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COURSE OUTCOMES

DEPARTMENT OF ENGLISH

SEMESTER-I

PAPER I: A COURSE IN COMMUNICATION AND SOFT SKILLS

- To use grammar effectively in writing and speaking
- To use soft skills in practical situations
- To be able to use communication skills confidently.

SEMESTER-II

PAPER II: A COURSE IN READING AND WRITING SKILLS

- To comprehend different texts while reading
- To build up a repository of vocabulary
- To use writing skills in future needs for any purpose.

SEMESTER-III

PAPER III: A COURSE IN CONVERSATION SKILLS

- To speak in English for practical needs
- To participate confidently in social interaction
- To enhance conversational skills by observing

DEPARTMENT OF TELUGU

కోర్సు-1 ప్రాచీన తెలుగు కవిత్యం

✦ **అభ్యసన ఫలితాలు:-**

ఈ కోర్సు విజయవంతంగా ముగించాక, విద్యార్థులు క్రింది అభ్యసన ఫలితాలను పొందగలరు.

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

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

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

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

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

కోర్సు-2 ఆధునిక తెలుగు సాహిత్యం

✦ **అభ్యసన ఫలితాలు:-**

ఈ కోర్సు విజయవంతంగా ముగించాక, విద్యార్థులు క్రింది అభ్యసన ఫలితాలను పొందగలరు.

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

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

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

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

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

కోర్సు-3 సృజనాత్మక రచన

✦ **అభ్యసన ఫలితాలు:-**

ఈ కోర్సు విజయవంతంగా ముగించాక, విద్యార్థులు క్రింది అభ్యసన ఫలితాలను పొందగలరు.

1. తెలుగు సాహిత్య అభ్యసన ద్వారా నేర్చుకున్న నైపుణ్యాలను, సృజనాత్మక నైపుణ్యాలుగా మార్చుకోగలరు.

2. విద్యార్థులు భాషాతత్వాన్ని, భాష యొక్క ఆవశ్యకతను, భాష యొక్క ప్రాధాన్యాన్ని గుర్తిస్తారు. మనిషి వ్యక్తిగత జీవనానికి, సామాజికవ్యవస్థ పటిష్టతకు భాష ప్రధానమని తెలుసుకుంటారు. తెలుగుభాషలోని కీలకాంశాలైన 'వర్ణం-పదం-వాక్యా'ల ప్రాధాన్యాన్ని గుర్తిస్తూ, వాగ్రూప- లిఖితరూప వ్యక్తీకరణ ద్వారా భాషానైపుణ్యాలను మెరుగుపరచుకోగలరు.

3. భాషానైపుణ్యాలను అలవరచుకోవడంతోపాటు వినియోగించడం నేర్చుకుంటారు. రచనా, భాషణానైపుణ్యాలను సృజనాత్మక రూపంలో వ్యక్తీకరించగలరు.

4. ప్రాచీన పద్యరచనతో పాటు ఆధునిక కవిత, కథ, వ్యాసం, మొదలైన సాహిత్యప్రక్రియల నిర్మాణాలకు సంబంధించిన సిద్ధాంతవిషయాలను నేర్వడంతో పాటు వారిలో రచనా నైపుణ్యాలను పెంపొందించుకోగలరు.

5. సృజన రంగం, ప్రసారమాధ్యమ రంగాల్లో ఉపాధి అవకాశాలను అందిపుచ్చుకోగలరు.

6. అనువాద రంగంలో నైపుణ్యం సంపాదించగలరు.

DEPARTMENT OF ECONOMICS

Course I – Microeconomic Analysis

- To remember the difference between microeconomic analysis and macro-economic analysis and various laws and principles of microeconomic theory
- To explain various laws and principles of consumption, production, and income distribution
- To analyze various laws and principles of microeconomic analysis and market conditions
- To draw critical diagrams and graphs to explain and examine the application of various laws and principles of micro economic analysis.

Course II – Macro Economic Analysis

- To understand various concepts, definitions, laws and principles of macroeconomic theory with reference to income, employment, money, banking and finance
- To explain the difference between various concepts and components of national income, theories relating to income, employment, consumption, investment, money, price-level and phases of trade cycles
- To analyze the interrelationship between various components of national income.
- To draw critical formulae, diagrams and graphs related to consumption and investment functions, concepts of multiplier and accelerator and inflation and trade cycles

Course III – Development Economics

- To understand various concepts and definitions and indicators relating to economic growth and Development including recent developments
- To explain the distinction between growth and development with examples,factors contributing to development, Choice of Techniques and a few important models and strategies of growth
- To examine the theoretical aspects of a few models and strategies of economic growth
- To evaluate the role and importance of various financial and other institutions in the context of India's economic development
- To draw critical diagrams and graphs to explain the models and strategies

Course IV – Economic Development – India and Andhra Pradesh

- To understand the leading issues of Indian economic development with reference to potential for growth, obstacles and policy responses,objectives, outlays and achievements of economic plans and growth strategies
- To explain demographic issues, general problems of poverty and unemployment and relevant policies
- To examine Indian Tax system, recent changes, issues of public expenditure and public debt, recent finance commissions and devolution of funds
- To analyze Leading issues of current importance relating to India and AP economy, major policies and programmes
- To evaluate the impact of COVID 19 on Indian economy
- To explain the achievements of Indian economy with reference to the objectives of planning and policy and make critical evaluation by using official statistical data and reports including tables and graphs

Course V – Statistical Methods for Economics

- To remember the definitions, terms and their meaning relating to statistical methods, various formulae used to measure central tendency, correlation regression and Indices
- To explain the importance of statistics and its applications, uses of Correlation and Regression analysis, time series and index numbers in economic analysis
- To solve different kinds of statistical problems using various principles and formulae relating to central tendency, correlation, regression, time series and indices
- To interpret data and suggest solutions to economic problems
- To draw different types of Bar diagrams and Pie Diagrams for analysis

DEPARTMENT OF HISTORY

SEMESTER – I

PAPER I: ANCIENT INDIAN HISTORY & CULTURE (FROM INDUS VALLEY CIVIL TO 13 CENTURY A.D)

- Identify and define various kinds of sources and understand how history books are shaped
- Compare and contrast various stages of progress from IVC to Vedic age and analyze

the Jain, Buddhist and Vedic faiths

- Increase the awareness and appreciation of Transition from Territorial States to Emergence of Empires
- Analyze the emergence of the Mauryan and Gupta empires during the "classical age" in India
- Evaluate the key facets of ancient society, polity and culture in South India—the feudalism, and the rise of technology and commerce.
- Critically examine the nature of monarchic rule and develop an comprehensive understanding of cultural evolution during ancient period
- Visualize where places are in relation to one another through map pointing.

SEMESTER – II

PAPER II: MEDIEVAL INDIAN HISTORY & CULTURE (1206 A.D TO 1764 A.D)

- Understand the socio, economic and cultural conditions of medieval India
- Describe the advent of Islam in India and study the traces of political and cultural expansion of Turks & Afghans
- Explain the Administration and art and architecture ofVijayanagar Rulers, Mughals and also analyze the rise of the Marathas and the contribution of Shivaji
- Evaluate the establishment of the British rule in India and understand the dangerous consequences disunity at all levels

SEMESTER – III

PAPER III: MODERN INDIAN HISTORY & CULTURE (1764-1947 A.).

- Unearth the true nature of the British rule and its disastrous impact on Indian economy and society
- Gauge the disillusionment of people against the Company's rule even during the early 19th century
- Assess the causes and effects of Reformation movements and also inspire the public to overthrow inequalities of the present day society
- Rise above petty parochial issues after understanding the sacrificial saga of freedom struggle
- Evaluate the undercurrent of communal politics that led to India's partition and identify the enemies of India's integrity and sovereignty
- Visualize where places are in relation to one another through map pointing

SEMESTER – IV

PAPER IV: HISTORY & CULTURE OF ANDHRA (FROM 1512 TO 1956 AD) .

- Unearth the true nature of the British rule and its disastrous impact on Indian economy and society
- Gauge the disillusionment of people against the Company's rule even during the early 19th century
- Assess the causes and effects of Reformation movements and also inspire the public to overthrow inequalities of the present day society
- Rise above petty parochial issues after understanding the sacrificial saga of freedom struggle
- Evaluate the undercurrent of communal politics that led to India's partition and identify the enemies of India's integrity and sovereignty.
- Visualize where places are in relation to one another through map pointing.

PAPER V: HISTORY OF MODERN WORLD (FROM 15TH CENT. AD TO 1945 AD)

- Demonstrate advanced factual knowledge of world histories, politics, and cultures
- Assess and appraise the developments in art, literature, and society during the Renaissance and utilize content knowledge of the Reformation and Counter Reformation to make redictions about the evolution of Christianity in Europe and abroad.
- Evaluate the causes for the Glorious Revolution and American Revolution and identify the background for the evolution of human rights movement.
- Understand the main events of the French Revolution and its significance in the shift in European culture from Enlightenment to Romanticis.
- Think how Russia's traditional monarchy was replaced with the world's first Communist state
- Know how the world wars affected people all over the world and the destruction they caused
- Develop the intellectual curiosity and habits of thought that will lead to life-long learning and continued engagement with European history, literature, culture, languages, and current affairs and acquire advanced international and intercultural competency through coursework in international studies.
- Visualize where places are in relation to one another through map pointing

DEPARTMENT OF PUBLIC ADMINISTRATION

SEMESTER - I

PAPER I: INTRODUCTION TO PUBLIC ADMINISTRATION

- Awareness about the evolution and growth of the discipline of Public Administration.
- Learning of basic principles and approaches of Public Administration.
- Theoretical clarity of basic concepts and dynamics (both ecological and others) relating to Public organizations.

SEMESTER – II

PAPER II: THEORIES OF PUBLIC ADMINISTRATION

- Understanding the theoretical background of public administration.
- Theory is as important as practice
- Understanding the contributions of different social science thinkers to the theory of public administration
- Learning public administration function in an environment

SEMESTER – III

PAPER III: INDIAN ADMINISTRATION

- Knowledge about the evolution and growth of Indian Administration
- Familiarity with the constitutional framework on which Indian Administration is based.
- Grasping the role of Union Executive
- Understanding the in-built control mechanisms over constitutional bodies in particular and administration in general.
- Delineating the constitutional provisions and dynamics of union -state relationships.
- Awareness about the institutions and mechanism in force for citizen-state interface

SEMESTER – IV

PAPER IV: INDIAN ADMINISTRATION-EMERGING ISSUES

- Learning the influences of various emerging issues on Indian Administration
- Understanding the issues confronted by Public Administration currently and the means to address them.
- Gaining knowledge of various Acts for weaker sections and utilizing them in day to life

PAPER V: E-GOVERNENCE IN INDIA

- Gaining theoretical understanding about the concept, theory and models of e-governance.
- Learning practical application of e-governance in different walks of life.
- Awareness of various e- governance initiatives undertaken to deliver Public services to the stakeholders.
- Developing necessary skills to use and operate e-governance or digital service delivery

DEPARTMENT OF COMMERCE

SEMESTER - I

PAPER I: FUNDAMENTAL OF ACCOUNTING

- Identify the transactions and events that need to be recorded in the books of accounts.
- Equip with the knowledge of the accounting process and preparation of final accounts of sole traders.
- Develop the skill of recording financial transactions and preparation of reports in accordance with GAAP.

SEMESTER - I

PAPER I: BUSINESS ORGANIZATION AND MANAGEMENT

- understand different forms of business organization.
- comprehend the nature of the nature of a joint stock company and formalities to promote.
- describe the social responsibility of business towards the society

SEMESTER - I

PAPER I: BUSINESS ENVIRONMENT

- Define Internal and External elements affecting the business environment.
- Explain the economic trends and its effect on Government policies.
- Critically examine the recent developments in economic and business policies of the Government.

SEMESTER - III

PAPER III: ADVANCED ACCOUNTING

- 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.

SEMESTER - III

PAPER III: BUSINESS STATISTICS

- Understand the importance of Statistics in real life.
- Formulate complete, concise, and correct mathematical proofs.
- Frame problems using multiple mathematical and statistical tools, measuring relationships by using standard techniques.
- Build and assess data-based models.

SEMESTER - III

PAPER III: MARKETING

- Develop an idea about marketing and the marketing environment.
- Understand the consumer behavior and market segmentation process.
- Comprehend the product life cycle and product line decisions.

SEMESTER - II

PAPER II: FINANCIAL ACCOUNTING

- Understand the concept of consignment and learn the accounting treatment of the various aspects of consignment.
- Analyze the accounting process and preparation of accounts in consignment and joint venture.
- Distinguish Joint Venture and Partnership and to learn the methods of maintaining records under Joint Venture.

SEMESTER - II

PAPER II: BUSINESS ECONOMICS

- Describe the nature of economics in dealing with the issues of scarcity of resources.
- Analyze supply and demand analysis and its impact on consumer behavior.
- Evaluate the factors, such as production and costs affecting firms behavior.

SEMESTER - II

PAPER II: BANKING THEORY AND PRACTICE

- Understand the basic concepts of banks and functions of commercial banks.
- Demonstrate an awareness of law and practice in a banking context.
- Engage in critical analysis of the practice of banking law.
- Organize information as it relates to the regulation of banking products and services.

SEMESTER - IV

PAPER IV: CORPORATE ACCOUNTING

- Understand the Accounting treatment of Share Capital and be aware of the 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.

SEMESTER - IV

PAPER IV: COST AND MANAGEMENT ACCOUNTING

- Understand various costing methods and management techniques.
- Apply Cost and Management accounting methods for both manufacturing and service industry.
- Prepare a cost sheet, quotations, and tenders to the organization for different works.

SEMESTER - IV

PAPER IV: INCOME TAX

- Acquire complete knowledge of 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 the Finance Act.

SEMESTER - IV

PAPER IV: BUSINESS LAW

- Understand the legal environment of business and laws of business.
- Highlight the security aspects in the present cyber-crime scenario.

SEMESTER - IV

PAPER IV: AUDITING

- Understanding the meaning and necessity of audit in the modern era.
- Comprehend the role of the auditor in avoiding corporate frauds.
- Identify the steps involved in performing the audit process.

SEMESTER - IV

PAPER IV: GOODS AND SERVICE TAX

- Understand the basic principles underlying the Indirect Taxation Statutes.
- Examine the method of tax credit. Input and Output Tax credit and Cross Utilizations of Input Tax Credit.
- Identify and analyze the procedural aspects under different applicable statutes related to GST.

DEPARTMENT OF COMPUTER APPLICATIONS

SEMESTER - I

PAPER I: INFORMATION TECHNOLOGY.

- Describe the fundamental hardware components that make up a computer's hardware and the role of each of these components.
- Understand the difference between an operating system and an application program, and what each is used for in a computer.
- Use technology ethically, safely, securely, and legally.
- Use systems development, word-processing, spreadsheet, and presentation software to solve basic information systems problems.

SEMESTER - II

PAPER II: E-COMMERCE AND WEB DESIGNING.

- Describe the infrastructure for E-commerce.
- Discuss legal issues and privacy in E-Commerce.
- Understand the principles of creating an effective web page, including an in-depth consideration of information architecture
- Design & develop web pages including: CSS Style Rules, Typography, Hyperlinks, Lists, Tables, Frames, Forms, Images, Behaviors, CSS Layouts.

SEMESTER - III

PAPER III: PROGRAMMING WITH C & C++

- Develop programming skills.
- learn the syntax and semantics of programming languages.
- Understanding a functional hierarchical code organization.
- Write program on a computer, edit, compile, debug, correct, recompile and run it

SEMESTER - IV

PAPER IV: DATABASE MANAGEMENT SYSTEMS.

- Understand the role of a database management system in an organization.
- Understand basic database concepts, including the structure and operation of the relational data model..
- Understand and successfully apply logical database design principles, including ER diagrams and database normalization.
- Understand Functional Dependency and Functional Decomposition.

SEMESTER - V

PAPER V: DATABASE MANAGEMENT SYSTEMS.

- Understand the role of a database management system in an organization.
- Understand basic database concepts, including the structure and operation of the relational data model..
- Understand and successfully apply logical database design principles, including ER diagrams and database normalization.
- Understand Functional Dependency and Functional Decomposition

SEMESTER - V

PAPER V: WEB TECHNOLOGIES.

- To understand web architecture and web services.
- To practice the latest web technologies and tools by conducting experiments.
- To design interactive web pages using HTML and Style sheets.
- To provide solutions by identifying and formulating IT related problems.

SEMESTER - VI

PAPER VI: E-COMMERCE

- Describe the fundamental hardware components that make up a computer's hardware and the role of each of these components.
- Understand the difference between an operating system and an application program, and

what each is used for in a computer.

- Use technology ethically, safely, securely, and legally.
- Recognize and discuss global E-commerce issues.

SEMESTER - VI

PAPER VI: TALLY WITH GST

- Manage accounting of any Business or individuals
- Creating Computerized Books of accounts with finalizing reports
- Various extra topics related to computerized accounting like Auditing, Grouping companies
- Vault passwords and many more Getting Automated Printing salary slips, Scheduled reports, Outstanding reports etc.

DEPARTMENT OF MATHEMATICS

SEMESTER - I

PAPER I: DIFFERENTIAL EQUATIONS.

- Solve linear differential equations .
- Convert non exact homogeneous equations to exact differential equations by using integrating factors.
- Know the methods of finding solutions of differential equations of the first order but not of the first degree .
- Solve higher – order linear differential equations, both homogeneous and non homogeneous, with constant coefficients.
- Understand the concept and apply appropriate methods for solving differential equations.

SEMESTER - II

PAPER II: THREE DIMENSIONAL ANALYTICAL SOLID GEOMETRY.

- Get the knowledge of planes.
- Basic ideas of lines, spheres and cones.
- Understand the properties of planes, lines, spheres and cones.
- Express the problems geometrically and then to get the solution.

SEMESTER - III

PAPER III: ABSTRACT ALGEBRA.

- Acquire the basic knowledge and structure of groups, subgroups and cyclic groups.
- Get the significance of the notation of normal subgroups.
- Get the behavior of permutations and operations on them.

- Study the homomorphism and isomorphism with applications.
- Understand the ring theory concepts with the help of knowledge in group theory and to prove the theorems.
- Understand the applications of ring theory in various fields.

SEMESTER - IV

PAPER IV: MATHEMATICS REAL ANALYSIS

- Get clear idea about the real numbers and real valued functions
- Obtain the skills of analyzing the concepts and applying appropriate methods for testing convergence of a sequence / series.
- Test the continuity and differentiability and Riemann integration of a function.
- Know the geometrical interpretation of mean value theorems.

SEMESTER - IV

PAPER V: LINEAR ALGEBRA

- Understand the concepts of vector spaces, subspaces, bases, dimension and their properties.
- Understand the concepts of linear transformations and their properties.
- Apply Cayley – Hamilton theorem to problems for finding the inverse of a matrix and higher powers of matrices without using routine methods.
- Learn the properties of inner product spaces and determine orthogonality in inner product spaces.

DEPARTMENT OF PHYSICS

SEMESTER – I

PAPER I: MECHANICS, WAVES AND OSCILLATIONS.

- To understand basic theories related with properties of matter and its applications to determine values of various quantities associated with matter.
- Be able to know the properties of matter to explain natural physical processes and related technological advances.
- To learn about fundamentals of verbal and mathematical concepts of waves and oscillations.
- We should make the students to know their skills required to get the information from the syllabus and use them in a proper way.

SEMESTER – II

PAPER II: WAVE OPTICS

- Understand the nature of light and principles of Laser and holography.
- Analyze the intensity variation of light due to interference, diffraction and polarization.
- Solve problems in Optics by selecting the appropriate equations and performing numerical or analytical calculations.
- Students are able to operate optical devices including polarizers, interferometers, and Lasers.

SEMESTER – III

PAPER III: HEAT AND THERMODYNAMIC

- Students will be able to perform experiments and interpret the results of observation, including making an assessment of experimental uncertainties.
- They develop the ability to apply the knowledge acquired in the classroom and laboratories to specific problems in theoretical and experimental Physics.
- To apply the theories learnt and the skills acquired to solve real time problems.
- To understand the concepts and significance of the various physical phenomena.

SEMESTER – IV

PAPER IV: ELECTRICITY, MAGNETISM & ELECTRONICS

- To learn about Gauss law and solve the electric field and magnetic field for various geometric objects and to learn basic electronics concepts in analog and digital theory.
- Explain all the topics of Experiments, Concepts and Derivations to the student.
- Apply the principles of electronics in day-to-day life.
- Encourage all the students to study higher education courses in reputed institutes and to enrich the students with creative, logical and analytical skills and to motivate the students towards research.

SEMESTER – IV

PAPER V: MODERN PHYSICS

- To Create awareness on the topics of Atomic & Molecular Physics, Quantum Mechanics,Nuclear Physics,and Solid state physics.
- Explain all the topics of Experiments, Concepts and Derivatives to the student.
- Explain the basic principles of quantum mechanics and apply to Atomic, Molecular structure of energy level etc.
- Motivate all the students to pursue PG courses in reputed institutes and to endow the students with creative and analytical skills; this will equip them to become entrepreneurs.

DEPARTMENT OF COMPUTER SCIENCE

SEMESTER – I

PAPER I: PROBLEM SOLVING IN C

- Develop an algorithm for solving a given problem.
- Understand ‘C’ language constructs like Iterative statements, array processing, Pointers
- Apply ‘C’ language constructs to the algorithms to write a ‘C’ language program.

SEMESTER – II

PAPER II: DATA STRUCTURES USING ‘C’

- Understand available Data Structures for data storage and processing.
- Comprehend Data Structure and their real-time applications - Stack, Queue, Linked List, Trees and Graph
- Develop ability to implement different Sorting and Search methods
- Have knowledge on Data Structures basic operations like insert, delete,search,update and traversal
- Design and develop programs using various data structures
- Implement the applications of algorithms for sorting, pattern matching etc.

SEMESTER – III

PAPER III: DATABASE MANAGEMENT SYSTEM.

- Understand fundamental concepts of DBMS with special emphasis correlational data
- Normalization of a database Model database using ER Diagrams and design database schema based on the model.
- Create a small database using SQL.

SEMESTER – IV

PAPER IV: OBJECT ORIENTED PROGRAMMING USING JAVA

- Understand the benefits of a well-structured program
- Understand different computer programming paradigms
- Understand underlying principles of Object-Oriented Programming in Java
- Develop problem-solving and programming skills using OOP concepts
- Develop the ability to solve real-world problems through software development inhigh-level programming languages.

SEMESTER – V(A)

PAPER V(A): DATABASE MANAGEMENT SYSTEM

- Understand the fundamental concepts of DBMS with special emphasis on relational data models.
- Normalization of a database Model database using ER Diagrams and design database schemas based on the model.
- Create a small database using SQL.

SEMESTER – V

PAPER VI : SOFTWARE ENGINEERING

- Ability to analyze software requirements with existing tools
- Able to differentiate different testing methodologies.

SEMESTER – VI

PAPER VII : WEB TECHNOLOGY

- To Understand The Web Architecture And Web Services.
- To Practice Latest Web Technologies And Tools By Conducting Experiments.
- To Design Interactive Web Pages Using Html And Style Sheets.
- To Provide Solutions By Identifying And Formulating Its Related Problems.

DEPARTMENT OF BOTANY

SEMESTER - I

PAPER I: FUNDAMENTALS OF MICROBES AND NONVASCULAR PLANTS.

- Explain the origin of life on the earth.
- Illustrate diversity among the viruses and prokaryotic organisms and can categorize them.
- Classify fungi, lichens, algae and bryophytes based on their structure, reproduction and life cycles.
- Analyze and ascertain the plant disease symptoms due to viruses, bacteria and fungi.
- Recall and explain the evolutionary trends among amphibians of plant kingdom for their shift to land habitat.
- Evaluate the ecological and economic value of microbes, thallophytes and bryophytes.

SEMESTER – I (PRACTICAL SYLLABUS).

PAPER I: FUNDAMENTALS OF MICROBES AND NONVASCULAR PLANTS.

- Demonstrate the techniques of use of lab equipment, preparing slides and identify the material and draw diagrams exactly as it appears.
- Observe and identify microbes and lower groups of plants on their own.
- Demonstrate the techniques of inoculation, preparation of media etc.
- Identify the material in the permanent slides etc.

SEMESTER - II

PAPER II: BASICS OF VASCULAR PLANTS AND PHYTOGEOGRAPHY.

- Classify and compare Pteridophytes and Gymnosperms based on their morphology, anatomy, reproduction and life cycles.
- Justify Evolutionary trends in tracheophytes to adapt for land habitat.
- Explain the process of fossilization and compare the characteristics of extinct and extant plants.
- Critically understand various taxonomical aids for identification of Angiosperms.
- Analyze the morphology of the most common Angiosperm Plants of their localities and recognize their families.
- Evaluate the ecological, ethnic and economic value of different tracheophytes and summarize their goods and services for human welfare.
- Locate different phytogeographical regions of the world and India and can analyze their floristic wealth.

SEMESTER – II (PRACTICAL SYLLABUS)

PAPER II: BASICS OF VASCULAR PLANTS AND PHYTOGEOGRAPHY.

- Demonstrate the techniques of section cutting, preparing slides, identifying the material and drawing exact figures.
- Compare and contrast the morphological, anatomical and reproductive features of vascular plants.
- Identify the local angiosperms of the families prescribed to their genus and species level and prepare herbarium.
- Exhibit skills of preparing slides, identifying the given twigs in the lab and drawing figures of plant twigs, flowers and floral diagrams as they are.
- Prepare and preserve specimens of local wild plants using herbarium techniques.

SEMESTER - III

PAPER III: ANATOMY AND EMBRYOLOGY OF ANGIOSPERMS, PLANT ECOLOGY AND BIODIVERSITY.

- Understand the organization of tissues and tissue systems in plants.
- Illustrate and interpret various aspects of embryology.
- Discuss the basic concepts of plant ecology, and evaluate the effects of environmental and biotic factors on plant communities.
- Appraise various qualitative and quantitative parameters to study the population and community ecology.
- Correlate the importance of biodiversity and consequences due to its loss.
- Enlist the endemic/endangered flora and fauna from two biodiversity hotspots in India

and assess strategies for their conservation.

SEMESTER – III (PRACTICAL SYLLABUS).

PAPER III: ANATOMY AND EMBRYOLOGY OF ANGIOSPERMS, PLANT ECOLOGY AND BIODIVERSITY

- Get familiarized with techniques of section making, staining and microscopic study of vegetative, anatomical and reproductive structure of plants.
- Observe externally and under microscope, identify and draw exact diagrams of the material in the lab.
- Demonstrate application of methods in plant ecology and conservation of biodiversity and qualitative and quantitative aspects related to populations and communities of plants.

SEMESTER -IV

PAPER IV: PLANT PHYSIOLOGY AND METABOLISM

- Comprehend the importance of water in plant life and mechanisms for transport of water and solutes in plants.
- Evaluate the role of minerals in plant nutrition and their deficiency symptoms.
- Interpret the role of enzymes in plant metabolism.
- Critically understand the light reactions and carbon assimilation processes responsible for synthesis of food in plants.
- Analyze the biochemical reactions in relation to Nitrogen and lipid metabolisms.
- Evaluate the physiological factors that regulate growth and development in plants.
- Examine the role of light on flowering and explain physiology of plants under stress conditions.

SEMESTER –IV (PRACTICAL SYLLABUS)

PAPER IV: PLANT PHYSIOLOGY AND METABOLISM

- Conduct lab and field experiments pertaining to Plant Physiology, that is, biophysical and biochemical processes using related glassware, equipment, chemicals and plant material.
- Estimate the quantities and qualitative expressions using experimental results and calculations
- Demonstrate the factors responsible for growth and development in plants.

SEMESTER –IV

PAPER V: CELL BIOLOGY, GENETICS AND PLANT BREEDING

- Distinguish prokaryotic and eukaryotic cells and design the model of a cell.
- Explain the organization of a eukaryotic chromosome and the structure of genetic material.
- Demonstrate techniques to observe the cell and its components under a microscope.
- Discuss the basics of Mendelian genetics, its variations and interpret inheritance of traits in living beings.
- Elucidate the role of extrachromosomal genetic material for inheritance of characters.
- Evaluate the structure, function and regulation of genetic material.
- Understand the application of principles and modern techniques inplant breeding.
- Explain the procedures of selection and hybridization for improvement of crops.

SEMESTER –IV (PRACTICAL SYLLABUS)

PAPER V: CELL BIOLOGY, GENETICS AND PLANT BREEDING

- Show the understanding of techniques of demonstrating Mitosis and Meiosis in the laboratory and identify different stages of cell division.
- Identify and explain with diagram the cellular parts of a cell from a model or picture and prepare models
- Solve the problems related to crosses and gene interactions.
- Demonstrate plant breeding techniques such as emasculation and bagging.

DEPARTMENT OF ZOOLOGY

SEMESTER-I

PAPER I: ANIMAL DIVERSITY – BIOLOGY OF NONCHORDATES

- Describe general taxonomic rules on animal classification.
- Classify Protozoa to Coelenterate with taxonomic keys.
- Classify Phylum Platy helminthes to Annelida phylum using examples from parasitic adaptation and vermin composting .
- Describe Phylum Arthropoda to Mollusca using examples and importance of insects and Molluscs.
- Describe Echinodermata to Hemichordate with suitable examples and larval stages.

SEMESTER-II

PAPER II: ANIMAL DIVERSITY – BIOLOGY OF CHORDATES

- Describe general taxonomic rules on animal classification of chordates.

- Classify Protochordata to Mammalian with taxonomic keys.
- Understand Mammals with specific structural adaptations.

· Understand the significance of dentition and evolutionary significance.

· Understand the origin and evolutionary relationship of different phyla from

Prochordata to mammals.

SEMESTER: III

PAPER III: CELL BIOLOGY, GENETICS, MOLECULAR BIOLOGY AND EVOLUTION

- To understand the basic unit of the living organisms and to differentiate the organisms by their cell structure.
- Describe fine structure and function of plasma membrane and different cell organelles of eukaryotic cells.
- To understand the history of origin of branch of genetics, gain knowledge on heredity, interaction of genes, various types of inheritance patterns existing in animals
- Acquiring in-depth knowledge on various of aspects of genetics involved in sex determination, human karyo typing and mutations of chromosomes resulting in various disorder.
- Understand the central dogma of molecular biology and flow of genetic information from DNA to proteins.
- Understand the principles and forces of evolution of life on earth, the process of evolution of new species and apply the same to develop new and advanced varieties of animals for the benefit of the society.

SEMESTER: IV

PAPER IV: ANIMAL PHYSIOLOGY, CELLULAR METABOLISM AND EMBRYOLOGY

- Understand the functions of important animal physiological systems including digestion, cardiorespiratory and renal systems.
- Understand the muscular system and the neuro-endocrine regulation of animal growth, development and metabolism with a special knowledge of hormonal control of human reproduction.
- Describe the structure, classification and chemistry of Biomolecules and enzymes responsible for sustenance of life in living organisms
- Develop broad understanding the basic metabolic activities pertaining to the catabolism and anabolism of various Biomolecules
- Describe the key events in early embryonic development starting from the formation of gametes up to gastrulation and formation of primary germ layers

SEMESTER: IV

PAPER V: IMMUNOLOGY AND ANIMAL BIOTECHNOLOGY

- To get knowledge of the organs of the Immune system, types of immunity, cells and

organs of immunity.

- To describe immunological response as to how it is triggered (antigens) and regulated(antibodies)
- Understand the applications of Biotechnology in the fields of industry and agriculture including animal cell/tissue culture, stem cell technology and genetic engineering. Get familiar with the tools and techniques of animal biotechnology.

DEPARTMENT OF CHEMISTRY

SEMESTER - I

PAPER I: Inorganic and Physical Chemistry

- Understand the basic concepts of p-block elements
- Explain the difference between solid, liquid and gasses in terms of intermolecular interactions.
- Apply the concepts of gas equations, pH and electrolytes while studying other chemistry courses.

LABORATORY COURSE -I Qualitative inorganic analysis

- Understand the basic concepts of qualitative analysis of inorganic mixture
- Use glassware, equipment and chemicals and follow experimental procedures in the laboratory
- Apply the concepts of common ion effect, solubility product and concepts related to qualitative analysis.

SEMESTER - II

PAPER II: Organic & General Chemistry

- Formulate the mechanism of organic reactions by recalling and correlating the fundamental properties of the reactants involved
- Learn and identify many organic reaction mechanisms.
- Correlateanddescribethestereochemicalpropertiesoforganiccompoundsand reactions.

SEMESTER - III

PAPER III: INORGANIC & ORGANIC CHEMISTRY

- Understand preparation, properties and reactions of haloalkanes, haloarenes and oxygen containing functional groups.
- Understand chemical and physical properties of d and f-block elements
- Understand how to predict the structure of carbonyls.

Semester – III:

Titrimetric Analysis and Organic Functional Group Reactions

- how to use glassware, equipment and chemicals and follow experimental procedures in the laboratory
- how to engage in safe laboratory practices by handling laboratory glassware, equipment, and chemical reagents appropriately
- functional group analysis of organic compounds
- learn titrimetric analysis of redox reactions.

SEMESTER - IV

PAPER IV: SPECTROSCOPY & PHYSICAL CHEMISTRY

- learn about various spectroscopic techniques which are modern method of analysis of organic compounds
- learn about phase Rule and its application in some specific system. They will learn about the principle of fractional distillation and azeotropes
- The students will learn the theories of conductance and electrochemistry. The students are also expected to understand the various parts of electrochemical cells, fuel cells and batteries.

SEMESTER - IV

PAPER IV: PHYSICAL CHEMISTRY AND IR SPECTRAL ANALYSIS:

- students will learn to calculate CST of solutions and concentration of solutions using instrumental method conductometry
- students will learn analysis of functional groups using IR spectral data.

SEMESTER - V

PAPER V: INORGANIC, ORGANIC & PHYSICAL CHEMISTRY

- students learn transition metal chemistry, giving the basic idea of coordination chemistry. Various aspects like nomenclature, structure, bonding, variety and reactivity of the coordination compounds are included for the students to appreciate.
- Learn about chemistry of nitrogen compounds
- learn the thermodynamics terms closed, open and isolated system, surrounding, energy, heat, internal etc. they will also be able to know about the state functions and differentials, relation between Cp and Cv etc.

PRACTICAL PAPER – V: ORGANIC CHEMISTRY

- After completion of this course students will be able to analyze the organic sample qualitatively.

Paper – VI: INORGANIC, ORGANIC & PHYSICAL CHEMISTRY

- Students will learn reactivity of metal complexes and importance of metals in biological

systems.

- Learn about chemistry of hetero cyclics ,amino acids and carbohydrates.
- students will learn the rate laws of chemical transformations, experimental methods of determining the rate of a reaction.

PAPER – VI: PHYSICAL CHEMISTRY (PRACTICAL

- Students will be able to determine surface tension of liquids, viscosity of liquids, distribution coefficient of a compound in different solvent.

SEMESTER - VI

PAPER VII(B): ENVIRONMENTAL CHEMISTRY.

- Students will be able to learn about Scope and importance of the environment nowadays.
- learn about sources of air, water pollution and chemical toxicology.

SEMESTER - VI

PAPER VII(B): ENVIRONMENTAL CHEMISTRY (PRACTICALS).

- learn about various parameters of water analysis like hardness, acidity, alkalinity etc.

CHEMISTRY –(CLUSTER ELECTIVE – VIII-C-1):

ORGANIC SPECTROSCOPIC TECHNIQUES

- student will learn principles of modern spectroscopic techniques NMR, UV-Vis, ESR
- analysis of organic compounds using the above techniques
- They will be able to identify the number of signals of a given sample and draw the pattern for both NMR and ESR.

CHEMISTRY LABORATORY COURSE –VIII-C-1

- student will learn synthesis of organic compounds and recrystallisation
- student will learn determination of melting point of organic compounds

CHEMISTRY CLUSTER ELECTIVE – VIII-C-2: ADVANCED ORGANIC REACTIONS

- student will learn principles of organic photochemistry and photochemical reactions
- learn about protection of groups and some new synthetic reactions

CHEMISTRY LABORATORY COURSE –VIII-C-2

- students will learn analysis of compounds using potentiometry and colourimetry.
- learn to operate the instruments

CHEMISTRY CLUSTER ELECTIVE – VIII-C-3:

PHARMACEUTICAL AND MEDICINAL CHEMISTRY

- student will learn terminology used in pharmaceutical chemistry and classification of drugs
- student will learn Synthesis and therapeutic activity of some compounds and aboutHIV-AIDS

CHEMISTRY LABORATORY COURSE – VIII-C-3: PROJECT WORK

- Students will be able to do project work after completion of this course.
- They will learn how to write a project report. They will be skilled in writing the proposal, literature review, objective, methodology, results, discussion, conclusion and references.
- This is very important to carry forward their career in research and development.

R.R.D.S. Govt. Degree College Bhimavaram-2. (W.G.)

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