ANDHRA PRADESH STATE COUNCIL OF HIGHER EDUCATION

Programme: B.Com. Computer Applications (Major)

w.e.f. AY 2023-24

COURSE STRUCTURE

Year	Semester	Course	Title of the Course	No. of Hrs /Week	No. of Credits
I	I	1	Fundamental of Commerce	4	4
		2	Business Organisation	4	4
	II	3	Financial Accounting	3	3
			Financial Accounting Practical Course	2	1
		4	Office Automation Tools	3	3
			Office Automation Tools Practical Course	2	1
II	III	5	Advanced Accounting	3	3
			Advanced Accounting Practical Course	2	1
		6	Income Tax	3	3
			Income Tax Practical Course	2	1
		7	E Commerce & Web designing	3	3
			E Commerce & Web designing Practical Course	2	1
		8	Digital Marketing	3	3
			Digital Marketing Practical Course	2	1
	IV	9	Corporate Accounting	3	3
			Corporate Accounting Practical Course	2	1
		10	Cost & Management Accounting	3	3
			Cost & Management Accounting Practical Course	2	1
		11	DBMS with Oracle	3	3
			DBMS with Oracle Practical Course	2	1
III	V	12	Advertisement Corporate Accounting (OR) Advertisement and Media Planning	3	3
			Advertisement Corporate Accounting (OR) Advertisement and Media Planning Practical Course	2	1

Year	Semester	Course	Title of the Course	No. of Hrs /Week	No. of Credits
		13	Stock Markets (OR) GST Procedures and Practices	3	3
			Stock Markets (OR) GST Procedures and Practices Practical Course	2	1
		14	Business Analytics (OR) Cyber Security	3	3
			Business Analytics (OR) Cyber Security Practical Course	2	1
		15	Mobile Applications Development (OR) Block Chain Technology	3	3
			Mobile Applications Development (OR) Block Chain Technology Practical Course	2	1
	VI	Semester Internship/Apprenticeship with 12 Credits			
IV	VII		Courses will be available in due course of time		
	VIII		Courses will be available in due course of time		

COURSE 1: FUNDAMENTALS OF COMMERCE

Theory	Credits: 4	4 hrs/week

Learning Objectives:
The objective of this paper is to help students to acquire conceptual knowledge of the Commerce, Economy and Role of Commerce in Economic Development. To acquire Knowledge on Accounting and Taxation.

Learning Outcomes:
At the end of the course, the student will able to
Identify the role commerce in Economic Development and Societal Development. Equip with the knowledge of imports and exports and Balance of Payments. Develop the skill of accounting and accounting principles. They acquire knowledge on micro and micro economics and factors determine demand and supply. An idea of Indian Tax system and various taxes levied on in India. They will acquire skills on web design and digital marketing.

Unit 1: Introduction: Definition of Commerce – Role of Commerce in Economic Development - Role Commerce in Societal Development. Imports and Exports, Balance of Payments. World Trade Organization.

Unit 2: Economic Theory: Macro Economics – Meaning, Definition, Measurements of National Income, Concepts of National Income. Micro Economics – Demand and Supply. Elasticity of Demand and Supply. Classification of Markets -Perfect Competition – Characteristics – Equilibrium Price, Marginal Utility.
.
Unit 3: Accounting Principles: Meaning and Objectives Accounting, Accounting Cycle - Branches of Accounting - Financial Accounting, Cost Accounting, Management Accounting. Concepts and Conventions of Accounting – GAAP.

Unit 4: Taxation: Meaning of Tax, Taxation - Types of Tax- Income Tax, Corporate Taxation, GST, Customs & Exercise. Differences between Direct and Indirect Tax – Objectives of Tax- Concerned authorities – Central Board of Direct Taxes (CBDT) and Central Board of Excise and Customs (CBIC).

Unit 5: Computer Essentials: Web Design - Word Press Basics, Developing a Simple Website. Digital Marketing - Social Media Marketing, Content Marketing, Search Engine Optimization (SEO), E-mail Marketing. Data Analytics- Prediction of customer behavior, customized suggestions.

Lab Exercise:
- Build a sample website to display product information.
- Provide wide publicity for your product over social media and e-mail
- Estimate the customer behavior and provide necessary suggestions regarding the products of his interest.

Activities:
- Assignment on GAAP.
- Group Activates on Problem solving.
- Collect date and report the role of Commerce in Economic Development.
- Analyze the demand and supply of a product and make a scheduled based on your analysis, problems on elasticity of demand.
- Identify the Tax and distinguish between Direct Tax and Indirect Tax.
- Assignments and students seminars on Demand function and demand curves
- Quiz Programs
- Assignment on different types of taxes which generate revenue to the Government of India.
- Invited lectures on GST and Taxation system
- Problem Solving Exercises on current economy situation.
- Co-operative learning on Accounting Principles.
- 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

Reference Books:
1. S.P. Jain & K.L Narang, Accountancy - I Kalyani Publishers.
2. R.L. Gupta & V.K. Gupta, Principles and Practice of Accounting, Sultan Chand
3. Business Economics -S.Sankaran, Margham Publications, Chennai.
4. Business Economics - Kalyani Publications.
5. Dr. Vinod K. Singhania: Direct Taxes – Law and Practice, Taxmann Publications.
6. Dr. Mehrotra and Dr. Goyal: Direct Taxes – Law and Practice, SahityaBhavan Publications
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COURSE 2: BUSINESS ORGANIZATION

Theory   Credits: 4   4 hrs/week

Learning Objectives:
The course aims to acquire conceptual knowledge of business, formation various business organizations. To provide the knowledge on deciding plant location, plan layout and business combinations.

Learning outcomes:
After completing this course a student will have:
Ability to understand the concept of Business Organization along with the basic laws and norms of Business Organization. The ability to understand the terminologies associated with the field of Business Organization along with their relevance and to identify the appropriate types and functioning of Business Organization for solving different problems. The application of Business Organization principles to solve business and industry related problems and to understand the concept of Sole Proprietorship, Partnership and Joint Stock Company etc.

Unit 1: Business: Concept, Meaning, Features, Stages of development of business and importance of business. Classification of Business Activities. Meaning, Characteristics, Importance and Objectives of Business Organization.. Difference between Industry & Commerce and Business & Profession, Modern Business and their Characteristics.

Unit 2: Promotion of Business: Considerations in Establishing New Business. Qualities of a Successful Businessman. Forms of Business Organization - Sole Proprietorship, Partnership, Joint Stock Companies & Co-operatives and their Characteristics, relative merits and demerits, Difference between Private and Public Company, Concept of One Person Company.

Unit 3: Plant Location and Layout: Meaning, Importance, Factors affecting Plant Location. Plant Layout - Meaning, Objectives, Importance, Types of Layout. Factors affecting Layout. Size of Business Unit - Criteria for Measuring the Size and Factors affecting the Size. Optimum Size and factors determining the Optimum Size.

Unit 4: Business Combination: Meaning, Characteristics, Objectives, Causes, Forms and Kinds of Business Combination. Rationalization: Meaning, Characteristics, Objectives, Principles, Merits and demerits, Difference between Rationalization and Nationalization.

Unit 5: Computer Essentials: Milestones of Computer Evolution – Computer, Block diagram, generations of computer   . Internet Basics - Internet, history, Internet Service Providers,

Types of Networks, IP, Domain Name Services, applications. Ethical and Social Implications - Network and security concepts- Information Assurance Fundamentals, Cryptography - Symmetric and Asymmetric, Malware, Firewalls, Fraud Techniques, privacy and data protection

Activities:
- Assignment on business organizations and modern business.
- Group Discussion on factors that influence plan location
- Seminars on different topics related to Business organization
- Case study could be given to present business plan of students choice.
- Identifying the attributes of network (Topology, service provider, IP address and bandwidth of your college network) and prepare a report covering network architecture.
- Identify the types of malwares and required firewalls to provide security.
- Latest Fraud techniques used by hackers.

Reference Books:
1. Gupta, C.B., "Business Organisation", Mayur Publiction, (2014).
2. Singh, B.P., Chhabra, T.N., "An Introduction to Business Organisation & Management", Kitab Mahal, (2014).
3. Sherlekar, S.A. &Sherlekar, V.S, "Modern Business Organization & Management Systems Approach Mumbai", Himalaya Publishing House, (2000).
4. Bhusan Y. K., "Business Organization", Sultan Chand & Sons.
5. Prakash, Jagdish, "Business Organistaton and Management", Kitab Mahal Publishers (Hindi and English)
6. Fundamentals of Computers by V. Raja Raman
7. Cyber Security Essentials by James Graham, Richard Howard, Ryan Olson

COURSE 3: FINANCIAL ACCOUNTING

Theory   Credits: 4   4 hrs/week

Learning Objectives
The course aims to help learners to acquire conceptual knowledge of financial accounting, to impart skills for recording various kinds of business transactions and to prepare financial statements.

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. Know the difference between Joint Ventures and Consignment. Critically examine the balance sheets of a sole trader for different accounting periods. Design new accounting formulas & principles for business organizations.

Unit-I: Introduction:- Need for Accounting - Definitions, objectives, functions, - Book keeping and accounting - Advantages and limitations - Accounting concepts and conventions - double entry book keeping - Journal - Posting to Ledger - Preparation of Subsidiary books including Cash book.

Unit-II: **Final Accounts: -** Final accounts - Preparation of Trading account, Profit & loss account and Balance Sheet using computers.

Unit-III: Depreciation: Meaning and Causes of Depreciation - Methods of Depreciation: Straight Line – Written Down Value –Annuity and Depletion Method (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: Joint Venture - 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).

Activities:
- Assignment on Sudsier Books.
- Group Activates on Problem solving in Depreciation Methods.

- Collect and examine the balance sheets of business organizations to study how these are prepared.
- Quiz Programs
- Problem Solving Exercises
- Co-operative learning
- Group Discussions on problems relating to topics covered by syllabus
- Reports on Financial Accounts from local firms.
- 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
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Reference Books:
1. S.P. Jain & K.L Narang, Accountancy, Kalyani Publishers.
2. R.L. Gupta & V.K. Gupta, Principles and Practice of Accounting, Sultan Chand
3. T. S. Reddy and A. Murthy - Financial Accounting, Margham Publications.
4. Ranganatham G and Venkataramanaiah, Financial Accounting, S Chand Publications.
5. Tulsan, Accountancy-I - Tata McGraw Hill Co
6. V.K. Goyal, Financial Accounting Excel Books
7. T.S. Grewal, Introduction to Accountancy, Sultan Chand & Co.
8. Arulanandam, Advanced Accountancy, Himalaya Publishers
9. S.N.Maheshwari&V.L.Maheswari, Advanced AccountancyI,Vikas Publishers.
10.Haneef and Mukherjee, Accountancy-I,Tata McGraw Hill

SEMESTER-II

COURSE 3: FINANCIAL ACCOUNTING

Practical   Credits: 1   2 hrs/week

Lab Exercise:

- Creating a Company; Configure and Features settings; Creating Accounting Ledgers and Groups; Stock Items and Groups.
- Vouchers Entry including GST; Generating Reports - Cash Book, Ledger Accounts, Trial Balance, Profit and Loss Account, Balance Sheet.
- Selecting and shutting a Company; Backup, and Restore data of a Company
- Depreciation and Provisions – Preparation of Machinery Accounts and Depreciation Accounts and Provisions Accounts Using Accounting Software / Package or in MS Excel.
- Bills of Exchange - Preparation of Accounts Using Accounting Software / Package.
- Consignment - Creation of company, creation of ledger accounts, creation of accounting vouchers, and display of concern ledger accounts in Accounting Software / Package.
- Joint Venture Accounts - Creation of ledger accounts, creation of accounting vouchers, and display of concern ledger accounts using Accounting Software / Package or in MS Excel.

COURSE 4: OFFICE AUTOMATION TOOLS

<u>Theory</u>   <u>Credits: 3</u>   <u>3 hrs/week</u>

Course Objectives:
The objective of this paper is to help students to acquire knowledge on the environment of GUI in Ms-Word and its features. To introduce the fundamentals concepts of using Ms-Word and its features to make it more useful and provide hands on use of Word, Excel and PowerPoint.

Learning Outcomes:
The students will be able:
Understand concept of Word Processor and use its features. To use the advanced features of Ms-Word to make day to day usage easier. To work comfortably with Ms-Excel Environment. To create work sheets and user advanced feature of Excel. To create make presentations and inserting multimedia in them.

Unit 1:   Introduction to MS Office & MS Word: MS-Word: Features of MS-Word, MS-Word Window components, working with formatted text, Shortcut keys, Formatting documents: Selecting text, Copying &moving data, Formatting characters, changing cases, Paragraph formatting ,Indents, Drop Caps ,Using format painter, Page formatting, Header & footer, Bullets & numbering, Tabs, Forming tables. Finding & replacing text, go to(F5) command, proofing text (Spell-check, Auto correct),

 Case Study:
 1. Create a document to write a letter to the DM&HO of the district complaining about Hygienic conditions in your area.
 2. Create a document to share your experience of your recent vacation with family.

Unit 2: MS Word Advanced features: Difference between Wizard and Template - Customize the Quick Access Tool Bar – Macros: Purpose – Creating Macro – Using Macro – Storing Macro - ,Inserting pictures: From Computer, Online Pictures – Insert 3d Models - Insert Shapes – Insert Text Box – Insert Equation, Hyperlinks, Tables Insert tables Mail merging, Printing documents, Tables : Insert tables, Mathematical calculations on tables data. Insert Text Box etc.
Case Study:
 1. Create a document to send a holiday intimation to all the parents at time about Dasara Vacation.
 2. Create a document to create Time Table of you class using tables.

Unit 3: Introduction to MS Excel & Its features: MS-Excel: Excel Features, Spreadsheets, workbooks, creating, saving & editinga workbook, Renaming sheet, cell entries (numbers, labels, and formulas), spell check ,find and replace, Adding and deleting rows and columns Filling series, fill with drag, data sort, Formatting worksheet, Functions and its parts, Some useful Functions in Excel (SUM,AVERAGE,COUNT, MAX,MIN, IF),

Case Study:
1. Create a worksheet with you class marks displaying total, average, top marks in the class and least marks in the class.

Unit 4: Ms-Excel Advanced Features: Cell referencing (Relative, Absolute, Mixed), What-if analysis, Introduction to charts: types of charts, creation of charts, printing a chart, printing worksheet – Sort – Filters – View Menu

Case Study:

1. Prepare a chart with height and weights of you class mates in atleast 3 types of charts.
2. Demonstrate the use of Filter with the attendance data of your class.

Unit 5: Ms-PowerPoint and its Applications: MS-Power Point: Features of Power Point, Uses, components of slide, templates and wizards, using template, choosing an auto layout ,using outlines, adding sub headings, editing text, formatting text, using master slide, adding slides, changing color scheme, changing background and shading, adding header and footer, adding cliparts and auto shapes. Various presentation, Working in slide sorter view(deleting, duplicating, rearranging slides),adding transition and animations to slide show, inserting music or sound on a slide, viewing slide show ,Printing slides.

Case Study:

1. Prepare a presentation with your achievements and experiences in College.

Text Books:
1. Computer Fundamentals–Pradeep.K.Sinha:BPBPublications.
2. Fundamentals of Computers -ReemaThareja, Oxford University Press India

Reference Books:
1. Fundamentals of Computer – V . Rajaraman, Printice Hell of India.
2. Introduction to Computers–Peter Norton McGraw-Hill.

COURSE 4: OFFICE AUTOMATION TOOLS

Practical   Credits: 1   2 hrs/week

LIST OF EXPERIMENTS

1) Design a visiting card for Managing Director of a company as per the following specification.
   o Sizeofvisitingcardis3½×2

   o Name of the company with big font

   o Phone number, Fax number and E-mail address with appropriate symbols.

   o Office and Residence address separated by a line

2) Create a table with following columns and display the result ins eparate cells for the following
   o Emp Name, Basic pay, DA, HRA, Total salary.

   o Sort all the employees in ascending order with the name as the key

   o Calculate the totals alary of the employee

   o Calculate the Grand total salary of the employee

   o Finding highest salary and

   o Find lowest salary

3) Prepare an advertisement to a company requiring software professional with the following

   o Attractive page border

   o Design the name of the company using WordArt

   o Use at least one clipart.

   o Give details of the company (use bullets etc)

   o Give details of the Vacancies in each category of employee's (Business manager, Software engineers, System administrators, Programmers, Data entry operators)

   qualification required.

4) Create a letter having following specifications

- o Name ofthecompanyonthetopofthepage2withbigfontandgoodstyle

- o Phone no, Fax no and E-mail address with symbols.

- o Main products manufactured by the company

- o Slogans if any should be specify in bold at the bottom

5) Create two pages of curriculum vitae of a graduate with the following specifications

- o Table to show qualifications with proper headings

- o Appropriate left and right margins

- o Format ½pageusingtwo-columnapproachabout yourself

- o Name on each page at the top right side

- o Page no.in the footer on the right side.

6) Write a macro format documents below

- o Linespacing"2"(double)

- Paragraphindentof0.1
- Justification formatting style
- Arial font andBoldof14pt-size

7) Create a letter as the maindocumentandcreate10recordsforthe 10persons

usemailmergetocreateletterforselectedpersonsamong10.

8) Create an electronic spread sheet in which you enter the following decimal numbers and convert the mintooctal, Hexa decimal an d binary numbers and vice-versa.

DecimalNumbers:35,68,95,78,165,225,355,375,465

BinaryNumbers:101,1101,11101,11111,10001,11101111

9) Calculate the net pay of the employees following the conditions below.

	A	B	C	D	E	F	G	H	I
1	Employee	Employe e	Basic	DA	HRA	GPF	Gross	Income	Net
2									

DA:-56%ofthebasicpayifBasicpayisgreaterthan20000 orelse44%.

HRA:-15%oftheBasicpaysubjecttomaximumofRs.4000.

GPF: -10%ofthebasicpay.

INCOMETAX:-10%ofbasicifBasicpayisgreaterthan20000.

Find who is getting highest salary & who is get

lowestsalary?

10) The ABC Company shows the sales of different product For5years.CreateBARGraph, 3D

and Pie chart for the following.

A	B	C	D	E	F
S.No.	Year	Pro1	Pro2	Pro3	Pro4
1	1989	1000	800	90	1000
2	1990	800	80	50	900
3	1991	1200	190	40	800
4	1992	400	200	30	1000
5	1993	1800	400	40	1200

11)   Create a suitable examination data base and find the sum of the marks (total) of each student and respective, class secured by the student.

Pass: if marks in each subject>=35

Distinction :if average>=75

First class :if average>=60but<75

Second class: if average>=50butlessthan60

Third class: if average>=35butlessthan50

Fail: if marks in any subject<35

12) Enter the following data into the sheet.

Name	Department	Salary
Anusha	Accounts	12000
Rani	Engineering	24000
Lakshmi	Accounts	9000
Purnima	Marketing	20000
Bindu	Accounts	4500
Tejaswi	Accounts	11000
Swetha	Engineering	15000
Saroja	Marketing	45000
Sunitha	Accounts	5600
Sandhya	Engineering	24000
Harika	Marketing	8000

o Extract records for department tin Accounts and Salary > 10000

o Sort the data by salary with the department using "sort commands".

o Calculate total salary for a ch department using Subtotals

13) Enter the following data in to the sheet..

	Raju	Rani	Mark	Rosy	Ismail	Reshma
English	76	89	43	51	76	87
2ndLang	55	85	78	61	47	33
Maths	65	82	34	58	52	65
Computers	45	91	56	72	49	56
Human Values	51	84	54	64	32	64

Apply the conditional formatting for marks

         35 below Red

         35 to 50 Blue

         51 to 70 Green

         71 to 100 Yellow

14) Create a presentation using templates.

15) Create a Custom layout or Slide Master for professional presentation.

16) Create a presentation with slide transitions and animation effects.

17) Create a table in PPT and apply graphical representation.

COURSE 5: ADVANCED ACCOUNTING

Theory	Credits: 3	3 hrs/week

Learning Objectives
The course aims to help learners to acquire conceptual knowledge of Non-Profit Organizations, understand the accounting procedure of single entry system, hire purchase system and partnership accounts.

Learning Outcomes:
At the end of the course, the student will able to;
Understand the concept of Non-profit organizations 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 and Employ critical thinking skills to understand the difference between the dissolution of the firm and dissolution of partnership.

Unit 1: 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 2: 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 3: Hire Purchase System: Features –Difference between Hire Purchase and Instilment Purchase Systems - Accounting Treatment in the Books of Hire Purchaser and Hire Vendor. (including Problems).

Unit 4: Partnership Accounts-I: Meaning – Partnership Deed - Fixed and Fluctuating Capitals- Accounting Treatment of Goodwill – Admission, Retirement and Death of a Partner (including problems).

Unit 5: Partnership Accounts-II: Dissolution of a Partnership Firm – Application of Garner v/s Murray Rule in India – Insolvency of Partners (including problems).

Activities:
- Quiz Programs
- Problem Solving exercises

- Co-operative learning
- Seminar
- 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
- Collect data from your college and prepare a Receipt and Payment Account, Income and Expenditure Account and Balance Sheet

Reference 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 : 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.

COURSE 5: ADVANCED ACCOUNTING

Practical   Credits: 1   2 hrs/week

Lab Exercise:

- Non Trading Concerns - Creation of Company, Creation of Ledger Accounts, creation of Accounting Vouchers, and display of Income and Expenditure Account and Balance Sheet using Accounting Software / Package or in MS Excel.
- Hire Purchase Accounts - Preparation of Statement of Affairs in MS-Excel
- Partnership Accounts - Creation of Company, Creation of Ledger Accounts, Creation of Accounting Vouchers, and Display of Concern Ledgers and Balance sheet using Accounting Software / Package or in MS Excel.
- Single entry - Preparation of Statement of Affairs in MS-Excel

COURSE 6: INCOME TAX

Theory   Credits: 3   3 hrs/week

Learning Objectives:
The objective of this paper is to help students to acquire knowledge and previsions of income tax concepts and various heads of incomes. To impart skills for calculating various incomes and online filling of tax returns.

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 and Prepare and File IT returns of individual at his own.

Unit-I: Introduction: Income Tax Act-1961 - Basic Concepts: Income, Person, Assesses - Assessment Year, Previous Year, Rates of Tax, Agricultural Income, Residential Status of Individual -Incidence of Tax – Incomes Exempt from Tax (including problems).

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-Ill: 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).

Activities:

- Seminar on different topics of Income tax
- Quiz programs
- Problem Solving Exercises
- Debate on Tax Evasion and Avoidance
- Practice of provisions of Taxation
- Visit a Tax firm
- Talk on Finance Bill at the time of Union Budget
- Guest lecture by Chartered Accountant
- Presentation of tax rates
- Practice of filing IT Returns online
- Identify and educate the individuals not having PAN Card and help them to acquire a PAN Card.
- Filling out the online application for the PAN Card and prepare the summarized report for the same.
- Finding out Residential status of any five NRI's from your area.
- Identify and evaluate the tax liability of some individuals having income under different heads of income.
- Go through the e-filing website of the Government of India.

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

SEMESTER-III

COURSE 6: INCOME TAX

Practical   Credits: 1   2 hrs/week

Lab Exercise:

- E Filing of Income Tax Returns Generation of IT Forms like ITR 01(SAHAJ), ITR 02, ITR 03, ITR 04, ITR 4S (SUGAM), ITR 05 and ITR 06 and Register PAN, TAN, TIN, DIN and GSTIN online or manual.
- Practical Exposure to www.incometaxindiaefiling.gov.in portal and file Return Electronically on portal with or without Digital Signature Certificate.
- Pay Tax online through Net Banking and Generate Challans online and Manual.
- Form 16 B, How to view Tax Credit through 26AS and E Filing TDS Salary Return form 24Q and Challan.

COURSE 7: E COMMERCE AND WEB DESIGNING

Theory   Credits: 3   3 hrs/week

Course Objectives:
The course aims to help learners to acquire conceptual knowledge of fundamental concept of E-commerce & Web Designing. Emphasize the importance of various E-commerce & Web Designing. Developing and implementing efficient algorithms.

Learning Outcomes:

The student will be able to:
Explain how to create an **e-commerce website** from scratch, using PHP and the Bootstrap framework.
Display featured products correctly on a **web** page, using the bootstrap system. Explain how product detail models are programmed to be dynamic.

Unit 1: Basics And Definitions: Definition, E-Commerce with 5-C Model, Additional Terms, Business Models Related To E-Commerce, Advantages And Disadvantages, Web 2.0, Technical And Economic Challenges
Frameworks and Architectures: Actors And Stakeholders, Fundamental Sales Process And His 7+1 Process Steps Work, Technological Elements, Typical Applications

Case Study: Identify different E-Commerce websites and write their functionality.

Unit 2: B2C Business: B2c Basics, B2c-Business AndCrm, B2c Software Systems, Customer Relationship Management (Crm)
B2B Business: B2b Basics, Differences Between B2b And B2c, B2b Software Systems, Supply Chain Management

Case Study: Identify B2B and B2C websites in Unit-I Case Study and differentiate their functionality

Unit 3: Security & Compliance Management: Foundations Of Risk Management, Compliance Management, Information Security Management (Ism), Technology
Electronic Payment: Business and Money, the Payment Challenge, Payment Procedures, Receivables Management, Cyber Money

Case Study: Identify different payment methods used in purchasing of goods in Amazon, Flipkart etc.. and write their Pros and Cons of each payment method

Unit 4: Introduction to Web Programming: Introduction, creating a website, HTML tags, HTML Elements, HTML attributes, CSS Preview, History of HTML, Differences between old HTML and HTML5, how to check your HTML code

Coding Standards, Block Elements:
HTML coding conventions, Comments, HTML Elements, Should Describe Web Page Content Accurately, Content Model Categories, Block Elements, block quote Element, Whitespace Collapsing, pre Element, Phrasing Elements, Editing Elements, q and cite Elements, dfn, abbr, and time Elements, Code-Related Elements, br and wbr Elements.

Text Elements, and Character References: sup, sub, s, mark, and small Elements, strong, em, b, u, and i Elements, span Element, Character References, Web Page with Character References, and Phrasing Elements.
Case Study: Create a web page of your department using standard HTML tags, HTML elements and HTML attributes

Unit 5: Cascading Style Sheet (CSS): CSS Overview, CSS Rules, Example with Type Selectors and the Universal Selector, CSS Syntax and Style, Class Selectors, ID Selectors, span and div Elements, Cascading, style Attribute, style Container, External CSS Files, CSS Properties, Color Properties, RGB Values for Color, Opacity Values for Color, HSL and HSLA Values for Color, Font Properties, line-height Property, Text Properties, Border Properties, Element Box, padding Property, margin Property,

Case Study: Description of your City or place with the use of CSS and compare it with previous two case studies

Reference Books:

1. Introduction to E-Commerce:Combining Business And Information Technology By Martin Kutz
2. Lallana, Quimbo, Andam, 4. Cf. Ravi Kalakota and Andrew B. Whinston, Electronic Commerce:A Manager's Guide (USA: Addison Wesley Longman, Inc., 1997), 19-20.
3. Web Programming with HTML5,CSS and JavaScript, John Dean, Jones & Bartlett Learning
4. HTML & CSS: The Complete Reference, 5th Edition, Thomas. A. Powell

COURSE 7: E COMMERCE AND WEB DESIGNING

Practical   Credits: 1   2 hrs/week

Note: All the questions should be practiced using **Blue Griffon, Google Web Designer, KompoZer and open Element /any related tools.** The students should be taught the usage of appropriate html tags for these questions

In the practical examination the students have to write the procedure for performing the given task in front page followed by the html tags used to perform the task.

LIST OF EXPERIMENTS

1. Create a web page to display a hyperlink which when clicked directs you to Amazon website.
2. Create a web page to demonstrate your college name aligned with the logo of your college.
3. Create a web page to demonstrate definition lists taking various applications of ecommerce as an example.
4. Create a web page which asks for mode of payment which includes the options: Credit card/Debit card/Online transfer (use radio buttons)
5. Create a web page which asks the user to enter his credit card details. Use textboxes, drop down buttons.
6. Create a web page to display definition list which defines the terms: B2B, B2C, C2B, C2C.
7. Create a web page which displays four buttons containing text B2B, B2C, C2B, C2C. Also when a button is clicked details about the clicked subject should appear on a separate page.
8. Create a web page to display the text "Digital Marketing" which scrolls randomly.
9. Create a web page to scroll the text "E-Commerce" for exactly 5 times from left to right of the screen.
10. Create a web page to insert an image which when clicked redirects you to your college website.
11. Create a web page to display the name of your college in h6 size with blue as font color and background color yellow separated by a thick line and below which a paragraph about the facilities offered by your college is described.
12. Create a web page to demonstrate a pull-down menu. The menu should contain the list of your favorite south Indian dishes.
13. Create a web page with name of your college as text. The text should scroll, alternate and slide.
14. Create a web page to display an image surrounded by text on all the four sides.
15. Create a web page to display 3 images which are aligned left, right and center respectively.

16. Create a web page with 4 paragraphs of about 5 lines each describing about E-Marketing, E-Shopping, E-banking and E-Learning. The paragraphs should be aligned left, right, center and justified respectively.
17. Create a web page with name of your college as Text in h6 size, font as verdana, blue as font color followed by a copyright symbol and trademark symbol.
18. Create a login page asking the user to enter his username and password followed by a submit button.
19. Create a web page using a form which collects data about student rollno, name and marks in various subjects followed by submit and reset buttons.
20. Create a web page using a form titled as Feedback form which takes the feedback of faculty teaching a particular subject in your college. The form should have fields student name, rollno followed by 5 check boxes labeled Excellent, Very Good, Good, Average, Bad respectively.
21. Create an unordered list of popular B2C ecommerce web sites.

COURSE 8: DIGITAL MARKETING

Theory   Credits: 3   3 hrs/week

Course Objectives:
The course aims to identify the impact of digital space and digital marketing in reaching out to customers. Understand the importance of Search Engines and explain the working of Search Engines. Able to Define email Marketing and have knowledge on how Social Media Marketing is to be used by marketers?

Learning Outcomes:
The Students will be able to:
Use digital media for the creation of products and services and relate Search Engines in the digital marketing ecosystem. Use Search Engine Marketing for advertisements and know the Social Media platforms like Face book, Twitter, YouTube & LinkedIn for Marketing. Outline email Marketing and strategy to craft email marketing campaign.

Unit 1: Digital Marketing: Introduction to Digital Marketing. Traditional Vs. Digital Marketing, Technology behind Digital Marketing, Characteristics of Digital Marketing, Digital Marketing Strategy, Understanding Digital Consumer**.**

Case Study: Analyze the change in ranking of your Web Promotion Page

Unit 2: Online Advertising: Introduction, Objective, Where to Advertise, Online AdFormat, Search Engine Ad, Network Advertising, Affiliate Programs, Landing Pages

Case Study: Create Google Add for your college

Unit 3: Email Marketing: Introduction, Types of Email, Email Marketing Campaign Process, Email marketing Tools, Advantages and Disadvantages, Opt-in Email Advertising, Email tracking

Case Study: Analyse the impact of your E-Mail Campaign

Unit 4: Social Media Marketing (SMM):
What is Social Media Marketing, Seven Myths of SMM, Characteristics of Successful Social Media Marketer, Social Media Marketing plan, Social Media marketing Tools, Publishing Blogs, Podcast and Webinars, Social Media Monitoring, Social Media: Face book, Twitter?

Case Study:
1. Analyze the performance of your Facebook and Instagram Page
2. Analyze the performance of your YouTube Video

Unit 5: Search Engine Optimization (SEO): Understanding SEO, Search Engine Optimization Process – Goals, On-Page Optimization, Off-Page Optimization and Analyze, Search Engine Result Process (SERP), SEO Tools.

Case Study: Analyse the impact of your Twitter Campaign

Text Books:

1. Digital Marketing by Seema Gupta, McGraw Hill Education
2. Fundamentals of Digital Marketing by Punit Singh Bhatia, Pearson

References:
1. Basics of Digital Marketing - Course (swayam2.ac.in)

COURSE 8: DIGITAL MARKETING

Practical   Credits: 1   2 hrs/week

LIST OF EXPERIMENTS

1. Digital Marketing Implementation in Business Scenario
2. Create the Digital Marketing Webpage
3. Conducting the Search Engine Optimization and Search Engine Marketing
4. Using Google Analytics to analyze website performance
5. Creating Promotional banner through Canva
6. Face book Promotion using banners
7. Creating YouTube Channel for Marketing
8. Twitter Marketing
9. Instagram Marketing
10. Email Marketing

COURSE 9: CORPORATE ACCOUNTING

Theory   Credits: 3   3 hrs/week

Learning Objectives:
This course enables the student to develop awareness about corporate accounting in conformity with the provisions of company act.

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 and Communicate accounting policy choices with reference to relevant laws and accounting standards.

Unit 1: 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 2: 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 3: Valuation of Goodwill: Need and Methods - Average Profit Method, Super Profits Method – Capitalization Method and Annuity Method (including problems).

Unit 4: Valuation Shares: Need for Valuation - Methods of Valuation - Net Assets Method, Yield Basis Method, Fair Value Method (including problems).

Unit 5: 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).

Activities:
- 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
- Students can gather the data relating to accounting set up of some local firms.
- Assignments including technical assignments like working with Audit Company for observation and submit to the teacher a Report.
- Individual project work on identified real time situations with respect to preparation of company final accounts
- On practical aspects dealt with by an Auditor.

Reference Books:
1. Corporate Accounting: T.S Reddy and Murthy, Margham Publications, 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 Chanda Srinivas, Seven Hills International Publishers,

COURSE 9: CORPORATE ACCOUNTING

Practical   Credits: 3   3 hrs/week

Lab Exercise:

- Preparation of Company Final Accounts, Creation of Company, Creation of Ledgers, Creation of Accounting Vouchers, Inventory Vouchers and display of Balance Sheet.
- Issue of Shares and Bonus Shares - Creation of Company, Creation of Ledgers, Creation of Accounting Vouchers, and display of concerned Ledgers using Accounting Software / Package or in MS Excel. .
- Issue and Redemption of Debenture - Creation of Company, Creation of Ledgers, Creation of Accounting Vouchers, and display of concerned Ledgers using Accounting Software / Package or in MS Excel.
- Valuation of Shares – Valuation of shares and Calculation Consideration in MS-Excel

SEMESTER-IV

COURSE 10: COST AND MANAGEMENT ACCOUNTING

Theory   Credits: 3   3 hrs/week

Learning Objectives:
The aim of this course is to expose the students to the basic concepts and the tools used in cost accounting.

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 and Prepare analysis of various special decisions, using relevant management techniques.

Unit 1: 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 2: 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 3: 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 4: 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 5: 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)

Activities:
- Debate on methods of payments of wages
- Seminars 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
- Invited Lectures and presentations on related topics.
- Examinations (Scheduled and surprise tests)

Reference 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.

SEMESTER-IV

COURSE 10: COST AND MANAGEMENT ACCOUNTING

Practical   Credits: 1   2 hrs/week

Lab Exercise:

- Preparation of Cost Sheet, Preparation of FIFO and LIFO Stores ledgers, using Accounting Software / Package or in MS Excel.
- Computation of problems on Marginal Costing, BEP and BEP Chart in MS Excel.
- Preparation of Profit and Loss Account in Contribution, Calculation of BEP using Accounting Software / Package or in MS Excel.
- Create Cost Centers; enable Godowns for Job Costing, Inventory control method using Accounting Software / Package or in MS Excel.
- Calculation of Labour cost in MS Excel
- Financial statement analysis like Trend Analysis, Comparative statements and Common size statements with using Accounting Software / Package or in MS Excel.

COURSE 11: DATABASE MANAGEMENT SYSTEM WITH ORACLE

Theory   Credits: 3   3 hrs/week

Course Objectives:

The course aims to help the Students will have the expertise in analyzing real time problems and providing appropriate solutions related to Computer Science & Engineering. The Students will have the knowledge of fundamental principles and innovative technologies to succeed in higher studies and research. Theyl continue to learn and to adapt technology developments combined with deep awareness of ethical responsibilities in profession.

Learning Outcomes:

An ability to apply Knowledge of computing and mathematics in Computer Science &Engineering. They will analyze a problem, identify and define the computing requirements appropriate to its solution. An ability to design, implement and evaluate a computer-based system to meet desired needs with appropriate societal considerations. The will have knowledge on to conduct investigations, interpret data and provide conclusions in investigating complex problems related to Computer Science & Engineering. An ability to engage in continuing professional development and life-long learning.

Unit 1: Overview of Database Systems: Introduction: Database system, Characteristics (Database Vs File System), Database Users, Advantages of Database systems, Database applications.

Data Models: Introduction; types of data models, Concepts of Schema, Instance and data independence; Three tier schema architecture for data independence; Database system structure, environment, Centralized and Client Server architecture for the database.

Case Study:

1. Describe the differences between Database systems and File based systems
2. Study about database models and their advantages and dis-advantages

Unit 2: Relational Model: Introduction to relational model, Codd's rules, concepts of domain, attribute, tuple, relation, constraints (Domain, Key constraints, integrity constraints) and their importance , concept of keys (super key, candidate key, primary key, surrogate key, foreign key) , relational Algebra & relational calculus.

Normalization: Purpose of Normalization or schema refinement, concept of functional dependency, normal forms based on functional dependency(1NF, 2NF and 3 NF), Boyce-codd normal form(BCNF)

Case Study:
Describe Relational model and normalization for database design

Unit 3: Entity Relationship Model: Introduction, Representation of entities, attributes, entity set, relationship, relationship set, constraints, sub classes, super class, inheritance, specialization, generalization using ER Diagrams,

BASIC SQL: Database schema, data types, DDL operations (create, alter, drop, rename), DML operations (insert, delete, update), basic SQL querying (select and project) using where clause, arithmetic & logical operations, aggregation, grouping, ordering.

Case Study:
1. Examine issues in data storage and query processing using SQL.
2. Create, maintain and manipulate a relational database using SQL

Unit 4: SQL: Nested queries/ sub queries, implementation of different types of joins, SQL functions(Date, Numeric, String, Conversion functions), Creating tables with relationship, implementation of key and integrity constraints, views, relational set operations , Transaction Control Language: commit, Rollback, Savepoint , DCL :Grant, Revoke

Case Study:
Try to convert some sample data to information and show how it can you be used in decision making.

Unit 5: PL/SQL: Introduction, Structure , Control Structures , Cursors , Procedure , Function , Packages , Exception Handling ,Triggers.

Transaction processing Concepts : Transaction State, Implementation of Atomicity and Durability, Concurrent Executions, Serializability, Recoverability, Implementation of Isolation, Testing for Serializability, Failure Classification, Storage, Recovery and Atomicity, Recovery algorithm.

Case Study:
Outline the role and issues in Transaction management of data such as efficiency, privacy, security.

Suggested Text Books

- Database Management Systems, 3rdEdition ,Raghurama Krishnan, Johannes Gehrke, TMH
- Database System Concepts,5thEdition ,Silberschatz, Korth, TMH

COURSE 11: DATABASE MANAGEMENT SYSTEM WITH ORACLE

Practical   Credits: 1   2 hrs/week

LIST OF EXPERIMENTS

SQL:

Cycle-I: Aim: The marketing company wishes to computerize its operations by using the following tables.
Table Name: Client Master
                    Description: Used to store client information

Column Name	Data Type	Size	Attribute
CLIENT_NO	Varchar2	6	Primary key
NAME	Varchar2	20	Not null
ADDRESS1	Varchar2	30	
ADDRESSS	Varchar2	30	
CITY	Varchar2	15	
PINCODE	Varchar2	8	
STATE	Varchar2	15	
BAL_DUE	Number	10,2	

Table Name: Product Master
                    Description: Used to store product information

Column Name	Data Type	Size	Attribute
PRODUCT_NO	Varchar2	6	Primary key
DESCRIPTION	Varchar2	15	Not null
PROFIT _PERCENT	Number	4,2	Not null
UNIT_MEASUE	Varchar2	10	
QTY_ON_ HAND	Number	8	
REORDER_LVL	Number	8	
SELL_PRICE	Number	8,2	Not null, cannot be 0
COST _PRICE	Number	8,2	Not null,cannot be 0

Table Name: Salesman master

Description: Used to store salesman information working for the company.

Column Name	Data Type	Size	Attribute
SALESMAN_NO	Varchar2	6	Primary key
SALESMAN_NAME	Varchar2	20	Not null
ADDRESS1	Varchar2	30	
ADDRESS2	Varchar2	30	
CITY	Varchar2	20	
PINCODE	Number	8	
STATE	Vachar2	20	
SAL_AMT	Number	8,2	Not null, cannotbe0
TGT_TO_GET	Number	6,2	Not null, cannotbe0
YTD_SALES	Number	6,2	Not null
REMARKS	Varchar2	20	

Table Name: SALES_ORDER

Description: Used to store client orders

Column Name	Data Type	Size	Attribute
ORDER_NO	Varchar2	6	Primary key
CLIENT_NO	Varchar2	6	Foreign Key
ORDER _DATE	Date		
DELY_ADDRESS	Varchar2	25	
SALESMAN_NO	Varchar2	6	Foreign Key
DELY_TYPE	Char	1	Delivery:part(p)/full(f)anddefault' F'
BILL_YN	Char	1	
DELY_DATE	Date		Can'tbe lessthanorderdate
ORDER _STATUS	Varchar2	10	Values("InProcess","Fulfilled", "Back Order", "Cancelled)

Table Name: SALES_ORDER_DETAILS

Description:Used to store client's order with details of each product ordered.

ColumnName	Data Type	Size	Attribute
ORDER_NO	Varchar2	6	Primary key references SALES_ORDER table
PRODUCT_NO	Varchar2	6	Foreign Key references SALES_ORDER_table
QTY_ ORDERED	Number	8	
QTY_ DISP	Number	8	
PRODUCT_RATE	Number	10,2	Foreign Key

Solve the following queries by using the above tables.
1. Retrieve the list of names, city, and the state of all the clients.
2. List all the clients who are located in 'Mumbai' or 'Bangalore'.
3. List the various products available from the product_mastertable.
4. Find the names of salesmen who have a salary equal to Rs.3000.
5. List the names o fall clients having 'a' as the second letter in their names.
6. List all clients whose Baldue is greater than value 1000.
7. List the clients who stay in a city whose first letter is 'M'.
8. List all information from the sales-order table for orders placed in the month of July.
9. List the products whose selling price is greater than 1000 and less than or equal to 3000.
10. Find the products whose selling price is greater than 1000 and also find the new selling price as the original selling price of 0.50.

Cycle-II Supplier

Aim: A manufacturing company deals with various parts and various suppliers supply these parts. It consists of three tables to record its entire information. Those are as follows.
Supplier (Supplier_No, Sname, City, status) Part(Part_no, pname, color, weight, city, cost)
Shipment (supplier No, Part_no, city) JX (project_no, project_name, city)
SPJX (Supplier no, part_no, project_no,city)
1. Get supplier numbers and status for suppliers in Chennai with status>20.
2. Get project names for projects supplied by supplier 'S'.
3. Get colors of parts supplied by supplier S,.
4. Get part numbers for parts supplied to any project in Mumbai.

5. Find the id's of suppliers who supply a red or pink parts.

Cycle–III Employee Database

Aim: An enterprise wishes to maintain a database to automate its operations. Enterprise is divided into certain departments and each department consists of employees. The following two tables describe the automation schemas.

Emp(Empno, Ename, Job, Mgr, Hiredate, Sal, Comm, Deptno)
Dept(Deptno, Dname, Loc)
1. List the details of employees who have joined before the end of September '81.
2. List the name of the employee and designation of the employee, who does not report to anybody.
3. List the name,salary and PF amount of all the employees(PF is calculated as10%of salary)
4. List the names of employees who are more than 2 years old in the organization.
5. Determine the number of employees, who are taking commission.
6. Update the employee salary by 20%,whose experience is greater than 12 years.
7. Determine the department does not contain any employees.
8. Create a view, which contains employee name and their manager names working in sales department.
9. Determine the employees, whose total salary is like the minimum salary of any department.
10. List the department numbers and number of employees in each department.

PL/SQL PROGRAMS
1. Writea PL/SQL program to check the given string is palindrome ornot.
2. The HRD manager has decided to raise the employee salary by 15% write a PL/SQL block to accept the employee number and update the salary of that employee. Display appropriate messages based on the existence of the record in the Emp table.
3. Write a PL/SQL program to display the top 10 rows in the Emp table based on their job and salary.
4. Write a PL/SQL program to raise the employee salary by 10% for department number 30 people and also maintain the raised details in the rais table.
5. Create a procedure to update the salaries of Employees by 20%, for those who are not getting commission
6. Write a PL/SQL procedure to prepare an electricity bill by using following table. Table used: Elect

Name	Null?	Type
MNNO	NOT NULL	NUMBER(3)
CNAME		VARCHAR2(20)
CUR_READ		NUMBER(5)
PREV_READ		NUMBER(5)
NO_ UNITS		NUMBER(5)
AMOUNT		NUMBER(8,2)
SER_TAX		NUMBER(8,2)
NET_AMT		NUMBER(9,2)

7. Create a trigger to avoid any transactions(insert, update, delete) on EMP table on Saturday & Sunday.

COURSE 12: ADVANCED CORPORATE ACCOUNTING

Theory   Credits: 3   3 hrs/week

Learning Objectives
The course aims to help learners to acquire conceptual knowledge of purchase of business and amalgamation of companies. They able to understand the accounting procedure of liquidation and corporate accounting procedures.

Learning Outcomes
After completing the course, the student shall be able to:
Understand Corporate Accounting environment and record transactions related to Purchase of Business, Amalgamation and Reconstruction. Analyze the situations of Purchase of Business and Liquidation and create formulas and calculations relating to Amalgamation, Internal Reconstruction and Holding company accounts. Acquire skills of Accounting Procedure of Advanced Corporate Accounting Environment.

Unit 1: Purchase of Business: Meaning - Purchase Consideration - Methods for determining Purchase Consideration-Discharge of Purchase Consideration-Accounting Treatment.

Unit 2: Amalgamation of Companies: Meaning and Objectives - Provisions for Amalgamation of Companies as per Accounting Standard 14 - Accounting Treatment.

Unit 3: Internal Reconstruction of Companies : Meaning - Forms of Internal Reconstruction - Alteration of Share Capital and Reduction of Share Capital- Accounting Treatment.

Unit 4: Accounts of Holding Companies: Meaning of Holding Companies and Subsidiary companies- Consolidated Financial Statements- Legal requirements on Consolidation-Calculation of Minority Interest- Accounting Treatment.

Unit 5: 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 Deficiency Account- Accounting Treatment

Activities:
- Students are asked to identified real time situations with respect to Amalgamation, Liquidation, Purchase Consideration and submit report..

- Assignments including technical assignments like Working with Audit Company for Observation of Purchase Consideration and Observation of recent Amalgamations in Banking Sector and Corporate Sector
- Seminars, Conferences, discussions by inviting concerned institutions
- Field Visit
- Invited Lectures and presentations on related topics

Reference Books:

1. Goyal, Bhushan Kumar. Corporate Accounting. Taxmann, New Delhi
2. Kumar, Alok. Corporate Accounting. Kitab Mahal
3. Monga, J. R. Fundamentals of Corporate Accounting. Mayur Paper Backs, New Delhi
4. Sah, Raj Kumar, Concept Building Approach to Corporate Accounting, Cengage
5. Sehgal Ashok & Sehgal Deepak. Corporate Accounting
6. Tulsian P. C. Corporate Accounting. S Chand & Co. New Delhi
7. *https://thebookee.net/ad/advanced-corporate-accounting-and-accounting-standards*
8. Web resources suggested by the Teacher concerned and the College Librarian including reading material

COURSE 12: ADVANCED CORPORATE ACCOUNTING

Practical   Credits: 1   2 hrs/week

Lab Exercise:
- Preparation of Financial Statements of Companies before and after amalgamation with Accounting Software
- Preparation of Balance Sheet of Companies before and after Internal Reconstruction with Accounting Software
- Preparation of Consolidated Balance Sheet of Holding and Subsidiary Companies using Accounting Software
- Preparation of Statement of Affairs-Deficiency Account-Surplus Account of a Liquidating Company in Microsoft Excel

SEMESTER-V

COURSE 12: ADVERTISING AND MEDIA PLANNING

Theory   Credits: 3   3 hrs/week

Learning Objectives:
The objective of this paper is to help students to acquire knowledge on advertising and media planning and to acquire skills in creating and developing advertisements.

Learning Outcomes:
At the successful completion of the course students are able to:
Understand the role of advertising in business environment and understand the legal and ethical issues in advertising. Acquire skills in creating and developing advertisements and understand up-to-date advances in the current media industry. Acquire the necessary skills for planning and advertising media campaign.

Unit 1: Introduction: Advertising- Nature and Scope- Functions - Impact on Social, Ethical and Economical Aspects - Its Significance – Advertising as a Marketing Tool and Process for Promotion of Business Development - Criticism on advertising

Unit 2: Strategies of Advertisements: Types of Advertising Agencies and their Strategies in Creating Advertisements - Objectives - Approach - Campaigning Process - Role of Advertising Standard Council of India (ASCI) - DAGMAR approach

Unit 3: Process of Advertisement: Creativeness and Communication of Advertising –Creative Thinking – Process – Appeals – Copy Writing - Issues in Creation of Copy Testing –Slogan Elements of Design and Principles of Design

Unit : Media Planning: Advertising Media - Role of Media - Types of Media - Print Media - Electronic Media and other Media - Advantages and Disadvantages – Media Planning - Selection of Media.

Unit 5: Analysis of Market Media: Media Strategy – Market Analysis -Media Choices - Influencing Factors - Target, Nature, Timing, Frequency, Languages and Geographical Issues - Case Studies

Activities:
- Students shall individually choose a local or regional advertising agency, visit, study it's processes, strategies, business aspects etc. and has to submit his/her Report not exceeding 10 pages in the given format to the teacher.

- Max marks for Fieldwork/Project work Report: 05**.**
- Unit tests (IE).
- Survey on existing products advertisements
- Creation of advertising on several products
- Invited Lectures
- Hands on experience with the help of field experts
- Debates, Seminars, Group Discussions, Quiz, etc.
- Assignments, Case studies, Compilation of paper cuttings, Preparation of related videos, Class exhibitions

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. Jeth Waney Jaishri& Jain Shruti - Advertising Management - Oxford university Press

4. Advertising Media Planning, Seventh Edition Paperback – by Roger Baron (Author), Jack Sissors (Author)

5. Media Planning and Buying in 21st Century – Ronald DGeskey

6. Media Planning and Buying: Principles and Practice in the Indian Context – Arpita Menon

7. Publications of Indian Institute of Mass Communications

8. Advertising and Salesmanship. P. Saravanavel, Margham Publications

9. Publications of ASCI

SEMESTER-V

COURSE 12: ADVERTISING AND MEDIA PLANNING

Practical   Credits: 1   2 hrs/week

Lab Exercise:

Creating an online advertisement using MS office or Computer tools.
Selection of Product or Service - Target your Competitors -Creating Brand Image - Develop a theme with slogan - identify core group - priorities message- Media Selection
Creation of Advertisement using MS Word or the PPT
Creation of Shorts and Videos in YouTube
Uploading Reels and Stories in Face book and instagram

COURSE 13: STOCK MARKETS

Theory   Credits: 3   3 hrs/week

Learning Objectives:
The objective of this paper is to help students to acquire knowledge on concept of Financial Market and ability to understand the terminologies associated with the field of Financial Market and control along with their relevance. To impart awareness on Primary and Secondary Market, Stock Exchange, SEBI etc.

Learning Outcomes:
By the completion of the course, the students will be able to
Expose to theory and functions of the Share Market in Financial Sector as job careers and 2. Study the functioning of capital markets and create awareness among the public. Acquire knowledge on operations of Share Market and Research skills and involve in activities of Mutual Funds and stock market firms. Enhance their skills by practicing in preparation of accounting statements

Unit 1: Introduction,: Nature, Scope and basics of stock market**,** Need of Investment-Short and Long Term investment- Money market Vs Capital Market-Primary Market-Secondary Market - Types of Investors- Speculators, Hedgers, Arbitragers.

Unit 2: Capital Markets: Definition, Participants of Capital Market, Participants of Primary Market, issues of Equity Shares , Preference Shares and Debentures .Types of Mutual Funds. Secondary Market -Stock Exchange - National Stock Exchange of India.

Unit 3: Financial Intermediaries: Depositories -Buy Back of Shares-- Forward Contract and Future Contract- differences –Participants in Future Contract- Clearing of Mechanism.

Unit 4: Stock Indices: Index and its types-SENSEX- Calculation Methodology-Types of Clearing Members.

Unit 5: Regulatory Mechanism: Security and Exchange Board of India (SEBI)-Powers, functions - Over the Counter Exchange (OTCE) of India-Functions and Mechanism.

Activities:
*   Students shall **i**ndividually study the work of stock market professionals and agencies and make observations and Report to the teacher.
*   Training of students by a related field expert.

- Assignments (including technical assignments like identifying the investors and their activities in share markets
- Seminars, Conferences, discussions by inviting concerned institutions
- Visits to local Investment Institutions, offices,
- Invited lectures and presentations on related topics by field experts.

Reference Books:

1. I.M.Pandey. ,Financial Management, Vikas Publishing House
2. Prasanna Chandra, Fincial Management TaTa Mc Graw Hill
3. Bhole.L.M. Financial Markets and Institutions, Tata McGraw Hill Publishing House
4. Khan MY,Jain PK, Financial Management, Tata McGraw Hill
5. Kishore Ravi.M., Financial Management, Taxman Publication

COURSE 13: STOCK MARKETS

Practical   Credits: 1   2 hrs/week

Lab Exercise:

- An Introduction. Practical aspects and background of Depositaries: NSDL, CSDL. Statements: Holding Statement, Transaction Statement. Dematerialization Procedure
- DEMAT: Account Opening Procedure, Nomination Practices; Offline Demat Account & Online Demat Account.
- Clearing & Settlement Procedure Delivery Instruction Slip Practices for Depositary Participants & Beneficial Owner.
- Introduction to Equity Market. Stock Exchanges of Equity in India: NSE, BSE & USE. Types of Market:- Equity, Derivatives and Debt Market.
- Trader Work Station -User Interface. Practical terminology of Work Stations.
- Functions/Keys following in using Trader Work Station: Market Watch, Activity Log, Order Status, Market Movement, Security descriptor, Market by Price.
- Practical Procedure to buy/Sell Shares; Settlement Procedures. Composition of Sensex and Nifty.

Note: The Simulation Lab of the market will be based on any one of the following Trader Work Station: 1.Trader Work Station— NEST Trader by Owneys. 2.TCS Trader Work Station 3. ODIN

COURSE 13: GOODS AND SERVICES TAX WITH TALLY

Theory   Credits: 3   3 hrs/week

Learning Outcomes

After completing the course, the student shall be able to:

1. Understand the concept of Liability and Payment of GST

2. Create a new company in Tally with GST components and establish environment for GST Voucher entry.

3. Comprehend the utilization of input tax credit, and the reverse charge mechanism in GST

4. Acquire Skills of preparation of GST Returns in accordance with GST Law and Tally

5. Acquire skill of online payment of GST through GST Portal.

Unit 1: Introduction: Overview of GST - Concepts –Taxes Subsumed under GST –Components of GST- GST Council- Advantages of GST-GST Registration.

Unit 2: GST – Accounting Masters and Inventory Masters in Tally : Company Creation-General Ledgers & GST Ledgers Creation - Stock Groups , Stock Items and Unit of Measure - GST Rate Allocation to Stocks

Unit 3: GST Voucher Entry: GST Vouchers - Customizing the Existing Voucher types with applicable GST Rates –Mapping of Input Tax Credit on Purchase Vouchers - Output Tax on Sales Vouchers- Purchase and Sales Voucher Entries with Single Rated GST and Multiple Rated GST Goods.

Unit 4: GST Returns: Regular Monthly returns and Annual Return- Returns for Composition Scheme- Generation of Returns - GSTR-1, GSTR-2, GSTR-3, GSTR-4, GSTR-9, GSTR-3B

Unit 5: Payment of GST online: Payment of GST- Electronic Filing of GST Returns – Refunds – Penalties- Administrative structure of GST Officers- Powers- Jurisdiction.

Activities

- Seminars
- 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

References:

1. Ahuja, Girish, Gupta Ravi, GST & Customs Law.

2. Babbar, Sonal, Kaur, Rasleen and Khurana, Kritika. Goods and Service Tax (GST) and Customs Law. Scholar Tech Press.

3. Bansal, K. M., GST & Customs Law, Taxmann Publication.

4. Singhania,Vinod K. and Singhania Monica. Students' guide to Income Tax. University Edition. Taxmann Publications Pvt Ltd.,New Delhi.

5. Sisodia Pushpendra, GST Law, Bharat Law House.

6. *Web resources:*https://cbic-gst.gov.in

7. Web resources suggested by the Teacher concerned and the College Librarian including reading material

COURSE 13: GOODS AND SERVICES TAX WITH TALLY

Practical   Credits: 1   2 hrs/week

Lab Exercise:

- Create Company and with GST and Create duty ledgers in the Tally
- Create stock item with GST and Sales and Purchases vouchers with GST in tally
- Reverse charge mechanism under GST and GST returns in Tally GSTR-1 and GSTR-3B
- Registration of dealer under GST, Regular dealer and Composite dealer
- GST returns for Composite dealer GST CMP-08 and Annual return for composite dealer GSTR-4
- GST returns for Regular dealer GSTR-1 and Reconciliation of GSTR2B, Actual input tax credit as per Books and Regular dealer GSTR -3B
- DRC 03-voluntary tax payments and Regular dealer Annual returns GSTR 9

COURSE 14: BUSINESS ANLYSTICS

Theory   Credits: 3   3 hrs/week

Course Objectives:

The course aims to help learners to acquire knowledge on Business Analytics and explain why Business Analytics is important. State some typical examples of Business Applications and differentiate between OLAP and OLTP. Explain the concepts of Business Intelligence and understand different types of Analytics Differentiate between Data Mining and Machine Learning Concepts

Learning Outcomes:

After Completing this course, the students will be able to
Understand business analytics and develop business intelligence. Analyze data using statistical and data mining techniques for business intelligence. Understand case studies for predictive models. Expertise in OLAP Tools. Apply different Analytic Techniques

Unit 1: Business Analytics: definition, Components of Business Analytics, Types of Business Analytics methods, Benefits of Business Analytics, Business Analytics Tools, Applications of Business Analytics, Trends in Business Analytics

Case Study:
1. Retail Analytics
2. Marketing Analytics

Unit 2: Descriptive Analytics, Statistics: Types of Statistics, Types of Data, Measure of Central Tendency: Mean, Median, Mode, Standard Deviation, Variance

Case Study:
1. Financial Analytics
2. Social Media and Web Analytics

Unit 3: OLAP, OLAP Operations: Roll Up, Drill Down, Slice and Dice, Pivot, Types of OLAP, OLAP Tools, OLTP, Characteristics of OLTP, OLTP advantages and disadvantages,

Case Study: Working with any one of the OLAP Tools

Unit 4: Architecture and Components of Business Intelligence, Business Intelligence for Management, Operational BI,What is Business Intelligence, Benefits of BI, Roles and Responsibilities of BI, Overview of Popular BI Tools in Market

Case Study: Real-Time Credit and Debit Card Fraud Detection, an HPE Shadowbase

Unit 5: Data Mining Concept, Concepts of data mining model with its development and deployment in business scenario, Types of Data Mining Models, Machine Learning: definition, How ML works, Features and Importance of ML, Machine Learning Concepts: Classification of ML

Case Study: Healthcare Analytics

Text Books:
1. Module 5, Business Data Analytics by IBM
2. Essentials of Business Analytics: An introduction to the methodology and its applications by Bhima sankaram P, Sridhar S

COURSE 14: BUSINESS ANLYSTICS

Practical   Credits: 1   2 hrs/week

LIST OF EXPERIMENTS

1. Draw the diagram showing the types of Variables with examples.
2. Differentiate between Numerical and Categorical Variables.
3. What are Named variables? Using Ms-Excel, create a list of 10 named variables and add the numbers automatically.
4. What is a Ratio Variable? State the importance of Ratio Variable in Data Analytics.
5. Explain the Data Table in Excel. Create a One Variable Data Table in Excel.
6. What is a two Variable Data Table? Write steps to create a Two Variable Data Table.
7. Write steps for analyzing a Data Table with Multiple Formulas in Excel.
8. How do you Create, Rename, Recode, and Merge Variables in R?
9. Write steps to create Your Name, Age, Class, and College Name in R.
10. Draw a Chart for R- Variables.
11. Find the Average Price of given items using MS-Excel.

Rice Bag Ashirwad	1450
Rice Bag India Gate	1200
Sona's Sona Masurie	1300
Kohinoor Rice	1100
Aabida Basmati Rice	1400
Indian Valley	1250
Mannat Rice	1200
Shaalimaar Rice	1425

12. Using Ms-Excel, find the Median Value of the following items.

Items	Status	Amount Rs.
Banana	Delivered	758
Apple	Cancelled	258
Cherry	In-transit	587
Banana	Delivered	495
Banana	Cancelled	687
Apple	Delivered	258
Cherry	Delivered	684

13. Find the most frequently ordered Quantity from a supermarket store in MS-Excel.

Products	Quantity	MRP (Rs.)
Tang Orange Flavour	5	1050
Rasna Orange	6	1200
RoohAfza	5	1800
Tang Apple	10	1200
Rasna Green Apple	5	1700
Tang Cocktail	5	1400
Jaljeera	15	120

14. Find the Highest and Lowest Marks of Students obtained in English using Ms-Excel.

Himabindu	85
Karthik	15
Renuka	78
Mallika .S	15

Ashok Jaiswal	100
Billu Yadav	75
Girish J.	50
Sarika	05

15. Find the Geometric and Harmonic Mean Wages from the following data using Ms-Excel.

Job	Wages (Rs.)
Electrician	200
Nurse	500
Sales Manager	540
Manufacturing Engineer	540
Celebrity	450
Beautician	480
Data entry operator	350
Plumber	240

16. Using Ms-Excel, calculate Standard Deviation of total sales from the given data.

Total Sales (Rs.)	Branch
258000	Delhi
485220	Mumbai
875010	Kolkata
235461	Hyderabad
875212	Indore
785223	Surat
345621	Pune

17. Find Q1 and Q3 and also Quartile Deviation from the following information in Ms-Excel.

S. No.	Value
1	145
2	254
3	156
4	354
5	253
6	253
7	245
8	892
9	242
10	268

18. Find the Quartiles from the following data in Ms-Excel.

Height (in inches)	58	59	60	61	62	63	64	65	66
No. of Persons	2	3	6	15	10	5	4	3	1

19. Compare and find the Range of 10 Students' marks in Mathematics and Statistics using Ms-Excel.

Maths	25	40	30	35	21	45	23	33	10
Statistics	30	39	23	42	2	40	25	30	18

20. Calculate Variance from the following data in MS-Excel.

X: 10, 11, 17, 25, 7, 13, 21, 10, 12, 14

COURSE 14: CYBER SECURITY

Theory   Credits: 3   3 hrs/week

Course Objectives:
The aim of this course is to help the learner to understand key terms and concepts in cyber security. The Learner will learn to secure clean and corrupted systems, protect personal data, and secure computer networks. The Learner will be able to examine secure software development practices and gain an understanding of cryptography, how it has evolved, and some key encryption techniques used today.

Learning Outcomes:
The students will be able to:
Analyze and evaluate the cyber security needs of an organization. Determine and analyze software vulnerabilities and security solutions to reduce the risk of exploitation. Measure the performance and troubleshoot cyber security systems. Implement cyber security solutions and use of cyber security, information assurance, and cyber / computer forensics software/tools. The Learner will develop an understanding of security policies (such as confidentiality, integrity, and availability) and protocols to implement such policies and will gain familiarity with prevalent network and distributed system attacks, defenses against them, and forensics to investigate the aftermath.

Unit 1: Cyber Security Fundamentals: Network Security Concepts: Information Assurance Fundamentals, Basics of Cryptography: Symmetric and Asymmetric, DNS, Firewalls, Virtualization, Radio-Frequency Identification Microsoft Windows Security Principles: Windows Tokens, Window Messaging, Windows Program Execution, Windows Firewall

Case Study: Install any Virtualization Software and perform various tasks

Unit 2: Attacker techniques and motivations: Anti forensics, Tunneling Techniques, Fraud Techniques, and Threat Infrastructure

Case Study: Working with Free and commercial proxies available from web-hack.ru.

Unit 3: Exploitation: Techniques to gain a Foothold, Misdirection, Reconnaissanse, and Disruption Methods

Case Study: Working with SQL Injection attacks and DDoS attacks

Unit 4: Malicious Code: Self-Replicating Malicious Code, Evading Detection and Elevating Privileges, Stealing Information and Exploitation.

Case Study: Identify latest Malwares and differentiate different types of malwares

Unit 5: Defense and Analysis Techniques: Memory Forensics, Honeypots, Malicious Code Naming, Automated Malicious Code Analysis Systems, Intrusion Detection Systems

Case Study: Identify latest Anti-Virus Softwares in the market and compare the functionality of each Anti-Virus

Text Books:
1. Cyber Security Essentials by James Graham, Richard Howard, Ryan Olson, CRC Press
2. Introduction to Cyber Security by Jeetendra Pandey
3. Cryptography and Network Security by William Stallings

References:
Cyber Security for Beginners by [Heimdal® Security - Proactive Cyber Security Software (heimdalsecurity.com)](heimdalsecurity.com)

COURSE 14: CYBER SECURITY

Practical   Credits: 1   2 hrs/week

Assignment 1:
1. What is the command used for finding host/domain name and IP address?
2. What is the command will display the assigned IP address of ETHERNET adapter?
3. What is the command used for checking the network connectivity?
4. What is the command used for finding all the ip addresses of a given domain name?
5. What is the command used for finding connection to and from the host?
6. What is the command used to view user information, user's login name, real name terminal name and write status ?
7. What is the command used for mapping name to IP addresses?
8. What is the command used for connecting to a host on a particular port?
9. What is the command used to make a connection to a remote machine and execute programs as if one were physically present ?
10. What are the text based web browsers available through command line?

Assignment 2:
1. What is the command used for downloading a website for off-line view ?
2. What is the command used for displaying or manipulating the ARP (Address Resolution Protocol) information on a network device or computer. ?
3. What is the command used for checking/starting/stopping networking services, users, messaging, configuration and so on...?
4. What is the command a packet filtering configuration program used for manipulating net filter kernel based firewall?
5. What is the command used for showing network statistics?
6. What is the command used for displaying and manipulating routing table ?
7. What is the command used to monitor access control for supported services ?
8. What is the command used to view network traffic?
9. What is the command used to change your hostname ?
10. What is the command used for an interface IP address ?

Assignment 3:
1. What is the command used for controls access to daemons at the application level, rather than at the IP level?
2. What is the command used for connecting to a host with encryption?
3. In what is the file, we can find the local look up server used by the browser. 4. Command used to find out the intermediate nodes between the host and the server is.

5. What is the command used to find out the intermediate domain name nodes between the host and the server?

6. Command used to follow all the information a DNS server has about a particular domain

7. The command get documents/files from or send documents to a server

8. How to check if a particular interface is up and running?

9. This command used to list info about machines that respond to SMB name queries (for example windows based machines sharing their hard disks).

10. This command used to look up the contact information from the "who is" databases, the servers are only likely to hold major sites. Note that contact information is likely to be hidden or restricted as it is often abused by crackers and others looking for a way to cause malicious damage to organizations.

11. It allows you to send and receive files between two computers.

12. Another part of the ssh package. This command similar to ftp but uses an encrypted tunnel to connect to an ftp server and is therefore more secure than just plain ftp.

13. Part of the ssh package. Allows you to copy files from one computer to another computer.

14. nfs - nfsfstab format and options

15. where to look to find out the services What is the are available to the system .

16.where to look to find out the list of protocols What is the are available to the system along with their port numbers .

17. To listing the iptables of your linux system.

18. How to know if a service is running or not.

19. How to Enable IP Forwarding in Linux

Assignment 4:
1. Study of Wireshark Manual.

Assignment 5 :
Perform the following using Wireshark
1. Identify the first 2 packets (i.e. their packet numbers) containing HTTP GET request.
2. What webpage was visited in the above 2 packets?
3. What version of HTTP was used?
4. What is the destination IP address in the above packets?
5. List the source and destination ports of the packets travelling from the client to this server in the above packets?
6. In the HTTP server's response, look at the information sent about the server. What server software was used?
7. What are the IP addresses of the server?

Assignment 6:

Perform the following using Wireshark.
1. What are the MAC addresses of the client and server?
2. How many WebPages (not websites) have been opened?
3. What is the time difference between first HTTP GET and the first HTTP response (OK)?
4. Count the total number of HTTP GET requests.
5. What is the time difference between the first and last HTTP GET requests? Hint: Follow a similar procedure as mentioned previously.
6. How may packets were exchanged between the server (corresponding to the both IP addresses) and the client?

(Note: Their sum must be equal to the total no. of packets)

7. Find the total no. of HTTP requests sent by the host spongebob.wikia.com.

Assignment 7:
1. SQL Injection Implementation and Execution.

Assignment 8:
1. Give a short note on OSSEC?
2. What are the components of OSSEC
3. List the few key features of OSSEC.
4. What are the types of agent in OSSEC?
5. What are the roles of Manager (server) and an Agent in OSSEC?
6. What is Syscheck in OSSEC?
7. What is LIDS and HIDS?

Assignment 9:
1. What is the type of log used by pflogsumm?
2. What is the type of log used by webalizer?
3. What are the different types of logs used by AWStats?
4. Pflogsumm analyzes is a mail/weblog or both?
5. Webalizer analyzes is a mail/weblog or both?
6. Command line option used for increment log analysis, mention domain name and squid log file with webalizer.
7. AWStats tools written in What is the language?

Assignment 10:
1. Steps for setting up Cyber Security in organization.

References for All Assignments:

1. http://www.ossec.net/
2. www.linuxmanpages.com/man1/pflogsumm.1.php
3. www.webalizer.org/
4. http://www.computersecuritystudent.com/SECURITY_TOOLS/DVWA/

COURSE 15: MOBILE APPLICATON DEVELOPMENT USING ANDROID

Theory   Credits: 3   3 hrs/week

Course Objectives:
The course aims to help learners to acquire conceptual knowledge of understanding Android SDK . To help students to gain a basic understanding of Android application development and instill working knowledge of the Android Studio development tool

Course Outcomes:

The student will be able to:
Identify various concepts and features of Android operating system. Configure Android environment and development tools. Develop rich user Interfaces by using layouts and controls. Use User Interface components for android application development. Create Android application using database. Publish Android applications.

Unit 1: Introduction to Android: - Overview, History, Features of Android, The Android Platform, Understanding the Android Software Stack – Android Application Architecture –The Android Application Life Cycle – The Activity Life Cycle, Creating Android Activity -Views-Layout Android SDK, Android Installation, Building you First Android application, Understanding Anatomy of Android Application, Android Manifest file.

Case Study:
1. Give a brief description of Android Architecture and its parts.
2. List out the challenges we face while using Android?
3. List the new features of Android in the latest version.

Unit 2: Android Application Design Essentials: Anatomy of an Android applications, Android terminologies, Creating User Interfaces with basic views- Application Context, Activities, Services, Intents, linking activities with Intents,, Receiving and Broadcasting Intents, Android Manifest File and its common settings, Using Intent Filter, Permissions.

Case Study:
1.   Present an idea that you would like to convert it into an application in the future.

Unit 3: Android User Interface Design Essentials: User Interface Screen elements, Designing User Interfaces with Layouts, Drawing and Working with Animation. Layouts, Recycler View, List View, Grid View and Web view

Input Controls: Buttons, Checkboxes, Radio Buttons, Toggle Buttons, Spinners, Input Events, Menus, Toast, Dialogs, Styles and Themes, Creating lists, and Custom lists.

Case Study:
1. Present detail report on the features of Check Boxes, Radio Buttons and Toggle Buttons.

Unit 4: Testing Android applications: Publishing Android application, Using Android preferences, Managing Application resources in a hierarchy, working with different types of resources.

Case Study:
1. List out the special features of Android with its counterparts.

Unit 5: Using Common Android APIs: Internal Storage, External Storage, SQLite Databases, Managing data using Sqlite, Sharing Data between Applications with Content Providers, Using Android Networking APIs, Using Android Web APIs, JSON Parsing, Using Android Telephony APIs, Deploying Android Applications to the World. Google Maps, Using GPS to find the current location, Sensors, and Bluetooth / Wi-Fi Connectivity.

Case Study:
1. List out the points to keep in mind to make you application more attractive.
2. List the controls that make you application attractive.

REFERENCE BOOKS:
1. Reto Meier, "Professional Android 2 Application Development", Wiley India Pvt Ltd
2. Mark L Murphy, "Beginning Android", Wiley India Pvt Ltd
3. "Android Application Development All in one for Dummies" by Barry Burd, Edition: I
4. "Android", Dixit, Prasanna Kumar Vikas Publications, New Delhi 2014, ISBN: 9789325977884
5. Maclean David, Komatineni Satya,Allen Grant , "Pro Android 5", ApressPublications2015ISBN: 978-1-4302-4680-0
6. " Android Programming for Beginners" by Hortan, John, Packet Publication, 2015ISBN: 978-1-78588-326-2
7. Lauren Darcey and Shane Conder, "Android Wireless Application Development",Pearson Education, 2nd ed. (2011)

ONLINE READING / SUPPORTING MATERIAL:
1. http://www.developer.android.com
2. http://developer.android.com/about/versions/index.html
3. http://developer.android.com/training/basics/firstapp/index.html

4. http://docs.oracle.com/javase/tutorial/index.htm (Available in the form of free downloadable ebooks also).
5. http://developer.android.com/guide/components/activities.html
6. http://developer.android.com/guide/components/fundamentals.html
7. http://developer.android.com/guide/components/intents-filters.html.
8. http://developer.android.com/training/multiscreen/screensizes.html Syllabus of BCA (Honours) under CBCS 33 9. http://developer.android.com/guide/topics/ui/controls.html
9. http://developer.android.com/guide/topics/ui/declaring-layout.html
10. http://developer.android.com/training/basics/data-storage/databases.html

COURSE 15: MOBILE APPLICATON DEVELOPMENT USING ANDROID

Practical   Credits: 1   2 hrs/week

LISTOFEXPERIMENTS:

1. Develop a program to implement frame layout, table layout and relative layout.
2. Develop a program to implement Text View and Edit Text.
3. Develop a program to implement Auto Complete Text View.
4. Develop a program to implement Button, Image Button and Toggle Button.
5. Develop a program to implement login window using the above U1 controls.
6. Develop a program to implement Checkbox.
7. Develop a program to implement Radio Button and Radio Group.
8. Develop a program to implement Progress Bar.
9. Develop a program to implement List View, Grid View, Image View and Scroll View.
10. Develop a program to implement Custom Toast Alert.
11. Develop a program to implement Date and Time Picker.
12. Develop a program to create an activity. Develop a program to implement new activity using explicit intent and implicit intent.
13. Develop a program to implement content provider.
14. Develop a program to implement service.
15. Develop a program to implement broadcast receiver.
16. Develop a program to implement sensors.
17. Develop a program to build Camera.
18. Develop a program for providing Bluetooth connectivity.
19. Perform CRUD operations using SQLite.
20. Develop a program for JSON parsing.

COURSE 15: BLOCK CHAIN TECHNOLOGY

Theory   Credits: 3   3 hrs/week

Course Objectives:

The course aims to help learners to acquire conceptual knowledge of Block Chain Technology. To Understand Security systems in Block Chain Technology. To acquire knowledge to applications of Block Chain Technology.

Learning Outcomes:

The students will be able:

Identify various types of Software Architecture and understand types of Cryptography. Improve knowledge in understanding underlying technologies in Block Chain Technologies. Understand the storage methods and advantages and have knowledge on the applications of Block Chain

Unit 1: Layers of a Software System, Integrity, A Payment System, Types of Software Architecture, Purpose of the Blockchain, Peer-to-Peer system: Definition, Architecture, Link between Peer-to-Peer and Blockchain, Integrity Threats in Peer-to-Peer Systems, Four ways of Defining Blockchain, The purpose of the Blockchain, Blockchain Properties

Case Study: Identify Different Crypto Payments and Differentiate Them

Unit 2: Foundations of Ownership, Security Related concepts in Block chain, Purpose and Properties of a Ledger, Double Spending Problem, Designing and Developing a Software System, Documenting Ownership, Integrity of the Transaction History

Case Study: Study about Harbor, Ubitquity, Propy that are used in Real Estate

Unit 3: Hash Function in Block chain, Patterns of Hashing Data, Uses of Hash Values, Cryptography: Activities, Types of Cryptography, Digital Signatures

Case Study: Differentiate between various Blockchain Techniques used in Medical Field such as Ambrosus, Connecting Care, Farma Trust, MedRec

Unit 4: Transforming Book into Blockchain Data structure, Chaining Blocks of Data, Protecting the Data Store, Distributing the Data Store among Peers, Verifying and Adding Transactions

Case Study: How we Apply Blockchain Technology in Elections and Voting

Unit 5: Choosing a transaction History, Paying for Integrity, Technical Limitations of Blockchain, Conflicting Goals of the Blockchain, Characteristics of the Blockchain, Blockchain Applications, Blockchain Platforms

Case Study: Identify various Blockchain Technologies used in Entertainment

Text Books:
1. Blockchain Basics by: A Non-Technical Introduction in 25 Steps by Daniel Drescher, APress
2. Blockchain: Cybrosys Limited Edition

Web References:

1. 10 Blockchain Use Cases in Real Practical World | GoLinuxCloud
2. 33 Top Blockchain Applications to Know for 2023 | Built In
3. 15+ Practical Blockchain Use Cases in 2022 - 101 Blockchains
4. 30+ Real Examples Of Blockchain Technology In Practice (forbes.com)

SEMESTER-V

COURSE 15: BLOCK CHAIN TECHNOLOGY

Practical   Credits: 1   2 hrs/week

LIST OF EXPERIMENTS

1. Creating and Building Up Crypto Token
2. Ethereum Smart Contract
3. Creating and Building Up Bitcoin Wallet
4. Introduction to Hyperledger
5. Creating a Business Network using Hyperledger
6. Creating a Business Network using Hyperledger- II
7. Building and Deploying multichain private Blockchain