

COURSE OUTCOMES

w. e. f 2020 - 2021

SEMESTER-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 facts 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

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 of Vijayanagar Rulers, Mughals and also analyse the rise of the Marathas and the contribution of Shivaji.
- ❖ Evaluate the establishment of the British rule in India and understand the dangerous consequences disunity at all levels.
- ❖ Analyze the emergence of composite culture in Indian.
- ❖ Visualize where places are in relation to one another through map pointing.

SEMESTER-III

Modern Indian History & Culture (1764-1947 A. D)

- ❖ 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)

- ❖ Interpret social and culture transformation from medieval to modern Andhra
- ❖ Relate key historical development during medieval period occurring in costal Andhra and Telangana regions and analyze socio-political and economic changes under Qutubshahi rules
- ❖ Understand gradual change, or change in certain aspects of society in Andhra, rather than rapid or fundamental changes.
- ❖ Explain how the English East India Company became the most dominant power and outline the impact of colonial on different aspects in Andhra.
- ❖ Outline the issues related to caste, women, widow remarriage, child marriage, social reforms and the laws and policies of colonial administration towards these issues.
- ❖ Take pride in the non-violence struggle for Indian Independence and relate the important of peace in every life.
- ❖ Apply the knowledge of the regional history to understand the regional, linguistic and other cultural aspirations of the present day society
- ❖ Visualize where places are in relation to one another through map pointing.

SEMESTER-IV – 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 predictions about the evolution of Christianity in Europe and abroad.
- ❖ Evaluate the causes for the Glorious Revolution and American Revolution and identify the background for the evolution of human rights movement.
- ❖ Understand the main events of the French Revolution and its significance in the shift in European culture from Enlightenment to Romanticism.
- ❖ 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.

SEMESTER-V – PAPER VI B

Tourism and Hospitality Services

- ❖ Understand hospitality as a career.
- ❖ Inculcate interpersonal skills.
- ❖ Develop the ability for multitasking and crisis management.
- ❖ Understands the spirit of teamwork.
- ❖ Acknowledge the importance of guest service and satisfaction.

SEMESTER-V – PAPER VII B

Tourism Guidance and Operating Skills

- ❖ Acquire tour guiding, operating and soft skills.
- ❖ Understand different situations under which one has to work.
- ❖ Cultivate cultural awareness and flexibility.
- ❖ Understand and apply team spirit.
- ❖ Plan and organize tour operations efficiently.

COURSE OUTCOMES

w. e. f 2020 - 2021

SEMESTER-I

MICROECONOMIC ANALYSIS

- ❖ Understand and apply the concepts of micro economics such as market/ price mechanism, elasticity of demand, and economics of information.
- ❖ Analyze and demonstrate knowledge of the basic theories/laws in economics- laws of production, theories of consumer behavior.
- ❖ Evaluate microeconomic concepts, models and its use in real life situations like collective bargaining, opportunity cost.
- ❖ Understand and apply the concepts of micro economics in real life such as market structures, collusive oligopolies.
- ❖ Analyze and demonstrate knowledge of the basic theories/laws in economics- Price determination, Price Discrimination, Managerial theories of firm, etc. and their application in real life situations.

SEMESTER-II

MACROECONOMIC ANALYSIS

- ❖ Analyze and explain macroeconomic concepts of National Income, Aggregate Demand, Aggregate Supply, Consumption and Investment.
- ❖ Demonstrate and examine the concepts such as Multiplier, Consumption Function, Investment Function etc.
- ❖ Examine, analyze and evaluate the theoretical bases for open economy macroeconomics.
- ❖ Demonstrate analytical and interpretation skills to analyze and apply to real-life macroeconomic situations.
- ❖ Explain the monetary concepts, the theories and policies relating to Money and Money Supply.
- ❖ Describe the concept of Demand for Money and to analyze theoretical base to approach to Demand for Money
- ❖ Explain and demonstrate the progressive tools relating to macroeconomic concepts and evaluate monetary crisis like inflation and business cycles in real-life situations.

SEMESTER-III

DEVELOPMENT ECONOMICS

- ❖ Explain various concepts and definitions and indicators relating to economic growth and development including recent developments
- ❖ Explains distinction between growth and development with examples
- ❖ Understand the characteristics of developing economies and distinction between the two
- ❖ Understand the factors contributing to development, Choice of Techniques and a few important models and strategies of growth
- ❖ Analyze the theoretical aspects of a few models and strategies of economic growth
- ❖ Evaluate role and importance of various financial and other institutions in the context of India's economic development.

SEMESTER-IV - PAPER IV

ECONOMIC DEVELOPMENT- INDIA AND ANDHRA PRADESH

- ❖ Evaluate leading issues of Indian economic development with reference to potential for growth, obstacles and policy responses.
- ❖ Analyse objectives, outlays and achievements of economic plans and growth strategies.
- ❖ Understand the available resources, demographic issues, general problems of poverty and unemployment and relevant policies.
- ❖ Explains the sector specific problems, remedial policies and their effectiveness relating to Agriculture and Industrial Sectors of Indian and AP economy and infrastructure issues of AP economy.
- ❖ Explains Indian Tax system, recent changes, issues of public expenditure and public debt, recent finance commissions and devolution of funds.
- ❖ Explains major issues of economic development of Andhra Pradesh after bifurcation and Central assistance.
- ❖ Evaluate leading issues of current importance relating to India and AP economy, major policies and programmes.
- ❖ Analyze Covid- 19 and its impact on Indian economy.

SEMESTER-IV – PAPER V

STATISTICAL METHODS FOR ECONOMICS

- ❖ Explains the definitions, terms and their meaning relating to statistical methods.
- ❖ Explains various formulae used to measure central tendency, correlation regression and Indices.
- ❖ Explains the Importance of statistics and its applications.
- ❖ Explains the method of classification of primary data.
- ❖ Understand the use of Correlation and Regression analysis, time series and index numbers in economic analysis.
- ❖ Analyse different kinds of statistical problems using various principles and formulae relating to central tendency, correlation, regression, time series and indices.
- ❖ Evaluate to interpret data and suggest solutions to economic problem.

SEMESTER-V – PAPER VI C

Insurance Services

- ❖ Explain the concept and principles of insurance service and functioning of insurance service agencies;
- ❖ Identify and analyse the opportunities related insurance services in local rural area;
- ❖ Apply the concepts and principles of insurance to build a career in Insurance services;
- ❖ Demonstrate practical skills to enable them to start insurance service agency or earn wage employment in it

SEMESTER-V – PAPER VII C

Banking and Financial Services

- ❖ Explain the concept and essentials banking and financial services.
- ❖ Identify and analyse the employment opportunities related to banks and other financial institutions.
- ❖ Apply the concepts to banking and financial opportunities and formulate ideas related to them.
- ❖ Demonstrate practical skills to enable them to get employment in Banks and other financial institutions as business correspondents or Common Service Centres or marketing agents.

S.C.I.M. GOVT. COLLEGE
POLITICAL SCIENCE COURSE OUTCOMES
ACADEMIC YEAR 2022-23

SEMESTER-1

COURSE CODE-1

COURSE TITLE: INTRODUCTION TO POLITICAL SCIENCE

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

- Recall the previous knowledge about Political Science and understand the nature and scope, traditional and modern approaches of Political Science.
- Understand concepts intrinsic to the study of Political Science.
- Have solid theoretical understanding of Rights and its theories along with the basic aspects of certain political ideologies.
- Apply the knowledge to observe the field level phenomena

SEMESTER-2

COURSE CODE-2

COURSE TITLE: BASIC ORGANS OF THE GOVERNMENT

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

- Understand the Origin and Evolution of the concept of Constitutionalism and classification of Constitutions.
- Acquaint themselves with different theories of origin of State.
- Understand and analyses organs and forms of Governments along with a deep insight into the various agents involved in the political process.
- Apply the knowledge to analyse and evaluate the existing systems.

SEMESTER-3

COURSE CODE-3

COURSE TITLE: INDIAN GOVERNMENT AND POLITICS

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

- Acquire knowledge about the historical background of Constitutional development in India, appreciate philosophical foundations and salient features of the Indian Constitution.
- Analyze the relationship between State and individual in terms of Fundamental Rights and Directive Principles of State Policy.
- Understand the composition of and functioning of Union Government as well as State Government and finally
- Acquaint themselves with the judicial system of the country and its emerging trends such as judicial reforms.

SEMESTER-4**COURSE CODE-4****COURSE TITLE: INDIAN POLITICAL PROCESS**

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

- Know and understand the federal system of the country and some of the vital contemporary emerging issues.
- Evaluate the electoral system of the country and to identify the areas of electoral reforms.
- Know the constitutional base and functioning of local governments with special emphasis on 73rd & 74th Constitutional Amendment Acts.
- Understand the dynamics of Indian politics, challenges faced and gain a sensitive comprehension to the contributing factors.
- Apply the knowledge and critically comprehend the functioning of some of the regulatory and governance institutions.
- Propose theoretical outline alternate models.

SEMESTER-4**COURSE CODE-5****COURSE TITLE: WESTERN POLITICAL THOUGHT**

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

- Understand the fundamental contours classical, western political philosophy, basic features of medieval political thought and shift from medieval to modern era.
- Understand the Social Contract Theory and appreciate its implications on the perception of State in terms of its purposes and role.
- Acquaint with the Liberal and Marxist philosophy and analyze some trends in Western Political Thought.
- Critically analyse the evolution of western political thought.

SEMESTER-5**COURSE CODE: 6A****COURSE TITLE: POLITICAL REPORTING**

Learning Outcomes: Students at the successful completion of the course will be able to:

- Understand the need, scope and concepts in Political Reporting.
- Identify various sources for Political Reporting.
- Provide an overview of interpreting the political phenomena from the grass roots level to the Parliament.
- Develop insights and enhance skills in a professional manner in the age of mass media.
- Learn skills related to reporting, enlarge job opportunities and make it as a career.

SEMESTER-5**COURSE CODE:7A****COURSE TITLE: LEGAL LITERACY-RIGHTS AWARENESS**

Learning Outcomes: Students at the successful completion of the course will be able to:

- Acquaint student with the structure and manner of functioning of the legal system in India.
- Understand of the laws related to rights applicable in India.
- Provide an overview of access to courts and enforcement of rights.
- Develop an understanding of the formal and Alternate Dispute Redressal (ADR) mechanism that exist in India.

SCIM GOVT COLLEGE, TANUKU, WG(Dt.)

Department of Commerce

Course Outcomes

AY : 2022-23

I Year B Com (Gen & CA)–Semester – I

Course1A: Fundamentals of Accounting

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.
- Analyse the difference between cash book and pass book in terms of balance and make reconciliation.
- Critically examine the balance sheets of a sole trader for different accounting periods.
- Design new accounting formulas & principles for business organisations.

I Year B Com (Gen & CA) – Semester – I

Course 1B: Business Organization and Management

At the end of the course, the student will be able to

- Understand different forms of business organizations.
- Comprehend the nature of Joint Stock Company and formalities to promote a Company.
- Describe the Social Responsibility of Business towards the society.
- Critically examine the various organizations of the business firms and judge the best among them. → Design and plan to register a business firm. Prepare different documents to register a company at his own.
- Articulate new models of business organizations.

I Year B Com (Gen) – Semester – I

Course 1C: Business Environment

At the end of the course, the student will able to;

- Understand the concept of business environment.
- Define Internal and External elements affecting business environment.
- Explain the economic trends and its effect on Government policies.
- Critically examine the recent developments in economic and business policies of the Government. → Evaluate and judge the best business policies in Indian business environment.
- Develop the new ideas for creating good business environment.

**I Year B Com (Gen & CA)–
Semester – II Course 2A: Financial Accounting**

At the end of the course, the student will able to;

- Understand the concept of consignment and learn the accounting treatment of the various aspects of consignment.
- Analyze the accounting process and preparation of accounts in consignment and joint venture.
- Distinguish Joint Venture and Partnership and to learn the methods of maintaining records under Joint Venture.
- Determine the useful life and value of the depreciable assets and maintenance of Reserves in business entities.
- Design an accounting system for different models of businesses at his own using the principles of existing accounting system.

**I Year B Com (Gen & CA)–
Semester – II Course 2B: Business Economics**

At the end of the course, the student will able to

- Describe the nature of economics in dealing with the issues of scarcity of resources.
- Analyze supply and demand analysis and its impact on consumer behaviour.
- Evaluate the factors, such as production and costs affecting firms behaviour.
- Recognize market failure and the role of government in dealing with those failures.
- Use economic analysis to evaluate controversial issues and policies.
- Apply economic models for managerial problems, identify their relationships, and formulate the decision making tools to be applied for business.

**I Year B Com (Gen)–
Semester – II Course 2C: Banking Theory and Practice**

At the end of the course, the student will able to;

- Understand the basic concepts of banks and functions of commercial banks.
- Demonstrate an awareness of law and practice in a banking context. → Engage in critical analysis of the practice of banking law.
- Organize information as it relates to the regulation of banking products and services.
- Critically examine the current scenario of Indian Banking system.
- Formulate the procedure for better service to the customers from various banking innovations.

II Year B Com (Gen ,CA&AT)–

Semester – III Course 3A: Advanced Accounting

At the end of the course, the student will able to;

- Understand the concept of Non-profit organisations and its accounting process
- Comprehend the concept of single-entry system and preparation of statement of affairs
- Familiarize with the legal formalities at the time of dissolution of the firm
- Prepare financial statements for partnership firm on dissolution of the firm.
- Employ critical thinking skills to understand the difference between the dissolution of the firm and dissolution of partnership

II Year B Com (Gen ,CA&AT)–

Semester – III Course 3B: Business Statistics

At the end of the course, the student will able to;

- Understand the importance of Statistics in real life
- Formulate complete, concise, and correct mathematical proofs.
- Frame problems using multiple mathematical and statistical tools, measuring relationships by using standard techniques.
- Build and assess data-based models.
- Learn and apply the statistical tools in day life.
- Create quantitative models to solve real world problems in appropriate contexts.

II Year B Com (Gen)

Semester – III Course 3C: Marketing

At the end of the course, the student will able to;

- Develop an idea about marketing and marketing environment.
- Understand the consumer behaviour and market segmentation process.
- Comprehend the product life cycle and product line decisions.
- Know the process of packaging and labeling to attract the customers.
- Formulate new marketing strategies for a specific new product.
- Develop new product line and sales promotion techniques for a given product.
- Design and develop new advertisements to given products.

II Year B Com (A&T)

Semester – III Course 3C: INCOME TAX –II

At the end of the course, the student will able to:

- Calculate Deductions U/s 80's of & Income Tax Act 1961.
- Compute the taxable income under the heads of Profits & gains of Business or profession, Capital gains and Income from other sources.
- Clubbing provisions and Set off and Carry forward of losses.

II Year B Com (Gen ,CA&A&T)–

Semester – IV Course 4A: Corporate Accounting

At the end of the course, the student will able to;

- Understand the Accounting treatment of Share Capital and aware of process of book building.
- Demonstrate the procedure for issue of bonus shares and buyback of shares.
- Comprehend the important provisions of Companies Act, 2013 and prepare final accounts of a company with Adjustments.
- Participate in the preparation of consolidated accounts for a corporate group.
- Understand analysis of complex issues, formulation of well-reasoned arguments and reaching better conclusions.
- Communicate accounting policy choices with reference to relevant laws and accounting standards.

II Year B Com (Gen CA, A&T)–

Semester – IV Course 4B: Cost and Management Accounting

At the end of the course, the student will able to;

- Understand various costing methods and management techniques.
- Apply Cost and Management accounting methods for both manufacturing and service industry.
- Prepare cost sheet, quotations, and tenders to organization for different works.
- Analyze cost-volume-profit techniques to determine optimal managerial decisions.
- Compare and contrast the financial statements of firms and interpret the results.
- Prepare analysis of various special decisions, using relevant management techniques.

II Year B Com (Gen& CA)–

Semester – IV Course 4C: Income Tax

At the end of the course, the student will able to;

- Acquire the complete knowledge of the tax evasion, tax avoidance and tax planning.
- Understand the provisions and compute income tax for various sources.
- Grasp amendments made from time to time in Finance Act. → Compute total income and define tax complicacies and structure.
- Prepare and File IT returns of individual at his own.
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II Year B Com (Gen CA, A&T)–

Semester – IV Course 4D: Business Law

At the end of the course, the student will able to;

- Understand the legal environment of business and laws of business.
- Highlight the security aspects in the present cyber-crime scenario.
- Apply basic legal knowledge to business transactions.
- Understand the various provisions of Company Law.
- Engage critical thinking to predict outcomes and recommend appropriate action on issues relating to business associations and legal issues.
- Integrate concept of business law with foreign trade.

II Year B Com (Gen CA, A&T)–

Semester – IV Course 4E: Auditing

At the end of the course, the student will able to;

- Understanding the meaning and necessity of audit in modern era
- Comprehend the role of auditor in avoiding the corporate frauds
- Identify the steps involved in performing audit process
- Determine the appropriate audit report for a given audit situation
- Apply auditing practices to different types of business entities
- Plan an audit by considering concepts of evidence, risk and materiality

II Year B Com (Gen &AT)–

Semester – IV Course 4F:Goods and Service Taxes

At the end of the course, the student will able to;

- Understand the basic principles underlying the Indirect Taxation Statutes.
- Examine the method of tax credit. Input and Output Tax credit and Cross Utilisation of Input Tax Credit.
- Identify and analyze the procedural aspects under different applicable statutes related to GST.
- Compute the assessable value of transactions related to goods and services for levy and determination of duty liability.
- Develop various GST Returns and reports for business transactions in Tally.

II Year B Com (A&T)–

Semester – IV Course 4F: ASSESSMENT OF INDIVIDUALS, HUF AND PARTNERSHIP

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.

III YEAR B. COM. (G,CA, A&T) –

Semester –V Course 18 A: MANAGEMENT ACCOUNTING AND PRACTICE

Upon successful completion of the course the student will be able to

- Understand the nature and scope of management accounting and differentiate management accounting, financial accounting and cost accounting.
- Compute ratios and draw inferences
- Analyze the performance of the organization by preparing funds flow statement and cash flow statements
- Prepare cash budget, fixed budget and flexible budget.

III YEAR B. COM. (G,CA,A&T) –

Semester –V Course19 A: COST CONTROL TECHNIQUES

Up on completion of the course the student will be able to

- Differentiate cost control, cost reduction concepts and identify effective techniques.
- Allocate overheads on the basis of Activity Based Costing.
- 3: Evaluate techniques of cost audit and rules for cost record.
- 4: Appraise the application of marginal costing techniques to evaluate performances, fix selling price, make or buy decisions.

III YEAR B. COM. (G,CA,A&T) –

Semester –V Course- 16- B. ADVERTISING AND MEDIA PLANNING

At the successful completion of the course students are able to:

- Understand the role of advertising in business environment
- Understand the legal and ethical issues in advertising
- Acquire skills in creating and developing advertisements
- Understand up-to-date advances in the current media industry.
- Acquire the necessary skills for planning an advertising media campaign.

III YEAR B. COM. (G,CA,A&T) –

Semester –V Course:17- B. SALES PROMOTION AND PRACTICE

By the end of the course students are able to:

- Analyse various sales promotion activities
- Get exposed to new trends in sales Promotion
- Understand the concepts of creativity in sales promotion
- Enhance skills to motivate the salesperson to reach their targets
- Develop the skills of designing of sales promotion events

III YEAR B. COM. (G, A&T) –

Semester –V Course 20C: E COMMERCE

By the completion of the course, the students are able to

- Understand the mechanism of ecommerce
- Equip specialization in website designing for e commerce
- Enhance their skills in operational services of e commerce
- Involve in activities of e commerce

III YEAR B. COM. (G, A&T) –

Semester –V Course Course 21 C: e FILING

By the completion of the course, the students are able to

Understand and apply basic knowledge of Indian Tax System

- Equip specialization in taxation system
- Enhance their skills in presenting returns
- Involve in activities of Chartered Accountants for filing returns
- file returns of Income Tax and GST

UG- SKILL DEVELOPMENT COURSE
SEM-I
INSURANCE PROMOTION

At the end of the course, the student will be able to:

Understand the field level structure and functioning of insurance sector and its role in protecting the risks.

- Comprehend pertaining skills and their application for promoting insurance coverage
- Prepare better for the Insurance Agent examination conducted by IRDA
- Plan 'promoting insurance coverage practice' as one of the career options.

UG- SKILL DEVELOPMENT COURSE
SEM-II
ADVERTISING

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

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

UG- SKILL DEVELOPMENT COURSE
SEM-III
ONLINE BUSINESS

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

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

DEPARTMENT OF PHYSICS

Mechanics.Waves &Oscillations

COURSE OTCOMES: After studying the programme, the student might be able to

- ❖ TO UNDERSTAND THE BASIC PROPERTIES OF MATTER AND ITS APPLICATIONS.
- ❖ UNDERSTAND THE INERTIAL &NON INERTIAL FRAME OF REFERENCES.
- ❖ UNDERSTAND THE INERTIAL &NON INERTIAL FRAME OF REFERENCES.
- ❖ TO KNOW THE DIFFERENT TYPES OF WAVE MOTION MAINLY SHM.
- ❖ TO LEARN THE PRINCIPLES OF ULTRASONIC PRODUCTION AND ITS APPLICATION.
- ❖ TO LEARN ABOUT THE FUNDAMENTALS OF VERBAL AND MATHEMATICAL CONCEPTS OF WAVES &OSCILLATIONS.

DEPARTMENT OF PHYSICS

WAVE OPTICS

COURSE OUT COMES: After studying the programme, the student might be able to

- ❖ TO UNDERSTAND THE BASIC PRINCIPLES OF OPTICS.
- ❖ TO PRODUCE AND ANALYSE THE INTERFERENCE, DIFFRACTION AND POLARISATION. PATTERNS DUE TO DIVISION OF AMPLITUDE & WAVE FRONT
- ❖ TO SOLVE THE NUMERICAL PROBLEMS.
- ❖ TO GAIN KNOWLEDGE IN OPERATING THE OPTICAL EQUIPEMENT.
- ❖ COMPREHEND THE APPLICATIONS OF OPTICS IN VARIOUS FIELDS.
- ❖ TO ACQUIRE KNOWLEDGE ON THE HOLOGRAPHY TECHNIQUES

DEPARTMENT OF PHYSICS

HEAT AND THERMODYNAMICS

COURSE OUTCOMES: After studying the programme, the student might be able to

- ❖ TO APPLY THE THEORIES LEARNT AND SKILLS ACQUIRED TO SOLVE THE REAL TIME PROBLEMS.
- ❖ TO UNDERSTAND THE CONCEPTS AND PHYSICAL SIGNIFICANCE OF VARIOUS PHYSICAL PHENOMENA OF THERMODYNAMICS
- ❖ TO UNDERSTAND THE BEHAVIOUR OF GASES
- ❖ TO GAIN THE KNOWLEDGE OF CRYOGENIC STORAGE AND PRODUCTION OF VERY LOW TEMP.
- ❖ TO ACQUIRE THE KNOWLEDGE OF RADIATION AND ITS GOVERNING LAWS.
- ❖ TO UNDERSTAND THE WORKING OF PYRHELIOMETER

DEPARTMENT OF PHYSICS

ELECTRICITY, MAGNETISM & ELECTRONICS

COURSE OUTCOMES: After studying the programme, the student might be able to

- ❖ TO LEARN THE CONCEPT OF CHARGE AND ABOUT PRINCIPLES ELECTROSTATICS
- ❖ TO KNOW THE PHYSICAL SIGNIFICANCE OF GAUSS LAW AND APPLY IT TO SOLVE THE
- ❖ ELECTRIC AND MAGNETIC FIELDS OF VARIOUS GEOMETRICAL OBJECTS
- ❖ LEARN THE BASIC ELECTRONIC CONCEPTS IN ANALOG AND DIGITAL
- ❖ APPLY THE PRINCIPLES OF AC CURRENT & ELECTRONICS IN DAY TO DAY LIFE
- ❖ EXPLAIN ALL THE TOPICS OF EXPERIMENTS, CONCEPTS AND DERIVATIONS TO STUDENTS
- ❖ ENCOURAGE ALL THE STUDENTS TO STUDY HIGHER EDUCATIONS IN REPUTATED INSTITUTES

DEPARTMENT OF PHYSICS

MODERN PHYSICS

COURSE OUTCOMES: After studying the programme, the student might be able to

- ❖ Develop an understanding on the concepts of Atomic and molecular physics,& Basic principles of quantum mechanics and nuclear physics.
- ❖ Understanding of concept of Matter waves and Uncertainty principle.
- ❖ Know the formulation of Schrodinger wave equation and its applications.
- ❖ Examine the basic properties of nuclei and other related aspects
- ❖ Increase the awareness and appreciation of superconductors and their practical applications.
- ❖ Draw the different Bravis crystal structures

DEPARTMENT OF PHYSICS

LOW TEMPERATURE PHYSICS&REFRIGERATION

COURSE OUTCOMES: After studying the programme, the student might be able to

- ❖ Identify various methods and techniques used to produce low temperatures in the Laboratory.
- ❖ Acquire a critical knowledge on refrigeration and air conditioning.
- ❖ Demonstrate skills of Refrigerators through hands on experience and learns about refrigeration components and their accessories.
- ❖ Understand the classification, properties of refrigerants and their effects on environment.
- ❖ Comprehend the applications of Low Temperature Physics and refrigeration.

DEPARTMENT OF PHYSICS

SOLAR ENERGY & APPLICATIONS

COURSE OUTCOMES: After studying the programme, the student might be able to

- ❖ Understand Sun structure, forms of energy coming from the Sun and its measurement.
- ❖ Acquire a critical knowledge on the working of thermal and photovoltaic collectors.
- ❖ Demonstrate skills related to callus culture through hands on experience.
- ❖ Understand testing procedures and fault analysis of thermal collectors and PV modules.
- ❖ Comprehend applications of thermal collectors and PV modules.

PROGRAM OUTCOMES (PO) - B.SC

PO1: Apply the knowledge of mathematics, fundamentals of physical and chemical sciences specialization to the solution of scientific problems .

PO2: Problem analysis: Identify, formulate, review research literature, and analyze elementary to complex level scientific problems reaching substantiated conclusions using first principles of mathematics, physical and chemical sciences.

PO3: Design solutions for complex scientific problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO4: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO5: Create, select, and apply appropriate techniques, resources, and modern scientific and IT tools including prediction and modeling to complex scientific activities with an understanding of the limitations.

PO6: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the scientific process

PO7: Understand the impact of the scientific solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO8: Apply ethical principles and commit to professional ethics and responsibilities and norms of the scientific practice.

PO9: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary setting

PO10: Communicate effectively on complex engineering activities with the scientific community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO11: Demonstrate knowledge and understanding of the scientific principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO12: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Program Specific Outcomes

PO1: should be able to understand the concepts at advanced level of Mathematics ,Physics ,Chemistry & computer science ,their applications in the field of scientific research and other relevant areas.

PO2: Should have an ability to apply sound theoretical knowledge of mathematics, physical chemical sciences & computer sciences and usage of modern tools for solving real world problems.

PO3: Should have the capability to analyze, comprehend, design & develop the solutions for a variety of scientific both theoretical and applicative problems and thus demonstrating professional ethics & human values concern for societal well being.

SCIM GOVERNMENT COLLEGE, TANUKU, W.G(Dt.)

DEPARTMENT OF ELECTRONICS

COURSE OUTCOMES(COS)
FOR THE ACADEMIC YEAR-2022-23

I Year B.Sc –ELECTTRONICS

Course: 1 Circuit Theory And Electronic Devices

At the end of the course the student will be able

- To explain the basic concepts and laws of DC and AC electrical networks and solve them using mesh and nodal analysis techniques.
- To analyze circuits in time and frequency domain.
- To synthesize the networks using passive elements.
- To understand the construction, working and VI characteristics of electronic devices.
- To understand the concept of power supply.

Course: 2 Digital Electronics

At the end of the course the student will be able

- To understand the number systems, Binary codes and Complements.
- To understand the Boolean algebra and simplification of Boolean expressions.
- To analyze logic processes and implement logical operations using combination all logic circuits.
- To understand the concepts of sequential circuits and to analyze sequential systems in terms of state machines.
- To understands characteristics of memory and their classification.

II Year B.Sc –ELECTTRONICS

Course: 3 Analog Circuits and Communication Electronics

At the end of the course the student will be able to

- Understand the fundamentals and areas of applications for the integrated circuits.
- Analyze important types of integrated circuits.
- Demonstrate the ability to design practical circuits that perform the desired operation.
- Select the appropriate integrated circuit modules to build a given application.
- Use of different modulation and demodulation techniques used in analog communication.
- Identify and solve basic communication problems.
- Analyze transmitters and receiver circuits.

Course: 4 Microprocessor Systems

At the end of the course the student will be able to

- The student can gain good knowledge on microprocessor and implement in practical applications.
- Design system using memory chips and peripheral chips for 16 bit 8086 microprocessor.
- Understand and devise techniques for faster execution of instructions, improve speed of operations and enhance performance of microprocessors.
- Understand multi core processor and its advantages.

Course: 5 Microcontroller And Interfacing

At the end of the course the student will be able to

- The student can gain good knowledge on microcontrollers and implement in practical applications.
- Student Able to learn Interfacing of Microcontroller.
- To get familiar with real time operating system

III Year B.Sc –ELECTRONICS

Course: 7B Consumer Electronics

At the end of the course the student will be able

- To study Microwave ovens – block diagram - working - types – wiring and safety instructions. – care and cleaning
- To study washing machines – block diagram - working - types – wiring and safety instructions. – care and cleaning .
- To study Air conditioners and refrigerators – block diagram - working - types – wiring and safety instructions. – care and cleaning .
- To study Home/Office digital devices – block diagram - working - types – wiring and safety instructions. – care and cleaning .
- To study Digital access devices like – block diagram - working - types – wiring and safety instructions. – care and cleaning.

DEPARTMENT OF MATHEMATICS
COURSE OUTCOMES(COS)
FOR THE ACADEMIC YEAR-2022-23

I Year B.Sc – MATHEMATICS

Course:1 DIFFERENTIAL EQUATIONS

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

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

Course:2 THREE DIMENSIONAL ANALYTICAL SOLID GEOMETRY

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

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

II Year B.Sc – MATHEMATICS

Course:3 ABSTRACT ALGEBRA

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

- Acquire the basic knowledge and structure of groups, subgroups and cyclic groups.
- Get the significance of the notation of a normal subgroups.
- Get the behavior of permutations and operations on them.
- Study the homomorphisms and isomorphisms with applications.
- Understand the ring theory concepts with the help of knowledge in group theory and to prove the theorems.
- Understand the applications of ring theory in various fields.

Course:4 MATHEMATICS REAL ANALYSIS

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

- Get clear idea about the real numbers and real valued functions.

- Obtain the skills of analyzing the concepts and applying appropriate methods for testing Convergence of a sequence/ series.
- Test the continuity and differentiability and Riemann integration of a function.
- Know the geometrical interpretation of mean value theorems.

Course:5 LINEAR ALGEBRA

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

- 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.

III Year B.Sc – MATHEMATICS

Course: 6A Numerical Methods

Students after successful completion of the course will be able to

- Understand the subject of various numerical methods that are used to obtain approximate solutions Understand various finite difference concepts and interpolation methods.
- Work out numerical differentiation and integration whenever and wherever routine methods are not applicable.
- Find numerical solutions of ordinary differential equations by using various numerical methods.
- Analyze and evaluate the accuracy of numerical methods.

Course: 7A Mathematical Special Functions

Students after successful completion of the course will be able to

- Understand the Beta and Gamma functions, their properties and relation between these two functions, understand the orthogonal properties of Chebyshev polynomials and recurrence relations. Find power series solutions of ordinary differential equations.
- Solve Hermite equation and write the Hermite Polynomial of order (degree) n , also find the generating function for Hermite Polynomials, study the orthogonal properties of Hermite Polynomials and recurrence relations.
- Solve Legendre equation and write the Legendre equation of first kind, also find the generating function for Legendre Polynomials, understand the orthogonal properties of Legendre Polynomials.
- Solve Bessel equation and write the Bessel equation of first kind of order n , also find the generating function for Bessel function understand the orthogonal properties of Bessel function.

SCIM GOVERNMENT COLLEGE, TANUKU, W.G(Dt.)

DEPARTMENT OF COMPUTER SCIENCE

COURSE OUTCOMES(COS)

FOR THE ACADEMIC YEAR-2022-23

I Year B.Sc – COMPUTER SCIENCE

Course: 1 PROBLEM SOLVING IN C

Upon successful completion of the course, a student will be able to

- Understand the evolution and functionality of a Digital Computer.
- Apply logical skills to analyse a given problem.
- Develop an algorithm for solving a given problem.
- Understand 'C' language constructs like Iterative statements, Array processing, Pointers.
- Apply 'C' language constructs to the algorithms to write a 'C' language program.

Course: 2 DATA STRUCTURES USING C

Upon successful completion of the course, a student will be able to:

- Understand available Data Structures for data storage and processing.
- Comprehend Data Structure and their real-time applications - Stack, Queue, Linked List, Trees and Graph Choose a suitable Data Structures for an application
- Develop ability to implement different Sorting and Search methods
- Have knowledge 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.

II Year B.Sc – COMPUTER SCIENCE

Course: 3 DATABASE MANAGEMENT SYSTEM

Upon successful completion of the course, a student will be able to

- Gain knowledge of Database and DBMS.
- Understand the fundamental concepts of DBMS with special emphasis on relational data model. Demonstrate an understanding of normalization theory and apply such knowledge to the normalization of a database
- Model data base using ER Diagrams and design database schemas based on the model.
- Create a small database using SQL.
- Store, Retrieve data in database.

Course: 4 OBJECT ORIENTED PROGRAMMING USING JAVA

Upon successful completion of the course, a student will be able to

- 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 in high-level programming language like Java.

Course: 5 OPERATING SYSTEMS

Upon successful completion of the course, a student will be able to

- Know Computer system resources and the role of operating system in resource management with algorithms Understand Operating System Architectural design and its services.
- Gain knowledge of various types of operating systems including Unix and Android.
- Understand various process management concepts including scheduling, synchronization, and deadlocks.
- Have a basic knowledge about multithreading.
- Comprehend different approaches for memory management.
- Understand and identify potential threats to operating systems and the security features design to guard against them.
- Specify objectives of modern operating systems and describe how operating systems have evolved over time.
- Describe the functions of a contemporary operating system.

III Year B.Sc – COMPUTER SCIENCE

Course: 6A Web Interface Designing Technologies

Students after successful completion of the course will be able to

- Understand and appreciate the web architecture and services.
- Gain knowledge about various components of a website.
- Demonstrate skills regarding creation of a static website and an interface to dynamic website.
- Learn how to install word press and gain the knowledge of installing various pluginsto use in their websites.

Course: 7A Web Applications Development using PHP& MYSQL

Students after successful completion of the course will be able to

- Write simple programs in PHP.
- Understand how to use regular expressions, handle exceptions, and validate data using PHP.
- Apply In-Built functions and Create User defined functions in PHP programming.
- Write PHP scripts to handle HTML forms.

- Write programs to create dynamic and interactive web based applications using PHP and MYSQL.
- Know how to use PHP with a My SQL database and can write database driven web pages.

SCIM GOVERNMENT COLLEGE, TANUKU, W.G(Dt.)

DEPARTMENT OF BOTANY

COURSE OUTCOMES(COS)

FOR THE ACADEMIC YEAR-2022-23

I Year B.Sc – BOTANY

Course: 1 Fundamentals of Microbes and Non-vascular Plants

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

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

Course: 2 Basics of Vascular plants and Phytogeography

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

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

II Year B.Sc – BOTANY

Course: 3 Anatomy and Embryology of Angiosperms, Plant Ecology and Biodiversity

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

- Understand on 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 hot spots in India and assess strategies for their conservation.

Course: 4 Plant Physiology and Metabolism

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

- Comprehend the importance of water in plant life and mechanisms for transport of water and solutes in plants.
- Evaluate the role of minerals in plant nutrition and their deficiency symptoms.
- Interpret the role of enzymes in plant metabolism.
- Critically understand the light reactions and carbon assimilation processes responsible for synthesis of 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.

Course: 5 Cell Biology, Genetics and Plant Breeding

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

- Distinguish prokaryotic and eukaryotic cells and design the model of a cell.
- Explain the organization of a eukaryotic 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 extra-chromosomal genetic material for inheritance of characters.
- Evaluate the structure, function and regulation of genetic material.
- Understand the application of principles and modern techniques in plant breeding.
- Explain the procedures of selection and hybridization for improvement of crops.

III Year B.Sc – BOTANY

Course: 6A Plant Propagation

Students at the successful completion of the course will be able to

- Explain various plant propagation structures and their utilization.
- Understand advantages and disadvantages of vegetative, asexual and sexual plant propagation methods.
- Assess the benefits of asexual propagation of certain economically valuable plants using Apomictics and adventive polyembryony.
- Demonstrate skills related to vegetative plant propagation techniques such as cuttings, layering, grafting and budding.
- Apply a specific macro-propagation technique for a given plant species.

Course: 7A Seed Technology

Students at the successful completion of the course will be able to

- Explain the causes for seed dormancy and methods to break dormancy.
- Understand critical concepts of seed processing and seed storage procedures.
- Acquire skills related to various seed testing methods.
- Identify seed borne pathogens and prescribe methods to control them.

- Understand the legislations on seed production and procedure of seed certification.

SCIM GOVERNMENT COLLEGE, TANUKU, W.G(Dt.)

DEPARTMENT OF MICROBIOLOGY

COURSE OUTCOMES(COS)

FOR THE ACADEMIC YEAR-2022-23

I Year B.Sc – MICROBIOLOGY

Course: 1 Introduction to Microbiology and Microbial Diversity

Upon completion of the course students able to

- Explain relationship and apply appropriate terminology relating to the structure, Genetics, metabolism and ecology of prokaryotic microorganisms, Algae, viruses and Fungi.
- Students will get basics and importance of Microbiology.

- Demonstrate appropriate laboratory skill and techniques related to isolation, staining, identification and control of microorganisms.

Course: 2 Microbial Physiology and Biochemistry

Up on completion of the course students able to

- This Course provides Understanding of biomolecular synthesis and control will help in further study.
- Develop knowledge on microbial genetics and molecular biology.

II Year B.Sc – MICROBIOLOGY

Course: 3 Molecular Biology and Microbial Genetics

Up on completion of the course students able to

- Explain working principle and applications of Colorimetry, Chromatography, Spectrophotometry, Centrifugation and Gel Electrophoresis.
- Knowledge on Microbial nutrition, bacterial growth, metabolism and Respiration.
- The student will get first-hand experience on separation methods.

Course: 4 Immunology and Medical Microbiology

Up on completion of the course students able to

- Explain Non-specific body defence and the immune response
- Develop knowledge on disease transmission and control
- Demonstrate on collection and handling of laboratory specimens
- Develop an information making personal health decision in regard to infectious diseases.
- Student can safeguard himself & society and can work diagnostics and hospitals.

Course: 5 Microbial Ecology and Industrial Microbiology

Up on completion of the course students able to

- Understand fundamental concept in soil microbial diversity, basic concept of biogeochemical cycles and plant growth promotion and plant diseases
- Understands the role of microorganisms in treatment of solid and liquid waste.
- Acquire knowledge on application of microorganisms in agro – environmental fields.
- Get basic information design of fermenter, fermentation processes and Single cell proteins.
- Self-reliance in the industrial application of Microbiology in life and industry.
- Entrepreneurship can be established with the gained knowledge.

III Year B.Sc – MICROBIOLOGY

Course: 6A Food and Dairy Microbiology

Up on completion of the course students able to

- Understanding the key concepts in food and dairy microbiology
- Emphasizing the role of intrinsic and extrinsic factors on growth and survival of microorganisms in food and dairy industries

- Enumerating the various methods of isolation, detection and identification of microorganisms employed in food and dairy industries
- Identifying the types and nature of food spoilage caused by microorganisms
- Developing principles and methods for the microbiological examination and preservation of foods Perception of food safety regulations and the rationale use of standard methods and procedures for the microbial analysis of food and dairy products.

Course: 7A Environmental and Agriculture Microbiology

Up on completion of the course students able to

- Providing basic understanding of microbial diversity in the environment .
- Perception of Energy transfer efficiencies between tropic levels .
- Enumerating the role of microbes in waste management and bioremediation.
- Emphasizing the role of microbes in maintaining soil profile and fertility
- Insights into the role of microorganisms as biofertilizers and biopesticides
- Enumerating the various classes of microbes affecting agricultural yields.

SCIM GOVERNMENT COLLEGE, TANUKU, W.G(Dt.)

DEPARTMENT OF CHEMISTRY

COURSE OUTCOMES(COS)

FOR THE ACADEMIC YEAR-2022-23

I Year B.Sc – CHEMISTRY

Course: 1 Inorganic and Physical Chemistry

At the end of the course, the student will be able to

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

Course: 2 Organic & General Chemistry

At the end of the course, the student will be able to

- Understand and explain the differential behavior of organic compounds based on fundamental concepts learnt.
- Formulate the mechanism of organic reactions by recalling and correlating the fundamental properties of the reactants involved.
- Learn and identify many organic reaction mechanism including Free Radical Substitution, Electrophilic Addition and Electrophilic Aromatic Substitution.
Correlate and describe the stereochemical properties of organic compounds and reactions.

Course: 3 Organic chemistry & Spectroscopy

At the end of the course, the student will be able to

- Understand preparation, properties and reactions of haloalkanes, haloarenes and oxygen containing functional groups.
- Use the synthetic chemistry learnt in this course to do functional group transformations.
- To propose plausible mechanisms for any relevant reaction.

Course: 4 Inorganic, Organic and Physical Chemistry

At the end of the course, the student will be able to

- To learn about the laws of absorption of light energy by molecules and subsequent photochemical reactions.
- To understand the concept of quantum efficiency and mechanisms of photochemical reactions.

Course: 5 Inorganic & Physical Chemistry

- At the end of the course, the student will be able to
- Understand concepts of boundary conditions and quantization, probability distribution, most probable values, uncertainty and expectation values.
- Application Of Quantization To Spectroscopy.
- Various types of spectra and their use in structure determination.

Course: 6D Environmental Chemistry

Students after successful completion of the course will be able to

- Understand the environment functions and how it is affected by human activities.
- Acquire chemical knowledge to ensure sustainable use of the world's resources and ecosystems services.
- Engage in simple and advanced analytical tools used to measure the different types of pollution.
- Explain the energy crisis and different aspects of sustainability.
- Analyze key ethical challenges concerning biodiversity and understand the moral principles, goals and virtues important for guiding decisions that affect Earth's plant and animal life.

Course: 7D Green Chemistry and Nanotechnology

Students after successful completion of the course will be able to

- Understand the importance of Green chemistry and Green synthesis.
- Engage in Microwave assisted organic synthesis.
- Demonstrate skills using the alternative green solvents in synthesis.
- Demonstrate and explain enzymatic catalysis.
- Analyse alternative sources of energy and carry out green synthesis.
- Carry out the chemical method of nonmaterial synthesis.