitive Strategy, First Mover Advantage - Sustainable Competitive Advantage, Competitive Advantage using E-Commerce - Business Strategy.

Unit-II: Business-to-Business Electronic Commerce: Characteristics of B2B EC, Models of B2B EC, Procurement Management by using the Buyer's Internal Market place, Just in Time Delivery, Other B2B Models, Auctions and Services from traditional to Internet Based EDI, Integration with Back-end Information System, Role of Software Agents for B2B EC, Electronic marketing in B2B, Solutions of B2B EC, Managerial Issues, Electronic Data Interchange (EDI), EDI: Nuts and Bolts, EDI and Business.

Unit-III: Internet and Extranet : Automotive Network Exchange, Largest Extranet, Architecture of the Internet, Intranet and Extranet, Intranet software, Applications of Intranets, Intranet Application Case Studies, Considerations in Intranet Deployment, Extranets, Structures of Extranets, Extranet products and services, Applications of Extranets, Business Models of Extranet Applications, Managerial Issues. Electronic Payment Systems: Issues and Challenges.

Unit-IV: Public Policy: From Legal Issues to Privacy : Legal Incidents, Ethical and Other Public Policy Issues, Protecting Privacy, Protecting Intellectual Property, Free speech, Internet Indecency and Censorship, Taxation and Encryption Policies, Other Legal Issues: Contracts, Gambling and More, Consumer and Seller Protection in EC.

Unit-V: Infrastructure For EC : Network of Networks, Internet Protocols, Web- Based client/Server, Internet Security, Selling on the Web, Chatting on the Web, Multimedia delivery, Analyzing Web Visits, Managerial Issues, Equipment required for establishing EC Sites – Problems in Operation – Future of EC.

Reference Books

1. David Whiteley, "E-Commerce", Tata McGraw Hill, 2000.
2. E Business by Parag Kulakarni and Sunitha Jahirabadkar from Oxford University Press.
3. E Business by Jonathan Reynolds from Oxford University Press.
4. Eframi Turban, Jae Lee, David King, K. Michael Chung, "Electronic Commerce", Pearson Education, 2000.
5. R. Kalakota and A. B. Whinston, Frontiers of Electronic Commerce, Addison Wesley.
6. David Kosiur, Understanding Electronic Commerce, Microsoft Press.
7. Soka, From EDI to Electronic Commerce, McGraw Hill.

DSC 3H 6.7 - Project

Evaluation of Project Work: (External Evaluation)

50 % marks for Record

25% marks calculation of tax on computer system

25% marks for Viva-voce