Since 1881

THE AMERICAN COLLEGE

(An Autonomous Institution Affiliated to Madurai Kamaraj University)

Re-accredited (2nd Cycle) by NAAC with Grade "A" CGPA – 3 .46 on a 4 - point scale

MADURAI - 625002

SSR Cycle – 3

Criterion I – Curricular Aspects

1.1. Curriculum Design and Development

Course Outcomes (COs) – Postgraduate Programmes

Department of English

Course Outcomes – M.A English

Academic Writing

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

i. design the process writing
ii. express sentence skills
iii. structure and develop paragraphs through techniques
iv. compose academic essays
v. distinguish between content editing and substantive editing

Prose

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

i. analyse various aspects of prose,
ii. assess diction, sentences and paragraphs and chapters,
iii. distinguish different prose styles and other devices used by the writers,
iv. develop their reading skill and inculcate the practice of reading and appreciating prose and
v. create rhetorical ability.

British Poetry I: Chaucer To Hopkins

At the end of this course, the students will be able to

i. identify the various aspects and sub-genres of poetry,

ii. trace the evolution of various literary movements,
iii. assess British Poetry with focus on content and form,
iv. evaluate various poets as representatives of their periods, and
v. justify British Poetry as an aesthetic record of the societies concerned

British Fiction: Victorian To Early Modern

At the end of the course students shall be able to

i. distinguish various elements of Narrative fiction and its techniques,
ii. summarize aspects of Bildungsroman and realist fiction along with thematic concerns
iii. evaluate Social, domestic and gothic novels,
iv. assess philosophical and political underpinnings of Victorian morality, anti-Victorian realities and the aesthetic movement, and
v. infer themes relating to the turn of the century events through close reading of text

British Drama-I: Elizabethan to Early Modern

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

i. appraise various aspects of drama and theatre,
ii. identify drama and performance as a cultural process and an artistic discourse,
iii. evaluate plot structure, characterization and dialogue,
iv. interpret drama texts as aesthetic records of their times viz., Elizabethan, Restoration, Victorian and Early Modern ages,
v. examine the sequential course dealing with Modern and Postmodern British Drama

English For Career

At the end of this course students will be able to

i. identify the nuances of communication,
ii. solve Reading Passages effectively and critically,
iii. write paragraphs, essays and various types of business letters,
iv. create English for media such as news reportage, interviews, columns and features and reviews, and
v. design English for presentation, documentation, group discussion and Negotiation

Structure of Modern English

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

i. integrate the traditional, structural and post-structural points of view of language,
ii. produce pronunciation skills,
iii. express their morphological knowledge,
iv. negotiate alternative theories of English such as IC Analysis and PS Grammar, and
v. design Transformational and Generative Grammars pedagogically

British Poetry II: Yeats To the Present Times

At the end of the course students will be able to

i. identify modernist trends in British poetry,
ii. critique how poetry reflects and influences the aesthetic-political-intellectual life of the British,
iii. analyse the changing face of poetry in modern times,
iv. employ the various movements to discuss literary works, and
v. distinguish various trajectories of the poetic process.

British Fiction II: Late Modern to Postmodern

At the end of the course students shall be able to

i. distinguish the concepts modern, modernity, post-modern and postmodernity and narrative strategies used during this period,
ii. debate philosophical/ideological and aesthetics positions of modernist writing in Britain during the period of High Modernism,
iii. critique post-war/cold war scenario in Britain as reflected in the texts,
iv. infer postmodern themes and techniques, and
v. express opinions about a range of socio-political and historical possibilities.

American And African-American Literature

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

i. analyse the movements and trends that shaped American and African American literature,
ii. differentiate between American and African-American oeuvres in poetry,
iii. estimate various speeches and concepts of living which changed American history,
iv. evaluate the relation between Black Aesthetics and racism in fiction, and
v. validate representative socio-political, cultural, racial and gender perspectives in theatrical works

Shakespeare

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

i. deduce the different features of Shakespearean tragedy, comedy and history plays,
ii. connect Shakespearean theatre and Shakespearean language,
iii. critique the Elizabethan view on Cosmic Universe, Man, History, Nature and supernatural
iv. Elements through the prescribed plays,
v. speculate how a classic work of art provides space for re-reading, and modify verbal text into visual text

Film Studies

At the end of the course students will be able to

i. discuss the aspects of Cinema,

ii. analyse the aesthetics as well as the politics in films,
iii. read and review films,
iv. develop an understanding of contemporary aesthetic trends in political, social, cultural and philosophical contexts, and
v. write film scripts and reviews.

Literary Criticism & Theory I

At the end of the course, students will be able to
i. problematize literary studies
ii. reframe theories contextually
iii. evaluate the role of the reader and the text
iv. compare and contrast the basic features of structuralism and poststructuralism
v. deconstruct literary texts

British Drama II: Late Modern to Postmodern

After completing the course students will be able to
i. distinguishes various subgenres of modern and postmodern theatres
ii. evaluate how well human predicament is dramatized in literature
iii. intervene how theatre can be taken beyond the traditional proscenium art form
iv. articulate emotions and values in public without losing human dignity
v. creates a space for dialogue on various issues and a dialogic society where there is a space for the other.

Indian Literature in English

At the end of the course students will be able to
i. analyse poetic techniques and themes in Indian English poetry,
ii. distinguish techniques and themes in Indian English drama from Western models, evaluate modern prose as a representation of India's diversity,
iii. assess novel as a genre that narrates the nation with particular emphasis on postcolonial
iv. Indian experience of the nation, its history and politics, the role of memory and also estimate narrative strategies, and
v. integrate literature and society via debating social structures of Indian society and Human Rights issues.

Cultural Studies

At the end of this course, students will be able to
i. discover the contours of Cultural Studies as a field of inquiry, situating their learning within explorations of the disciplinary and historical context of the field,
ii. discriminate the diverse and sometimes contested meanings of cultural objects and processes, establishing a basic knowledge of the theoretical paradigms of Cultural Studies,

iii. devise strategies to connect cultural knowledge to everyday life and practices, gaining a preliminary understanding of the relationship of methodology (paradigms for study) to inquiry in Cultural Studies,
iv. develop their analyses of culture through oral and written modes of communication, with an emphasis on the skills of critical analysis and close reading, and
v. formulate a foundation for further study of Cultural Studies theory and praxis

Translation Studies

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

i. identify the issues and understand the significance of translation as an art and craft, estimate theories of translation,
ii. employ different translation techniques and methods,
iii. assess the problems of translation and resolve them,
iv. write like a professional translator in the fields like journalism & mass, and communication,
v. public administration, and science & technology and thus facilitating trans-creations.

History of The English Language

At the end of the course students will be able to

i. construct the history of English in terms of how it is historically developed, socially learnt, and orally transmitted,
ii. critique the influence of social happenings on English,
iii. evaluate the influence of science and colonization on the development of English as international language,
iv. appraise the various development that promoted English vocabulary and meaning, and
v. defend the changing nature of the English language.

Literary Criticism & Theory II

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

i. evaluate the basics of Marxism and feminism,
ii. justify their grasp of psychoanalytic reading of literary texts,
iii. design postcolonial reading strategies to read canonical literary texts,
iv. integrate literary texts along with the non-literary, and
v. restructure a text from postmodernist point of view.

New Literatures in English

At the end of the course students will be able to

i. appraise the philosophical and theoretical issues relating to colonialism, race, mimicry, Orientalism, indigeneity, de-colonisation and postcolonial condition,
ii. assess central issues and techniques in literary texts from these regions,
iii. evaluate literary texts by using key theoretical concepts in Postcolonial Studies such as cultural encounter and change, negritude and apartheid,

iv. critique concepts such as Migration, creole and hybridity, and
v. formulate paradigms of cultural formation and diversity through the notions of Diaspora, Home-in-exile, post-nation and to engage with emerging global concerns.

Indian Literature in Translation

At the end of the course, students will be to

i. survey the existence of different cultures and sub-cultures in India,
ii. analyse the social structure that exists in each region,
iii. assess different kinds of regional writers and their writing techniques,
iv. evaluate the political, historical, religious and social narrations of the texts, and
v. express the human psyche, emotions and conflicts represented in the works.

European Literatures in Translation

At the completion of this course, students will be able to

i. examine the literary texts of at least five major western literatures namely Greek, German, Italian, French and Russian that are part of the European Literary canon,
ii. evaluate by re-reading the classical concepts using the tools of Marxism, Existentialism, and the Absurd,
iii. critique civilization, human dignity, honour, patriotism and political ideologies such as socio- political myths,
iv. justify the accountability and social responsibilities of literary writers who were literary activists, and
v. validate how modern European literature brought down the barrier between work and art to evolve the concept of work of art.

Teaching of English as a Second Language

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

i. appraise different teaching and learning of English,
ii. evaluate merits and limits of skill based teaching,
iii. integrate teaching with areas of applied linguistics,
iv. discuss the recent ELT theories, and
v. plan & prepare teaching in real time classroom situation

Research Methodology

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

i. devise research writing,
ii. formulating research papers,
iii. devise mechanics of writing,
iv. produce MLA documentation & citation traditions, and
v. produce APA documentation & citation traditions.

Project

At the completion of the project, students will be able to

i. formulate scientific research questions,
ii. hypothesize research problems/create thesis statement,
iii. solve the problem/issue with scientific approach (theory-based),
iv. prepare interpretation, discussion, and communication of language issues and literary texts in written form, and
v. express experience in critical/academic writing.

Classical Mythology

At the completion of the course, students will be able to

i. acquire knowledge of classical mythology,
ii. understand basic *isms* used in mythology,
iii. evaluate basic concepts,
iv. view the significance of the use of Greco-Roman mythological characters in literature and examine the role of other mythic characters used in literary works.

Greek Tragedy

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

i. identify Classical Greek tragedy as a cultural phenomenon,
ii. explain literary and technical elements in the given works,
iii. analyze the common motifs: punishability of hubris, inexorability of fate, and the thin boundary between success and failure,
iv. validate contemporary relevance of the Attic world invoked in the tragedies and
v. debate tragic theories toward understanding the plays and the authors better.

Indian Folklore

At the end of this course, students will be able to

i. understand the different types of folk traditions,
ii. trace the growth of folklore and folk arts,
iii. evaluate and infer the important elements of Indian Folklore,
iv. deduce the human values and ethics from the stories, and
v. validate the employment of myth in Indian epics

Philosophy for Literature

At the end of this course, students will be able to

i. i.understand humanism and classicism,
ii. estimate the difference between rationalism and empiricism,
iii. relate idealism and materialism with cultural theories,
iv. evaluate the role of enlightenment philosophy in literary studies and the reaction to it in romanticism, and

v. comprehend phenomenology in relation to aesthetics and individual self.

Department of Commerce

Course Outcomes – M.Com

Organizational Behavior

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

i. Practice the various organizational behavior models.
ii. adopt various motivation and leadership theories.
iii. Evaluate various types of groups and group decision making techniques.
iv. Nurture the factors influencing organizational climate.
v. Manage the causes for conflict and coping techniques of stress handling.

Managerial Economics

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

i. Recollect the basic elements and nature of managerial economics.
ii. Adopt the law of demand and supply forecasting.
iii. Exhibit the cost theories and Economies of scale.
iv. Adhere the Pricing policy, profit, equilibrium and inflation under various market Competitions.
v. Handle the situations in various phases of business cycle.

Marketing Management

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

i. Learn the marketing concepts and strategic marketing planning.
ii. Identify the macro and micro environments of a market and buyer behavior.
iii. Locate the different types of products, product line, product mix and pricing decisions.
iv. Evaluate the important of channels of distribution and promotional mix.
v. Undertake Marketing research and explore recent trends like green marketing, cyber marketing and multi level marketing.

Corporate Accounting

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

i. Comprehend the accounting provisions in the Companies Act.
ii. Record the of issue and redemption of preference shares and ascertain profits prior to incorporation and post incorporation.
iii. Gain expertise in preparation of final accounts as per the revised schedule and valuation of shares and goodwill.
iv. Prepare accounts relating to Amalgamation, Absorption and Alteration of share capital.
v. Prepare accounts in the books of liquidator

Quantitative Techniques

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

i. Apply various statistical tools and techniques in business data processing.
ii. Compute the relationship between the different parameters
iii. Demonstrate basic concepts of probability and theorems.
iv. Execute parametric and non-parametric tests of significance.
v. Apply the concept of mathematical models and Linear Programming for decision making.

Digital Marketing

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

i. Explain the role and importance of digital marketing in a rapidly changing business landscape
ii. Discuss the key elements of a digital marketing strategy
iii. Illustrate how the effectiveness of a digital marketing campaign can be measured
iv. Demonstrate advanced practical skills in common digital marketing tools such as SEO, SEM, Social media and Blogs.
v. Deal with target groups digitally

Human Resource Management

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

i. Discuss the recent trends and practices in HRM
ii. Adopt HR planning.
iii. Undertake HR training and development.
iv. Administer wage and salary computation and disbursement.
v. Evaluate the factors influencing job satisfaction and retention.

Customer Relationship Management

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

i. Adhere the concept of relationship marketing, evolution of CRM and its importance in the current scenario.
ii. Analyze the customer profile and discuss the profitable customer segment.
iii. Communicate the CRM elements and its process.
iv. Develop various CRM models.
v. Handle a database system for CRM solutions

International Marketing

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

i. Identify the appropriate markets from local to global.
ii. Earmark various forums and International organizations.
iii. Outline the documentation formalities and procedure related to import and export.
iv. Design a framework for international marketing.
v. Evaluate the international marketing strategies.

Advanced Corporate Accounting

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

i. Prepare final accounts of banking companies.
ii. Prepare final accounts of insurance companies
iii. Prepare final accounts of holding companies.
iv. Construct the financial statement in inflation accounting
v. Read and interpret value added accounting standards and social responsibility accounting

Security Analysis and Portfolio Management

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

i. Identifies the types of risks and return analysis.
ii. Differentiates financial and non-financial investments and their characteristics.
iii. Analyze the fundamental and technical aspects of financial markets.
iv. Reveals the tax savings schemes and Individual Investment policy to the investors.
v. Evolve and revise portfolio of individuals.

Basis of Taxation

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

i. Provide working knowledge of framework of taxation system in India.
ii. Familiarize and educate the students with the concepts of Income Tax in India
iii. Acquire knowledge on the Terminologies of direct taxation laws, determining residential status of individuals & Basis for Charging Tax.
iv. Develop knowledge in computing Income from various heads, Exemptions and Deductions applicable with reference to Resident individuals.
v. Develop insight in E-filling and GST

Management Accounting

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

i. Communicate the major concepts accounting, accounting principles and Standards.
ii. Analyze and interpret the financial statements.
iii. Differentiate the fund flow and cash flow statements
iv. Demonstrate the variance analysis and prepare various budgets
v. Apply knowledge of Marginal costing in profit planning and managerial decision making

Business Taxation I

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

i. Aware of tax planning, tax avoidance, tax evasion and assessment procedure for various persons.
ii. Draft tax planning for setting up of new business
iii. Communicate the various procedure of tax planning regards to specific management decisions.

iv. Describe the tax planning for non-resident company assessee
v. Explain the various provision and amendments pertaining to wealth tax.

Insurance and Risk Management

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

i. Identify the various types of risk and aware about the risk management techniques
ii. Communicate the commercial risk management applications, policies and business liability
iii. Analyze the various risk among different persons.
iv. Apply the risk management techniques in retirement planning and annuities
v. Analyze the risk management environment in Government and Non-Government sector.

Research Methodology

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

i. Familiar with meaning and purpose of research, types of research and case study
ii. Outline the planning process and design a hypothesis for the Research.
iii. Prepare the Research design, questionnaire and Describe the inductive nature of qualitative and scaling technique.
iv. Explain sampling design, steps and types of sampling
v. Describe the data processing and Report writing

Advanced Cost Accounting

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

i. Define the classification of cost, methods and techniques.
ii. Determine the normal and abnormal loss; inter process profit and implementation of Activity Based Costing.
iii. Learn uniform costing, cost control accounting and Reconciliation of cost and financial accounts.
iv. Differentiate cost control and cost reduction tools and techniques.
v. Describe cost audit and reporting types, techniques and cost audit programme.

Services Marketing

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

i. Explain the concept, components and classification of services.
ii. Describe service quality gap, audit, and marketing strategies for service firms.
iii. Discuss the various Marketing financial services
iv. Learn Health care, tourism, and Day care marketing
v. Discuss the objectives and implementation of customer relationship management and responsible marketing on services managers.

Financial Management

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

i. Elucidate the overall role and importance of the finance function.
ii. Establish capital budgeting and theory of uncertainty.
iii. Derive alternate financial plans and Cost of Capital.
iv. Estimate working capital requirements.
v. Excel with dividend decisions under various models

Business Taxation II

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

1. Cop up with various types of Direct and Indirect Taxation,
2. Demonstrate Tax planning, Tax management and interpretation of tax law
3. Undertake the valuation of import and export of goods
4. Identify the GST procedures and rates of GST
5. Do filing and payment of GST

Business Ethics and Corporate Governance

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

i. To acquire a basic and clear understanding of business ethics
ii. To understand the Managing ethics in workplace, roles and responsibilities in ethical management and organizational integrity.
iii. To identify the Corporate Social Responsibility, Arguments for and against social responsibility and Ethics and Ecology
iv. To acquire the Work Ethics, Work culture and corporate culture
v. To examine the Roles and responsibilities of Board of Directors, Internal Auditors and External Auditors.

Small Business Management

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

i. Acquire a concept of Small-Scale Industry and development of entrepreneurship in India.
ii. Aware of the Problems of SSI and Policy Support.
iii. Seek the business opportunity and commence the commercial production
iv. Formulate the proposal and submission of project report.
v. Trace the funding agencies and training institutes.

Project

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

i. Identify the research problem.
ii. Develop a research design for the academic as well as new business project.
iii. Evaluate critically the hypothesis by using statistical tools.

iv. Derive conclusions on the outcome of research.
v. Recommend and Suggest to the proper forum.

ERP Applications

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

i. Acquire a Conceptual Model of ERP and The Evolution of ERP
ii. Explore the processes in Product Life Cycle management and Supply Chain management.
iii. Identify the Integration of ERP in Human Resource Management and Customer Relationship Management.
iv. Acquaintance with ERP Implementation Strategies and Post Implementation Activities.
v. Explore the ERP environment and market place dynamics.

Department of Economics

Course Outcomes – M.A Economics

Price Theory – I

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

i. Recognize the relevance of economic models in price theory.
ii. Apply theoretical constructs of consumer behavior in decision making
iii. Identify the choice of production technology and scalability in resource use efficiency
iv. Acquire the skill of differentiating firm's behavior under market structure
v. Appraise decision making and profit seeking strategies under oligopolistic models

Macro Economic Analysis – I

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

i. Apply methods of accounting national income vis-à-vis competing accounting systems
ii. Appraise Keynesian approach to income, output and employment
iii. Identify nature and types of investment in view of super multiplier
iv. Find out ways and means of regulating economic behavior of money supply
v. Examine motives behind demand for money in view of liquidity preference

Public Economics

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

i. Apply value judgments in comprehending public goods and their inbuilt social welfare
ii. Evaluate nature and mode of state intervention in economic governance
iii. Assess role of state as a means of market failure
iv. Apprise public spending as state intervention in economic activities in view of public sector dominance

v. Review analytically the rationale of public policy with regard to social justice and economic stabilization

Mathematical Methods and Applications

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

i. Apply maximization/minimization principles in economic analysis
ii. Determine price, output and profit under different market conditions
iii. Estimate the extent of surplus realized in taking appropriate economic decisions with the help of application of integration
iv. Make use of difference equation in inventory management and investment decision making
v. Solve complex economic decisions of conflicting nature with help of linear programming and input - output model

Statistical Methods and Applications

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

i. Understand the significance of statistical applications in economic analysis
ii. Apply the methods of sampling to draw sample from population
iii. Examine distributional characteristics (level, spread and shape) of sample distribution
iv. Explore causal relationships among economic variables
v. Analyse inter-temporal changes in economic behaviour over time and space

Globalisation and Economic Reforms

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

i. Understand social, economic, political, cultural and philosophy of globalization
ii. Analyse the role of international organizations in globalization
iii. Address issues and challenges in globalization
iv. Examine critically emergence of neo-liberalism in light of globalization
v. Assess Indian experience of economic reforms and globalization

Human Development

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

i. Comprehend different dimensions of human development
ii. Analyse notion of human development within the framework of human capabilities and entitlement
iii. Appraise role of gender and its partnership in development
iv. Enable to perceive wholesome human development with inclusiveness of psychological and disabilities dimensions
v. Evaluate human development efforts, policies and strategies

Price Theory - II

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

i. Understand the essentials of average cost pricing as an alternate to marginalism
ii. Enable to analyse innovative approaches in limit pricing
iii. Comprehend managerial strategies of firms in face of asymmetric information
iv. Assess factor pricing under different market conditions
v. Evaluate various dimensions of subjective approaches to maximizing social welfare

Macro Economic Analysis – II

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

i. Evaluate the effectiveness of monetary and fiscal policies in light of IS-LM model
ii. Examine modern approaches to demand for money in view of Keynesian demand for money
iii. Understand macroeconomic behaviour in open economic frame work
iv. Appraise models of containing inflation and evaluating effectiveness of monetary and fiscal policies
v. Assess the effects of business cycle on macroeconomic behaviour

Econometric Theory and Applications

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

i. Comprehend the relevance of econometrics and econometric methodology
ii. Test bi-variate causal relationship between economic variables
iii. Explore multivariate causal relationships among economic variables
iv. Deduct and correcting violation of OLS assumptions in econometric models
v. Examine relationship between analysis of variance and regression

Research Methodology

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

i. Understand the basic skill of social science research and its relevance in addressing socio economic issues
ii. Identify researchable issues and developing a suitable research methodology
iii. Corroborate and formulating testable hypotheses
iv. Validate sources of data in relation to workable hypotheses
v. Apply qualitative and quantitative techniques to test hypotheses and arrive at statistical inferences for the chosen research

Agriculture and Rural Development

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

i. Experience agriculture as a mainstay for development

ii. Enrich modernization, mechanization and labour absorption in agriculture
iii. Engage in development of integrated farming systems to enhance sustainable farm income
iv. Understand the relevance of building up rural infrastructure as a pre-requisite for viable agriculture
v. Assess the access and utilization of agricultural credit

China and Global Economy

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

i. Familiarize the history, profile and features of Chinese economy
ii. Understand the ideology, political system and governance in China
iii. Analyse growth performance of China
iv. Examine China's approach to foreign relations and diplomacy
v. Trace the emerging market and the rise of China as a global power

Small Business Management

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

i. Understand the types, role and environment of small business
ii. Identify business ideas and preparation of a project report
iii. Analyse marketing aspects of small business enterprises
iv. Examine the problems of small business and preparing SWOT analysis
v. Develop managerial skills in managing growth and transition of small enterprises

Environmental Economics

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

i. Model environment as public good
ii. Analyse and triangulating population– development-environment
iii. Undertake environmental impact analysis on development
iv. Address environmental issues in a sustainable development framework
v. Evaluate environmental policies, programmes and strategies towards Green
vi. development

Financial markets And Services in India

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

i. Understand the functioning of financial system in relation to primary and secondary cash /equity market
ii. Expose stock market and mutual funds and participating in imaginary stock market trading
iii. Apprise the role and functions of depositing system and regulating body

iv. Identify innovations in financial services
v. Design the role of securitization of debt and credit rating.

Advanced Econometrics

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

i. Apply lagged distribution models in exploring economic relations
ii. Enable to use dummy as binary variable in assessing policy shocks
iii. Estimate the ILS, 2SLS and Equivalence between ILS and 2 SLS
iv. Acquire the skill of exploring data generating process
v. Explore possible long-term equilibrium relationships between economic variable if any

Actuarial Economics

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

i. Enable to differentiate benefits of annuity contracts
ii. Develop marketable premiums and appropriate annuities
iii. Predict possible survival chances of human life in chaotic world
iv. Build up rational expectation models for all contract types
v. Factor heterogeneity in life insurance contracts for risk management

Computer Applications in Social Sciences

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

i. Understand the working of windows
ii. Acquire skill of applying in economic analysis
iii. Prepare analytical reports using Ms-word
iv. Use SPSS package in economic research
v. Make use of internet as an knowledge powerhouse for social engineering

Special Area Study

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

i. Develop the skill of identifying issues of social relevance and national importance
ii. Review critically the existing body of knowledge to identify the issues requiring to be probing
iii. Acquire the skill of identifying research gap to formulate workable hypothesis
iv. Formulate appropriate research design suited for the problem under study
v. Prepare a term paper to be used as a ready reckoner

International Economics

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

i. Internalize theoretical considerations in international trade
ii. Enable to bring forth challenges of internationalization of goods and services trading
iii. Assess the role of international organizations in evolving direction and volumes of trade
iv. Acquire the skills of documenting trade related instruments as well as resolving international trade disputes
v. Develop a feasible export –import projects for financial support

Indian Economy

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

i. Explore resource use, demographic dividend, infra development and growth trends
ii. Understand impact of technological changes in agriculture on doubling farmers income and access to institutional support
iii. Examine growth performance of industrial sector in view of industrial policies and programmes
iv. Analyse service led growth, trade performance and balance of payments
v. Evaluate economic reforms in relation to planning strategies

Development Economics

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

i. Comprehend conceptual and measurement issues in growth vis-à-vis development
ii. Understand salient features of developing economies and obstacles to development
iii. Acquire the skill of assessing the development process in light of competing theories
iv. Examine pace and pattern of growth performance in view of growth models
v. Analyse mobilization of resources, choice of techniques and appropriate investment criterion

Gender Economics

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

i. Motivate to familiarize students with the key theoretical concepts,
ii. Impart knowledge on theoretical approaches and views related to the role of women in the achievement of development.
iii. Familiarize contribution in gender in development
iv. Analyse the role of gender in social sector
v. Enrich the knowledge on f Feminization of poverty

Project

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

i. Carry out independently research project on a topic identified in the special area study
ii. Design theoretical frame work for the research project
iii. Validate data sources to arrive at data reliable for study
iv. Apply relevant statistical tools in testing hypothesis
v. Interpret the empirical results of the study in light of theoretical consideration

Department of Social Work

Course Outcomes – M S W

Introduction to Social Work Profession

At the end of the course the students will be able to:

i. Describe the social work concepts, philosophy, scope and Principles.
ii. Extend and implement the skills and traits of social worker in the contemporary society
iii. Recognize and execute the methods of social work in different settings
iv. Prepare them to associate in various fields of social work
v. outline social movements and reformations in transforming the society

Sociology for Social Work Practice

At the end of the course the students will be able to:

i. Describe the nature, meaning, characteristics and concepts of the society.
ii. interpret the social process, institutions their types and functions
iii. carryout the concept of culture and discover the effects of social stratification and social control.
iv. to assess the sociological theories and connect with social work practice
v. integrate the concept of social problem, social disorganization and social change for social work practice

Psychology for Social Work

At the end of the course the students will be able to:

i. Understand and develop the utility of psychology relevant to social work.
ii. Relate the historical development of psychology to contemporary social needs.
iii. Observe and correlate the physical, emotional and intellectual development of human being at different stages of life.

iv. Identify and Classify physiological and psychological aspects related to human behaviours.
v. Illustrate and interpret the effectiveness of learning and the characteristics of personality.

Social Case Work Practice

At the end of the course the students will be able to:

i. Understand and recognize the fundamentals of social case work and its principles.
ii. Practice the social case work process and interventions.
iii. Associate social case work approaches to solve problems among individuals.
iv. Practice the application of social case work in different settings.
v. Analyse and connect social case work practice with contemporary societal development.

Life Skill Competencies and Field Visits

At the end of the course the students will be able to:

i. Realize and demonstrate the positive self in life situations.
ii. Identify and exhibit thinking, social and negotiating skills.
iii. Comprehend and express the individual skills in the field work settings.
iv. Relate and learn the scope of social work and its methods through observation visits to various field work settings.
v. Equip with documentation skills to prepare field work reports individually.

Social Group Work Process

At the end of the course the students will be able to:

i. Infer and apply the fundamentals of social group work.
ii. Extend the theoretical framework of Group work for knowledge apprehension.
iii. Relate the Group work process and comprehend it to different settings
iv. Apply the Group work techniques individually to facilitate the group work process effectively.
v. Integrate the application of group work in various settings.

Community Organisation and Social Action

After completing this course, the students will be able to:

i. Understand the community organization and its history
ii. Execute the process and models of community organization in the fields of social work
iii. Analyse and apply the appropriate methods of community organization
iv. Equip and practice the skills required for community organization
v. Demonstrate the social action to solve the social problems

Social Welfare Administration and Policy

At the end of the course the students will be able to:

i. Infer and demonstrate the concepts of social administration and social development.
ii. Interpret the framework related to social administration
iii. Describe the structures and statutes associated with social welfare.
iv. Categorize the structures and statutes associated with social welfare and administration in various domains.
v. Influence the social policy through organized effort for social change.

Social Research and Statistics

At the end of the course the students will be able to:

i. Recognize the relevance of social research and its type in addressing the social problems.
ii. Independently formulate the research problems and appropriate research methodology to pursue the research.
iii. Use the required tool to collect the data from the sample.
iv. Apply independently the statistical tools including SPSS for data analysis.
v. Express the relevance of qualitative research and its methods as alternatives.

Preparatory Field Work – Block Placement

At the end of the course the students will be able to:

i. Gains Direct Field Experience.
ii. Apply the Social Work Methods through Field Work experiences in their Placements.
iii. Develop and utilize the latest Professional Skills in the required setting.
iv. Construct community Social Case work, Group Work and Organization Programmes.
v. Compile Field Work Experiences through Field Work Report.

Human Rights Perspectives for Development

At the end of the course the students will be able to:

i. Identify and outline the human rights perspectives for social justice and social development.
ii. Classify and recognize the aspects of constitutional framework in India.
iii. Practice the social legislations as the instrument for social change.
iv. Employ the appropriate legislations to address the issues related to children, women and family.
v. Advocate and lobby with stakeholders regarding social legislations related to SC/ST, Persons with Disability and consumers.

Disaster Management

At the end of the course the students will be able to:

i. Identify and classify the types of disasters and models of disaster management.
ii. Apply and prepare programs related to disaster prevention and preparedness.
iii. Determine and diagnose the disaster response activity, recovery plan and rehabilitation.
iv. Evaluate the impact of disaster on various determinants.
v. Identify and apply the relevant technologies during disaster cycles.

Introduction to Health and Health Care Systems

At the end of the course the students will be able to:

i. identify and infer the various indicators and determinants of health.
ii. distinguish and sensitize the disease and its types.
iii. discover the psycho social factors influencing health.
iv. associate and interpret the structures and functions of health care delivery systems
v. connect and extend the knowledge on public health in the global context

Fundamentals of Mental Health

At the end of the course the students will be able to:

i. Classify mental health types and its models.
ii. distinguish the mental disorders and its types.
iii. Appraise the impact of mental disorders.
iv. Interpret the cultural belief and treatment associated with mental health.
v. Demonstrate community mental health programmes independently.

Disability Management

At the end of the course the students will be able to:

i. Classify the types of disabilities and identify strategies to remove social stigma associated with disability.
ii. Connect the models of disability and its discourses.
iii. Point out and prioritize the problems of Persons with Disability.
iv. Organize disability rehabilitation programmes.
v. Apply the social work methods and intervention strategies in addressing the disability.

Block Placement for Medical & Psychiatric Social Work I -field Work

At the end of the course the students will be able to:

i. Understand and apply the methods of social work practices in Health sectors.

ii. Familiarize and utilize the documentation skills, psycho social methods & therapies for wellbeing.
iii. Relate the structure and functions of Hospital Administration.
iv. Practice the models of rehabilitation and Develop insights on Medico legal challenges in health sector.
v. Equip and exhibit necessary skills and competencies relevant to Medical and Psychiatric settings.

Rural Development in India

After completing this course, the students will be able to:

i. Cognize the rural economy and problems of rural India
ii. Analyse and apply the approaches of rural development
iii. Evaluate and practice the rural development policies and programmes for rural development
iv. Demonstrate rural development through Panchayati raj system
v. Equip himself/ herself and employ in the Rural Development Administration and Financial Institutions working for rural development.

Livelihood and Social Enterprises

At the end of the course the students will be able to:

i. Associate the concepts of livelihood, its approach and promotion.
ii. Apply and choose livelihood for upliftment of community/society.
iii. Sketch out the plans and execute social entrepreneurship activity and CSRs.
iv. Connect the skills, quality and traits of social entrepreneurship to bring a positive societal change.
v. Appraise and compare the case studies to gain appropriate livelihood promotion Activities

Introduction to NGO Management

At the end of the course the students will be able to:

i. Associate and infer civil society, voluntary organization and NGO interface.
ii. Demonstrate independently the legal framework of voluntary organizations.
iii. Create and manage the NGO and its structure, process through management skills.
iv. Assess the methods or ways to mobilize the resources independently.
v. Create, appraise and evaluate developmental projects in NGOs.

Block Placement for Development Management I- Field Work

At the end of the course the students will be able to:

i. Understand and apply the methods of social work practices in rural community settings.

ii. Familiarize and apply the NGO management techniques and its implications in voluntary sector.
iii. Relate the structure and functions of NGOs and NGDOs.
iv. Equip necessary project management skills and competencies to execute the projects in NGO sector.
v. Develop insight and practice social justice through civil society for further nation building.

Human Resource Management - I

At the end of the course the students will be able to:

i. to interpret and translate the principles and approaches of management
ii. Describe and associate the importance of human resources and their effective management in organizations
iii. Demonstrate and apply the process of HR in his/her work place.
iv. Appraise and audit the performance of the employees at his/her work place.
v. Analyse and equip to survive as a HR personnel in the global context.

Industrial Relations and Labour Legislations In India

At the end of the course the students will be able to:

i. Understand and demonstrate the essential practices, forms and functions of industrial relations and labour welfare in India.
ii. Classify and ensure implementation of the appropriate legislations related to work and safety in Indian industries.
iii. Implement appropriately the legislations related to social security and wages in Indian industries.
iv. Execute and maintain industrial relations through legislations.
v. Analyse core issues, policies and practices surrounding employee conflict and disputes.

Organizational Behaviour

At the end of the course the students will be able to:

i. Express and associate the concept of Organizational Behaviour (OB) in contemporary organization.
ii. Identify and predict the human behaviours at work place.
iii. Understand and review the organizational dynamics.
iv. Carryout the concepts and styles related to management like TQM, TPM, 5S, Kaizen, Six sigma etc
v. Recognize the meaning and characteristics of organizational culture.

Block Placement for Human Resource Management I- Field Work

At the end of the course the students will be able to:

i. Understand and apply the methods of social work practices in industrial settings.
ii. Familiarize and apply the HR process and its implications in the organizational sector.
iii. Relate the structure and functions of HR department in the organization.
iv. Equip necessary HR skills and competencies to execute the job in the organization.
v. Develop insight and practice the value addition by the HR department to further the business goals of the company

Project

At the end of the course the students will be able to:

i. Identify and Formulate the Research Problems independently.
ii. Execute appropriate Research Methods and Designs for the research Process.
iii. Employ appropriate data collection tools and sampling techniques
iv. Organize the Data and produce results using appropriate data analysis tools.
v. Draft the research thesis independently.

Development Communication for Social Advocacy

At the end of the course the students will be able to:

i. Explain and associate the significance of mass communication and mass media in the society.
ii. Classify and recognize the genres, nuances of mass media and its impact on culture.
iii. Explain the concepts of development communication and its role in societal development.
iv. Demonstrate and dramatize the community or society to create awareness and sensitization programme through alternative media.
v. Integrate, organize and plan social advocacy programs for the development of society.

Medical Social Work Interventions

At the end of the course the students will be able to:

i. Relate the practice of medical social work in different settings.
ii. Discover the implications of illness by understanding the historical context of medical social work.
iii. Realize the role of medical social worker in varies settings.
iv. Plan and formulate rehabilitation programmes.
v. Assess the ethical challenges and medico legal issues and propose alternatives.

Psychiatric Social Work Interventions

At the end of the course the students will be able to:

i. Infer concepts and scope of psychiatric social work in the field of psychiatry.
ii. Distinguish the different types of mental illness.
iii. Organize psychiatric assessments and therapies.
iv. Relate the role and functions of psychiatric social work in families, clinics, homes etc.
v. Prepare psychiatric emergencies and rehabilitation programmes through health care agencies.

Hospital Administration

At the end of the course the students will be able to:

i. Relate the functions and services of hospitals and its administration.
ii. Identify and classify the types and Roles of Hospitals.
iii. Utilise the Support of auxiliary services for better Hospital Administration.
iv. Demonstrate the HR process using HR and Management Skills.
v. Interpret appropriate policies and Programmes related to Health in India.

Block Placement For Medical And Psychiatric Social Work II - Field Work

At the end of the course the students will be able to:

i. Understand and apply the methods of social work practices in Health sectors.
ii. Familiarize and utilize the documentation skills such as Genogram, Mental State Examination (MSE), case reports, verbatim, psycho social methods & therapies for wellbeing.
iii. Relate the structure and functions of Hospital Administration.
iv. Practice the models of rehabilitation and Develop insights on Medico legal challenges in health sector.
v. Equip and exhibit necessary skills and competencies relevant to Medical and Psychiatric settings.

Social Exclusion and Inclusion In India

At the end of the course the students will be able to:

i. Interpret and Construct the meaning and reality of Social Exclusion.
ii. To distinguish and identify the caste and class structure in India .
iii. Infer and relate marginalization discourse in India.
iv. Indicate the Various constitutional Obligations related to SC & ST.
v. Appraise the Social Movements relating to marginalized groups through case studies.

Urban Community Development In India

After completing this course, the students will be able to:

i. Cognize the process and trends of urbanization and urbanism.
ii. Analyse and propose solutions to the urban problems
iii. Advocate with urban development agencies to promote urban community development
iv. Apply the urban development policies for the betterment of slum dwellers and urban community development
v. Take initiatives for urban development through people's participation.

Ecological Perspectives and Social Work Intervention

At the end of the course the students will be able to:

i. Associate the issues related to ecology and environment and to recommend solutions.
ii. Analyse the Contemporary National and International Environmental Concerns.
iii. Infer and Relate the Contributions of Environmental Movements In India & Global Scenario.
iv. To Demonstrate and Safeguard Environmental Preservation, Management and Legislations.
v. To Identify and Extend the Roles and Responsibility of Social Work in Environmental Protections.

Block Placement for Development Management Ii– Field Work

At the end of the course the students will be able to:

i. Understand and apply the methods of social work practices in rural community settings.
ii. Familiarize and apply the NGO management techniques and its implications in voluntary sector.
iii. Relate the structure and functions of NGOs and NGDOs.
iv. Equip necessary project management skills and competencies to execute the projects in NGO sector.
v. Develop insight and practice social justice through civil society for further nation building.

Human Resource Management - II

At the end of the course the students will be able to:

i. Interpret and locate the scope and significance of HRD in Indian Industries
ii. Choose and apply the appropriate training methods based on the needs of the industry
iii. Construct a conducive working climate for Employee Development
iv. Demonstrate the various HRD approaches and activities for employee development.

v. Create an enabling work culture for organization effectiveness through HRD programmes

Organization Change & Development

At the end of the course the students will be able to:

i. Explain and classify the concept and types of Organization change
ii. Extend the different models of change in an organization.
iii. Discover and relate the scope and significance of OD in organizations.
iv. Sketch out the appropriate techniques for OD
v. Demonstrate the application of OD in various sectors.

Employee Compensation and Administration

At the end of the course the students will be able to:

i. recall and illustrate the concept and significance of employee compensation
ii. effectively demonstrate the wage administration in industry
iii. explain and design appropriate mechanisms for wage fixation
iv. categorize and create wage incentives scheme for industry
v. connect the wage and salary policy for better employee compensation

Block Placement for Human Resource Management II – Field Work

At the end of the course the students will be able to:

i. Understand and apply the methods of social work practices in industrial settings.
ii. Familiarize and apply the HR process and its implications in the organizational sector.
iii. Relate the structure and functions of HR department in the organization.
iv. Equip necessary HR skills and competencies to execute the job in the organization.
v. Develop insight and practice the value addition by the HR department to further the business goals of the company.

Department of Botany

Course Outcomes – M. Sc Botany

Plant Diversity

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

i. understand and realize the paleontological history of the living earth by way of studying the evolution of green plants, classification and characterization of major plant groups.
ii. comprehend the General features, classifications, biology and distribution and evolution of different algal farms with their ecology and ecological importance with their counterpart lichens.

iii. connect the link between algae with their terrestrial counterpart bryophytes through studying the features, ecology and variations of gametophytes and sporophytes and their evolutionary significance
iv. correlate the link between non vascular plants and vascular plants through analysing the features, distribution and the significance of stele and seeds in land plants and also through the knowledge of various Indian pteridologists.
v. comprehend the importance of seed plants in terrestrial habitat while learning the origin, general features and evolution of seed plants which will pave way to understand the origin of angiosperms.

Principles of Microbiology

At the end of the Semester, the Students will be able to

i. knowledge about Microbiology starting from history and basic knowledge about the microorganisms. Understand microbial diversity, ultra-structure of eukaryotic and prokaryotic cells. Assess the characters and classification of microbes through modern approach. knowledge about Microbiology starting from history and basic knowledge about the micro organisms
ii. know the techniques of microscopy, quantitative measurement of bacterial growth sterilization and disinfection, methods of isolation, and get sufficient knowledge in measurement of bacterial growth and basic pure culture techniques, maintenance and preservation of cultures.
iii. recognize the biology of bacteria and viruses, energy production, classification and reproduction. sufficient knowledge in biology of bacteria and viruses. relationship between food and microbes, techniques used in food processing. Enable the student to get sufficient knowledge in relationship between food and microbes, techniques used in food processing.
iv. sound knowledge on the air, soil and aquatic microflora, role of microbes in organic matter decomposition and bioremediation. Understand solid waste management and waste water treatment.
v. inculcate knowledge in role of microorganisms in eco system and impact created by microbes in agricultural development. gain experience in different aspects used in industrial microbiology. Understand food processing, nutrition, & food processing technology. And also, study methods of refrigeration, material handling and food preservation

Plant Diversity & Microbiology Lab

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

i. explore the variations in the organization of internal and external morphology and the interrelationship observed among the non flowering plants right from the unicellular to multicellular organisms in the light of evolution.
ii. perform the basic microbial culture techniques, standard methods of microbial load

analysis in environmental samples, staining techniques and growth studies. Can demonstrate experiments and for antagonistic studies to screen chemicals and microbes to be used in microbial control strategies.

Plant Cell Chemistry

At the end of the semester, students will be able to

i. look at cells as a composite organic entity made of simple atoms and molecules that can congramulate to form supra molecular complexes and macro molecules that can provide a basis for functioning of life.
ii. comprehend plant cells as a finely Owen network of continuous and discreet membranous pockets to enable a cell to live as a fundamental and structural entity.
iii. understand the basic framework of cells contributed by homo and hetero polymers of carbohydrates, amino acids and proteins that provides for the organization of the cell wall, plasma membrane, cytoskeleton and cytocavitory network.
iv. unravel the structural and functional intricacies of nucleic acids and proteins whose sequence information's prove vital to store the genetic scripts that control and regulate the expressions of hereditary traits.
v. comprehend cell as a thermodynamically competent and energy sufficient component of the plant system which by its various carbon breakdown pathways and electron transfer reactions meet out the energy requirements.

Biochemistry Lab

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

i. perform qualitative tests for all major macro molecules and file a report of chemical profile of a plant cell.
ii. extract biomolecules of diverse nature from different sources that they will be able to assess the metabolic profile of their source material

Campus Ecology

At the end of the Semester, the Students will be able to

i. know about the ancient history and establishment of the campus which is an important heritage marvel and the origin and history of the satellite campus and their immediate beneficiaries.
ii. understand the biodiversity abode in the campus especially the flora and fauna with their seasonal variations and the abundant exotic plants and weeds including the horticultural varieties and appreciate the reasons behind it.
iii. realize the ecoclimatic conditions prevailing in the campus which is responsible for the serenity of the campus, and efforts taken by the administration related to maintain the ecological harmony of the campus especially during the water crisis and conservation.
iv. comprehend the reason behind the cleanliness of the campus by way of solid waste

disposal and also to ensure the serene atmosphere related to air, water and environment following ecological ethics.

v. conduct anywhere the quantitative experiments such as the tree cover using – quadrat analysis, tree identification, bird watching and aerobiology on their own.

Plant Based Enterprises

At the end of the Semester, the Students will be able to

i. identify trade opportunities and funding agency, build business plan, acquire talent and awareness on food certification
ii. Categorize food and practice the preparation of commercial products, cultivate and trade of medicinal plants.
iii. Use biotechnological approach to produce processed food, know the strategies to develop bakery industry.
iv. List the types of biofertilizers, learn the process of composting and design backyard composting.
v. Distinguish between edible and poisonous mushroom, develop cultivation method evaluate the economics of marketing –practice the mushroom recipe preparation.

Plant Systematics

At the end of the Semester, the Students will be able to

i. comprehend the different flavours of evolution from the origin of species and its development in to a complex structure in its natural habitat and the ever changing physiognomy of the habitat based on their geological position with special reference to the diversity of Southern India and its conservation
ii. tread and appreciate the glimpses of botanical history right from the layman's classification to the phylogenetic classification through ages
iii. do research and also gets hands on training in herbarium taxonomy through the process of preserving the plant specimens for herbarium which is a biological tool and store house of plants for taxonomical research.
iv. understand the principles, articles and recommendations of International Code of Nomenclature and apply the rules and regulations formulated by the botanical congress while naming the plant species.
v. examine the recent developments in the field of plant systematics and reflect upon the eLearning programs related to net based applications which will make the students amused towards the subject.

Plant Physiology

At the end of the Semester, the Students will be able to

i. to locate water as a resource and analyse the movement of water and other substances across membranes which gets integrated with cellular chemistry and functions that the

soil water-plant –atmospheric continuum provides the vibrancy needed for plants despite its sedentary habit.

ii. discover photosynthesis as a mandatory mechanism to input energy into the living world and analyse the ultra structural and biochemical variations of the photosynthetic machinery among plants and estimate the photosynthetic productivity at specific types of ecosystems

iii. understand the inside story of molecular physiology of mineral nutrient acquisition, transport and utilization involving a select list of elements with which the land plant is able to show case the dynamism of life with only a fewer macromolecules and specific secondary chemicals.

iv. analyze the energy utilization pathways of photosynthetic products harnessing energy into ATP through a proton circuit mechanism and electrophysiology of membranes that the life forms are thermodynamically equipped to be self sufficient structures at normal and stressed conditions.

v. Correlate how plants respond to environmental conditions that limits the distribution of plants and understand the challenges encountered by plants to defend themselves from these stresses.

Plant Systematics & Physiology

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

i. comprehend and analyze the salient features of different families in the world of flowering plants through hands on experience and field trips to different botanically rich areas from the sea shore to the altitude sholas which will ensure further conservation of green plants locally and globally.

ii. Critically evaluate the primary metabolic activities of plant and get hands on experiences and training on instrumental skills.

Mycology and Pathology

At the end of the Semester, the Students will be able to

i. comprehend the milestones in field of Plant pathology, diagnostic methods and pattern of disease development.

ii. recognize characteristic features, classification and commercial importance of fungi and their interactions.

iii. interpret the stages in disease development and various defense mechanisms in plants and suggest suitable combat measures.

iv. identify the incidence and symptoms of disease caused by: fungi, bacteria, virus, mycoplasma, nematodes and angiosperm parasites to closely monitor and control the spread of pathogens.

v. apply knowledge on epidemiology and disease forecasting tools and disease management strategies to minimize the crop loss thereby increasing productivity.

Trends in Agriculture

At the end of the Semester, the Students will be able to

i. appreciate and get amazed in listening to the various civilization of the yesteryears along the riverbanks, primitive agricultural practices along the Ganges delta and in Southern India especially the agricultural details in Sangam literature.
ii. comprehend the traditional agricultural practices in India which includes the irrigation system and methods and the crop and land use patterns practiced by the early agriculturalists in India. .
iii. recognize and realize the cropping pattern which is mainly based on the soil and climatic conditions in Southern India and its conservation
iv. evaluate the history of agriculture with special reference to famines and also the governing policies for the construction of dams and application of fertilizers and development of gene and seed banks for the betterment of mankind
v. understand and develop the modern agricultural practices in order to save water and also to promote waterless agriculture, development of hybrids, and high yielding varieties.

Plants and People

At the end of the semester, the students will be able to

i. spot the major events that shaped up the modern society by taking into consideration the changes adopted in terms of vocation life styles.
ii. get a glimpse of major religions and faith component of India with a special mention about the significance of plants in each system.
iii. develop a wholistic appreciation of plant references made in tamil and western literature that the learner would develop a sense of tolerance and mutual respect all faiths.
iv. food as basic necessity and composite and complementary amalgamations of inputs that are geographically relevant to health, culture and practices.
v. accept and adopt the Indian and indigenous systems of medicines (AYUSH) as a viable better alternative to allopathic practices.

Morphogenesis

At the end of the semester, students will be able to

i. understand plant as a composite life form made of genetically identical and functionally different distinctive cells and cell types derived from a simple process of cell division which through a coordinated design is able to provide attributes to an autotrophic mode of life.
ii. comprehend shoot apical meristem (SAM) as a transient entity derived from zygote which with its developmental potential is able to sensitively respond to the cues of space and time to offer a regulated contribution to plant development in consonance with environmental stimuli
iii. gain insights on the dynamics of growth, mechanics of cell expansion, cytoskeletal

controls, vacuolization, cell maturation and cytodifferentiation with an intent of suitably tinkering these microporocesses of development with a utility value

iv. resolve the most fascinating process of flower development in plants with a modularized approach of analysing floral induction, development of the various floral organs and anthesis the processes of post pollination-fertilization changes can be suitably intervened and interceded to suit market interest

v. get reinforced with the biophysical principles in understanding the growth dynamics that on elucidation of pattern formation students will be carrying out practical and applied experiments in plant morphogenesis.

Genetics and Molecular Biology

At the end of the semester, students will be able to

i. gain a comprehensive exposure on the foundations and application of classical genetics that they would realize the implications of their study with live examples

ii. understand the chromosomal basis of heredity and evaluate the phenotypic expressions of the autosomes and sex chromosomes with real time case studies that the ramifications of mutations can be understood in comparison with wild type as showcased in select organisms

iii. undisputedly affirm the DNA as the genetic material in life forms and elucidate its functions and replication to the extent that the centrality and the significance of this form polynucleotide in the study of molecular biology is comprehended

iv. elucidate the molecular frame work of the process of transcription and translation that a reference is created for understanding the controls of selective and sequential expression of genes

v. infer from the host of agronomically significant case studies that the value of organelle genome and advantages of classical and contemporary techniques hired by plant breeders is studied and evaluated

Genetics & Molecular biology and Morphogenesis lab.

At the end of the semester, students will be able to

i. test and verify the basic laws of inheritance as proposed by mendalian and post mendalian era and entrain themselves to handle experiments in molecular biology that they would be inspired to take up advanced studies in gene manipulation

ii. to gain a comprehensive understanding on the organization of plant structure that they will draw insights to effectively manipulate them for commercial gains

Environment and Bioresource Management

At the end of the semester, students will be able to

i. Understand the elements of nature governing life, categorize the ecosystem, analyse the interaction among living organism

ii. assess the effects of disasters, remind of the episodes of natural and man-made disasters, develop strategies to tackle the situation during disasters.
iii. know the resources available in land, water and air, utilize the bioresources sustainably, assess the microbial products, produce animal food product.
iv. plan for his land, manage water and wildlife, render ecoservices, restore the environment, create integrated crop management system
v. differentiate in-situ and ex-situ conservation, identify ecosensitive zone and heritage sites, create community reserves

Analytical and Research Methodology

At the end of the semester, students will be able to

i. experiment using pH meter& centrifuge, know how to separate biomolecules and differentiate the various chromatography, construct the electrophoresis technique
ii. Use spectrophotometers, gain knowledge on advance techniques such as NMR & ESR, apply isotopes in various fields.
iii. Document the availability of plants in an area, monitor the weather condition prevailing in a locality, assess the topography, examine the characteristics of water.
iv. Effectively perform sampling techniques, retrieve data from web source-calculate using statistical formula and tabulate data's using computers, test the validation
v. review various types of research publication, develop their knowledge in writing thesis, summarize his work.

Biotechnology

At the end of the Semester, the students will be able to

i. understand the theoretical approach to gene manipulation through enzymological study and vector mediated approaches that experiments on genetic manipulations can be pursed further
ii. Learn various wet lab molecular biological techniques and access the online bioinformatics tools and software to the extent that the in-silico resources are effectively tapped
iii. Acquire knowledge on in-vitro cultivation techniques to develop protocols targeted towards commercialization
iv. Appreciate the value of the traditional germplasm and get themselves trained in conserving and improving the crop variety to suit market interest and global legal policies
v. develop entrepreneurial skills by acquiring knowledge on lab and mass cultivation of beneficial microbes to suffice the demand of marketable product

Biotechnology and Tissue Culture (Lab)

At the end of the Semester, the students will be able to

i. perform experiments using DNA technology and skills acquired on fermentation

methodology that they shall be able to make produce suiting industrial and community demands

ii. equip themselves to develop procedures and protocols to find employment opportunities in tissue culture industries and /or initiate project of entrepreneur dimensions

Nanobiology

At the end of the semester, students will be able to

i. trace the timeline of events in this new discipline, look at nature for drawing inspirations from the idea spontaneous self assembly to salvage pathways to locate plenty of room available at the bottom
ii. arrive at the classification of nano materials and finds ways and means of using them for novel applications in various spheres of research and utility
iii. evaluate the different types of synthesis of nano molecules and find the scope for developing innovative technology and products that their utility is consciously and continuously explored
iv. assess the feasibility of using this technology in dealing with issues pertaining to health and environment
v. discuss in detail the prospects and perils of hiring nanotechnology in the context of assessing ethical, legal, social implications cropping up in the liberalization, privatization & globalization (LPG) scenario

Systems Biology

At the end of the semester, students will be able to

i. comprehend the complexity of processes in the biological system and construe the interactions from a holistic view harping on the theories over which this emerging discipline is built.
ii. understand the nuances of systems approach in biology in the aftermath of post genomic era, and employ high throughput techniques to collect and analyse biological data with a focus on its future perspectives.
iii. demonstrate the structure and dynamics of biological network and their interactions at various levels encompassing gene regulatory, biochemical and signal transduction network and apply the knowledge to analyse disorders in the system.
iv. apply system based modelling approaches in biology (microbial, plant based and ecological models) as template to collect and analyse perturbations to test hypothesis and draw holistic inferences.
v. evaluate the plant databases and software packages used in systems biology to secure desired details that innovations can be made in contemporary collaborative research

Project

At the end of the semester, students will be able to

i. make fair and unbiased judgment with data that they generate and draw meaningful

inferences to contribute first hand information to the existing body of knowledge

ii. eventually emerge as an independent researcher who can make correct judgments for recommending policies for pursuing innovation

Algae and Marine Resource Management

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

i. locate and collect algae from various types of habitats and scientifically identify them,
ii. cultivate (indoor and outdoor) and select and important commercial algae,
iii. utilize algae as inputs for industrial and farm applications,
iv. recognize and realize the potential of biotechnological approaches, and
v. find solutions by using algae in dealing with energy, environment and food crisis.

Plant Hybrid Technology

At the end of the semester, students will be able to

i. acquire basic knowledge of plant breeding from the age before and after Mendelian era.
ii. analyse various methods in breeding to produce hybrid varieties.
iii. impart knowledge about the techniques of plant breeding to improve crop varieties.
iv. apply the knowledge of various breeding techniques to develop mass cultivation and commercial exploitation.
v. know the importance of various research centers located in Tamilnadu and its research activities.

Nursery and landscaping

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

i. create projects and business ventures with techniques related to Nursery development,
ii. modify contours and given or assigned area of land with various biotic and abiotic components into an serene and aesthetically appealing stands of decorative value
iii. Utilize and interpret their knowledge and rote memory into practical knowledge to become an entrepreneur,
iv. analyze the technical issues in constructing gardens and lawns evaluating costs, assets and liabilities, and
v. encourage learners to turn self-employed or emerge as job providers catering to the community needs

Epidemiology and molecular diagnostics

At the end of the semester students will be able to:

i. acquire the basic principles and methods of epidemiology,
ii. demonstrate skills needed to collect data and critically evaluate the information,
iii. forecast the disease outbreak in advance and communicate the results to public health professionals and public.

iv. design effective methods for screening of disease in the population
v. choose and validate appropriate molecular diagnostic techniques

Department of Chemistry

Course Outcomes – M. Sc Chemistry

Organic Chemistry – I

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

i. Identify the aromaticity of the molecules and apply basic concepts like inductive and resonance effect to analyse the quantitative relationship between structure and reactivity.
ii. Classify the intermediates and identify them in the various rearrangement's reactions giving mechanism pertaining to them.
iii. Distinguish and analyse mechanisms involved in aliphatic substitution and elimination reactions.
iv. Write mechanisms in aromatic nucleophilic and electrophilic substitution reactions and examine the synthetic routes for organic transformations.
v. Calculate the λmax for the various organic compounds and also able to interpret IR data.

Inorganic Chemistry-I

After completion of this course the students will be able to

i. Explain the atomic properties and relate acid base strengths
ii. Relate radius ratio rule with structure and ascertain lattice stability & defects
iii. Illustrate covalent and metallic bonding and compare the electrical properties in solids
iv. Analyse crystal structure and explain solid state reactions
v. Discuss the aspects of nuclear chemistry

Physical Chemistry-I

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

i. Illustrate the various concepts involved in quantum mechanics and determine the solution for each system.
ii. Apply quantum mechanical approach to concepts that govern atomic structure.
iii. Assess optical properties, vibrational properties and symmetry operations molecules using group theory.
iv. Explain and compare the bonding concepts of chemical systems using quantum and symmetry concepts.
v. Evaluate the distribution, motion and energy of gases.

Chemistry and Health

At the end of course, the students should be able to

i. To identify the importance of food in health
ii. To correlate the role of various types of chemical constituents in maintenance of health
iii. To analyse bio chemical specimens of body by using different diagnostic tools.
iv. To apply various medicinal sources and practices in society
v. To ascertain the various routes of administration and application of drugs.

Organic Qualitative Analysis

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

i. Predict the method for separating the binary organic mixture
ii. Apply the basic organic theoretical concepts for analysing the unknown compound
iii. Analyse the elements and functional group present in the individual components
iv. Select an appropriate derivative and acquire skills to prepare it
v. Examine the physical properties of the derivative

Physical Chemistry Lab – I

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

i. devise titration using potentiometric and conductometric methods.
ii. examine the theories involved in liquid phase adsorption
iii. ascertain the order of chemical reaction by kinetic studies
iv. assess the phase diagram of systems that forms compound
v. examine the effect of solvent using optical rotation concept

Organic Chemistry – II

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

i. Identify the elements of chirality, nomenclature, topicity in the molecules and also apply the various rules to synthesize chiral compounds.
ii. Analyse and predict the stability of various conformations and apply ORD, CD curves for identification of absolute configuration of optically active compounds.
iii. Identify the spin system present in the molecules, interpret the NMR data and predict the structure of the organic compound using proton and carbon NMR.
iv. Apply the 1D-NMR concepts to infer the 2D-NMR data and assess the mass fragmentation pattern followed in various organic compounds.
v. Identify, elucidate the structure of natural products and analyze the basic nature, preparation and reactions of heterocyclic compounds.

Inorganic Chemistry-II

After completion of this course the students will be able to

i. Differentiate transition series, relate coordination number with geometry and explain complex stability & isomerism
ii. Describe and examine the bonding in coordination compounds
iii. Infer the magnetic properties, electronic and NQR spectral data
iv. Interpret and deduce the structure of complexes using IR, NMR, MB and EPR spectra
v. Differentiate the synthetic pathways, reaction mechanism and relate their rates

Physical Chemistry-II

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

i. Ascertain the spectral lines of molecules that are active in rotational and vibrational spectroscopy
ii. Apply Raman and electronic Spectroscopy concepts for different molecules.
iii. Examine NMR active systems on the basis of quantum mechanics
iv. Apply vector diagram and pulse sequence for various 1H and 13C NMR techniques.
v. Illustrate the principle involved in ESR, NQR and Mossbauer Spectroscopy and distinguish chemical species using this spectroscopy.

Chemistry in Beauty and Health

At the end of course, the students should be able

i. To diagnose the problems and solutions for hygienic living
ii. To apply the hair care products for maintaining and beautifying the hair.
iii. To discuss the functions, problems of skin and make it have a good appeal
iv. To formulate beauty enhancers connected with colours and pigments.
v. To determine the good physique fitness.

Organic Quantitative Analysis

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

i. Estimate the quantity of organic compounds
ii. Apply the basic organic theoretical concepts for designing a scheme for synthesis of organic compounds
iii. Identify the methodology to purify the compounds
iv. Examine the formation of products with chromatography techniques
v. Develop expertise for future research

Physical Chemistry Lab – II

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

i. Explain distribution of solute in the mixture of immiscible solvents
ii. Examine viscosity of mixture of liquids
iii. Apply spectrophotometry for binary coloured liquids
iv. Deduce the various constants involved in ionic equilibrium
v. Assess three component phase diagrams

Organic Chemistry – III

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

i. Analyse the various oxidizing reagents to effect organic transformations.
ii. Use the various reducing reagents and synthesize organic compounds.
iii. Predict the product along with stereochemical nature of the reactions under photochemical conditions.
iv. Compare various rules in pericyclic reactions to predict product and their stereochemistry.
v. Identify the potential use of various organometallic reagents and apply them to synthesize Compounds

Inorganic Chemistry-III

After completion of the course the students will be able to:

i. Describe the bonding and deduce the structure & stability of sigma and pi complexes
ii. Illustrate the catalytic property of organo-metallic compound
iii. Explain and highlight the properties of f-block elements
iv. Discuss the structure and functions of metalloenzymes
v. Reason the role of metals in redox proteins, diagnosis and medicine

Physical Chemistry – III

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

i. Relate the effect of solute on thermodynamic properties of solution.
ii. Deduce the rate of chemical reactions to understand mechanism involved in reactions.
iii. Examine the changes on molecules using radiation.
iv. Determine thermodynamic properties of electrochemical cells.
v. Explain redox process at the electrode and determine the kinetics of such process.

Inorganic Qualitative Analysis

After completion of the course the students will be able to:

i. Summarise the principle of distribution of common and less common cations in

different groups

ii. Demonstrate reactions for identification of cations
iii. Develop analytical skill in the field of separation of cations from mixture.
iv. List the cations present in a mixture
v. Design methods to analyse industrial effluents, antique pieces, environmental samples etc.,

Research Methodology Lab

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

i. Assess the sources of information related to research
ii. Utilize OHP and Power point presentation
iii. Acquire the wide knowledge of instrumental analysis
iv. Perform computer assisted analysis of data
v. Apply search engine and software tools in research

Organic Chemistry – IV

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

i. Identify various synthons, synthetic equivalents and design a probable synthetic strategy in disconnection of a target molecule.
ii. Apply the concepts of retrosynthesis to identify selectivity in synthesis and assess various synthons for effective retrosynthetic approach.
iii. Elucidate the structure of steroidal molecules and analyse the structures and functions of proteins and nucleic acids.
iv. Explain the various concepts of medicinal chemistry in designing a drug.
v. Analyse the potential applications of various supramolecules and apply green chemistry to organic synthesis

Inorganic Chemistry - IV

After completion of the course the students will be able to:

i. Formulate synthetic routes and infer the structure of boron compounds
ii. Classify Si-O, P-O & P-S systems and relate the structure with properties
iii. Explain the synthesis, reactions and bonding properties of P-N and S-N heterocycles and polymers
iv. Establish the structural implications of metal clusters and describe the photochemistry of coordination compounds
v. Analyse the thermal data and evaluate the analytical data

Physical Chemistry - IV

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

i. Assess partition functions and relate them with thermodynamic functions.

ii. Compare the various statistics and their implication to different state of molecules.
iii. Examine the kinetics and catalysis of reactions in solution.
iv. Deduce the parameters involved in different types of polymerization and explainthe techniques for molecular weight determination.
v. Compare the types of sensors and the accesses physical effects involved in signal transduction.

Inorganic Quantitative Analysis

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

i. Summarize the principle of calibration and standards
ii. Perform calibration of apparatus
iii. Develop analytical skill in the field of estimation of cations in mixture
iv. Highlight the principle of methods of cation estimation
v. Design methods to analyse industrial effluents, antique pieces and environmental samples

Project

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

i. Design, conduct, analyse and interpret results of an experiment, and effectively communicate these in written reports
ii. Develop interdisciplinary solutions to a variety of chemical problems.
iii. Communicate effectively in a variety of forms.
iv. Use terminology appropriate to the field of study correctly and contextually.
v. Extend knowledge and understanding of a variety of chemical concepts in a range of contexts.

Department of Computer Applications

Course Outcomes – M C A

Mathematical Foundation for Computer Applications - 1

Upon completing the course students will be able to

i. Natural language encoded to proposition calculus and model design by relation.
ii. Real world problem describe by diagram by means of vertex and edges and analyse the properties
iii. Analyse abstract machines and automata, as well as the computational problems that can be solved using them.
iv. Find the solution for algebraic and transcendental and system of equations
v. Find the unknown values from known values

Advanced Programming in C

Upon completing the course students will be able to

i. Classify data types, operators and Functions.
ii. Build code using Pointers and Arrays.
iii. Discover the role of pointers in DMA and examine its usage in OOP.
iv. Implements Structure and Data Files.
v. Categorize BIOS functions and examines network and low level programming.

Digital Principles and Computer Organization

Upon completion of this course students will be able to:

i. Understand the need for digital system and Perform conversion, arithmetic calculations on number system
ii. Gain Knowledge to apply digital principles to create and synthesize combinatorial logic circuits and simplify problems using Boolean algebra and K map.
iii. Evaluate and design the data processing circuits and various types of flip flops
iv. Design and synthesize the sequential logic circuits
v. Acquire knowledge on memory subsystem organization and different types of memory

Operating System

Upon completing the course students will be able to

i. Understand the structure and functions of OS.
ii. Learn about processes and threads.
iii. Implementing the principles of concurrency scheduling algorithms and deadlocks.
iv. Learn and Implement the different memory management schemes.
v. Understand and Implement the different Input, Output and file management schemes.

Web Programming

Upon completing the course students will be able to

i. Recall Web Basics, history of Internet and use HTML tags, attributes and write simple web pages
ii. Apply DHTML to web pages and make it dynamic
iii. Compare XML with HTML and develop xml documents.
iv. Build interactive web pages using Java Script.
v. Define PHP commands, write programs and establish database connectivity in Mysql.

Lab 1 - C Programming

Upon completing the course students will be able to

i. Apply different types of User Defined Functions and Arrays.
ii. Summarize application software using pointers on different Data Types.
iii. Create code using Structure and Union.
iv. Solve problems using File Handling Techniques.
v. Design TSR and simple Network Programs.

Mathematical Foundation for Computer Application -II

Upon completing the course students will be able to

i. Illustrate the characterization of probability density functions
ii. Test and analyses mean and variance of small and large samples
iii. Management problems convert to L.P.P and find the optimum solution for it.
iv. Find the solution for transportation problem and Assignment problem and construct network diagram and obtain critical path and project length.
v. Identify and analyse queue model and find the different values.

Design and Analysis of Algorithm using C++

Upon completing the course students will be able to

i. Understand Object Oriented Programming and its features
ii. Advanced features of OOP
iii. Understand the concepts of data types, data structures and linear structures analyse linear data sorting
iv. Sort and Searching algorithms.
v. Greedy Method and Dynamic Programming.

Advanced Database Management Systems

Upon completion of this course students will be able to

i. Obtain basic knowledge on database, relational database, data Models and ER model.
ii. Demonstrate the DDL, DML, TCL using SQL constructs.
iii. Apply PL/SQL using Programming language constructs.
iv. Understand the Data Management concepts to organize the data.
v. Understand and Design Advanced Databases systems.

Embedded System

Upon completing the course students will be able to

i. Understanding the concepts and development of microprocessor
ii. Exploring the TASM / MASM / NASM
iii. To know Microcontroller based system design and applications
iv. Exploring advanced micro processor
v. Knowledge up gradation on recent trends in digital design for embedded systems

OOAD and UML

Upon completion of this course students will be able to

i. Understand and apply the software development life cycle concepts.
ii. Design and Analyse systems using the design principles.
iii. Understand and Design using the Object Oriented Methodology.
iv. Understand and Apply UML for visualizing, specifying, constructing, and documenting information about software – intensive systems.
v. Model the structure of the run-time system and their physical hardware elements.

Lab 2 - Computer Algorithms using C++

Upon completing the course students will be able to

i. Explain different types of User Defined Functions through OOP.
ii. Create code using Reusability Techniques.
iii. Categorize different types of Polymorphism.
iv. Solve problems using different Data Structures.
v. Implement different problem solving techniques such as Divide and Conquer, Greedy Method and Dynamic Programming.

Data Science using Python

Upon completing the course students will be able to

i. Built-in Data Types, introduces you to Python built-in data types
ii. Explain the modules and its features.
iii. Illustrate different type of analytic
iv. Ability to done testing, GUI and script
v. Describe the Data Science by analysis and visualize

Advanced Software Engineering

Upon completion of this course students will be able to

i. Define diverse software application domains with different process models used in software development.
ii. Elucidate the need for software specifications and requirements with their gathering techniques.
iii. Transform requirements model into design model and demonstrate software and UI design principles.
iv. Differentiate SCM and SQA models, classify testing strategies and tactics and evaluate them.
v. Generate project schedule and construct, design and develop network diagrams for different types of Projects

Advanced Java Programming

Upon completion of this course students will be able to

i. Develop simple java programs to demonstrate OOPs concepts.
ii. Define Web Basics and Java Servlets
iii. Explain Java Server Page features & database connectivity using JDBC
iv. Analyse Enterprise architecture
v. Create Java Applications using the features learnt.

Computer Networks

Upon completion of this course students will be able to

i. Basic Networking Concepts

ii. Fundamental Radio Propagation Waves
iii. Basic wireless networking concepts: Wifi, MAC protocols, mobile networking, 5G MILLI METER WAVES, ULTRA DENSE NETWORKS.
iv. Network function virtualization and software defined networking
v. Machine Learning Assisted Networking.

Lab -3 Java Programming

Upon completion of this course students will be able to

i. Develop simple java servlets to handle forms, session and Cookies.
ii. Construct programs using JSP, create user defined tags and bean applications
iii. Establish database connectivity and perform DDL, DML operations.
iv. Understand Enterprise architecture and create ee applications
v. Write programs using Struts.

Dot Net Programming

Upon completion of this course students will be able to

i. Define .net technology and its salient features
ii. Explain the attributes of vb.net and write programs.
iii. Perform database connectivity with vb.net and ado.net
iv. Compare the properties of C# with vb.net and C++.
v. Create simple application systems using .net.

Data Mining and Warehousing

Upon completion of this course students will be able to

i. Understand the basic functionalities and concepts of data mining and data warehousing.
ii. Analyse the need for data pre-processing and various steps involved in it.
iii. Categorize the methodologies and algorithms and be familiar with association rule mining techniques and constraint based association mining.
iv. Analyse the usages of Decision tree Algorithm, Bayesian Classification and Back Propagation techniques.
v. Understand Clustering and Outline the applications and trends in Data mining.

Soft Computing

Upon completion of this course students will be able to

i. Recall the difference between Crisp and Fuzzy sets and recognize Fuzzy Operations.
ii. Design Fuzzy Based Applications.
iii. Compare and contrast Biological and Artificial Neurons and explain the basic ANN algorithm.
iv. Assess different ANN training algorithms
v. Design Recurrent Networks and Elaborate ART architecture

Lab -4 Dot Net Programming

Upon completion of this course students will be able to

i. Recall simple programs and write programs on various concepts of VB.NET
ii. Restate VB.NET forms
iii. Apply ADO.NET on VBNET forms
iv. Illustrate OOPS concepts in C#.net
v. Design web pages in ASP.NET

Project Viva Voce

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

i. Identify the company's software technology and methodologies
ii. Develop the software projects by understanding the client requirement
iii. Evaluate and analyse the SDLC, understand software design, coding techniques and software testing principle
iv. Analyse a given problem and develop an algorithm to solve the problem
v. Implement the various programming languages like C, C++, VB. Net, Java Construct in the right way

Android programming

Upon completion of this course students will be able to

i. Describe the features of the WAP
ii. Discuss the Introduction to Android
iii. Construct the different buttons and menus
iv. Illustrate different types of layout
v. Creating different type of view

Artificial Intelligence

Upon completion of this course students will be able to

i. Formulate the AI problem using strategies
ii. To solve different problems using AI algorithm
iii. Formulate a given problem in the language/framework of different AI methods.
iv. Illustrate knowledge base system
v. Classify the expert systems

Computer Graphics

Upon completion of this course students will be able to

i. Recall display devices, Line and circle drawing algorithms
ii. Interpret 2d transformations and clipping on images
iii. Apply 3D concept on objects and surface.
iv. Analyse 3D transformation and Projection
v. Create a real life picture with fractals

Big Data Analytics

Upon completion of this course students will be able to

i. Explain the challenging nature of big data and differentiate it with existing technologies.
ii. Design strategies to collect, manage, store, query, and analyze various datasets.
iii. Develop hands-on experience on large-scale analytics tools to solve big data problems.
iv. Understand the impact of big data in business decisions and strategy designing.
v. Exhibit New skills in Big data analytics

Biometrics

Upon completion of this course students will be able to

i. Exploring the biological characteristics
ii. Individual physically and behaviourally distinctive in a number of ways
iii. Making them to understand technology uses and applications
iv. Exploring with the scientific basis of biometrics
v. Enhancing the security by combining more than one

Compiler Design

Upon completion of this course students will be able to

i. Understand the different phases of compiler.
ii. Design a lexical analyser for a sample language.
iii. Apply different parsing algorithms to develop the parsers for a given grammar.
iv. Describe syntax-directed translation and run-time environment.
v. Discuss to implement code optimization techniques and a simple code generator.

Multimedia and Applications

Upon completion of this course students will be able to

i. Recall Distributed Multimedia Systems and the components of Multimedia.
ii. Summarize the need and requirements of Continuous Multimedia Systems.
iii. Develop Audio and Video applications using Authoring Tools.
iv. Create interactive media applications using basic animation techniques in Flash.
v. Build interactive Forms using Action Script and the Objects in Flash.

Parallel computing

Upon completion of this course students will be able to

i. Exploring the parallel computing knowledge
ii. Making them to design software using suitable searching technique.
iii. Exploring Graph algorithm to speed up the processing.
iv. Students to develop program compatible to any gadgets.
v. Develop to optimize the memory usage

Department of Food Science and Nutrition

Course Outcomes – M. Sc Food Science & Nutrition

Advances in Food Science

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

i. Identify the foods with its nutritional properties and the scope in future foods.
ii. Outline the effect of emerging trends in food processing on bioactive components.
iii. Revise the properties of food especially sensory characteristics.
iv. Select appropriate method for the formulation of value added food products.
v. Evaluate the applications and strategies of food waste management.

Food Chemistry

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

i. Analyse the components present in food using various instruments
ii. Explain the Structure and properties of carbohydrates
iii. Discuss the classification and properties of aminoacid and proteins
iv. Demonstrate the chemistry various lipids and plant pigments
v. Utilize the enzymes in food industries

Applied Physiology

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

i. Compare the digestive and excretory system and infer the mechanisms of digestion and excretion in human beings.
ii. Explain the functions of circulatory system.
iii. Communicate the structure and functions of respiratory system in man.
iv. Analyse the relationship between nervous system and sense organs
v. Discuss the role of hormones and functions of human reproductive system.

Food Microbiology

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

i. Outline the importance of microorganisms and the factors responsible for their growth
ii. Discuss the spoilage and deterioration mechanisms in foods and methods to control deterioration and spoilage
iii. Identify the conditions for the growth of food borne bacterial and viral diseases
iv. Compile the conditions for prevalence of food borne and parasitic diseases.
v. Explain the beneficial role of microorganisms in fermented foods and in food processing.

Laboratory in Food Microbiology

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

i. Evaluate the physical and chemical properties of Food Pathogens.
ii. Demonstrate the microbiology of water and milk
iii. Apply methods to detect pathogens in foods.
iv. Demonstrate the isolation of specific cultures from foods.
v. Analyse the Processed and Unprocessed food

Nutrition through Life Cycle

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

i. Evaluate changes in human life span and to predict their changes needed for lifecycle.
ii. Plan a healthy food choice for physical, physiological psychological aspects in infancy.
iii. Discuss the impact of socioeconomic, cultural and psychological factors on food habits of school going children.
iv. Identify socioeconomic and cultural barriers to meet nutrient needs of adolescence and adults.
v. Determine nutrient requirements during old age.

Food Processing and Preservation

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

i. Understand pre & post-harvest technologies and its role in providing better quality produce to the consumer.
ii. Plan a processing method to increase the shelf life using Thermal and non-thermal method of processing techniques.
iii. Choose the best processing techniques to be used for a specific group of produce.
iv. Compare the novel technologies with the traditional methods in food preservation.
v. Critique the importance of fermentation and pickling process to enrich the food for diversity of flavour and nutrients and eliminate the antinutrients.

Food Analysis, Safety & Food Laws

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

i. Identify the important pathogens and spoilage microorganisms in foods and the conditions under which they will grow.
ii. Apply the national legal frameworks in an effective food control system.
iii. Utilize latest equipment's in food analysis.
iv. Explain the implementation of the general principles for food hygiene and HACCP based approaches
v. Discuss the role and significance of national and international food law that ensures the safety of the food products.

Research Methodology and Biostatistics

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

i. outline various kinds of research, objectives of doing research, research process, research designs and sampling
ii. demonstrate qualitative, quantitative and mixed methods research, as well as relevant ethical and philosophical considerations
iii. apply measurement & scaling techniques as well as the quantitative data analysis in research
iv. analyse the criteria that can be used to select an appropriate statistical test to answer a research question or hypothesis
v. discuss the link between quantitative research questions and data collection and how research questions are operationalized in educational practice

Laboratory in Food Analysis

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

i. Summarize food analysis experiments, analysing data and reporting their findings.
ii. Understand basic principles of food analytical procedures
iii. Estimate the chemical composition, structural and physical properties of native and processed food materials.
iv. Evaluate the standard experimental techniques.
v. Choose the appropriate and accurate methods for various food quality characteristics.

Drug -Nutrient Interactions

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

i. Discuss the significance of food and drug interactions in the present clinical scenario.
ii. Apply this knowledge in prescribing individualized dietary regimen for various therapeutic conditions in order to optimize drug efficacy.
iii. Analyse clinically possible interactions between drugs and nutrients in patients who are on enteral and parenteral nutrition.
iv. Explain the importance of nutritional genomics in improving health outcomes.
v. Compile knowledge of pharmacology, gene- nutrient and drug- nutrient interactions into the nutrition care process.

Food Packaging

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

i. Outline the functions of packaging along with the influence of various factors on food
ii. Compile about the different packaging materials like cans, bottles, flexible films etc.
iii. Discuss about the various methods of packaging and the equipment's used for packaging.
iv. Outline about the different metal container like tin, aluminium, physical testing of polymer packaging materials.

v. Explain about the dairy products like bakery, beverages, frozen foods etc.

Functional Foods and Nutraceuticals

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

i. To enable students, understand the relation between Functional Foods, Nutraceuticals to Food and Drugs along the regulatory aspects
ii. To introduce them to various functional food groups of plant origin
iii. To enable students, understand the functional component of animal origin
iv. Discuss the role of prebiotic and probiotics in gut health
v. Study about the herbs and flowers as a source of bio active compounds in treating certain diseases

Food Biotechnology

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

i. Apply the techniques of molecular biology, biotechnology and r-DNA for the development of food products
ii. Discuss the role of genetically modified plants and animal cells to produce desired food components
iii. Explain the role of nanomaterials for the development of food packaging
iv. Identify different types of food toxicants including xenobiotics
v. Utilize the wastes released from the food industries

Laboratory in Food Biotechnology

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

i. Understand the Isolation of DNA and Isolation of lymphocytes from whole blood for further research.
ii. Demonstrate on genetic analysis techniques.
iii. Ability to apply knowledge in determining the total antioxidant activity in biological samples.
iv. Assess knowledge of adulterants in foods.
v. Evaluate on fermentation and enzyme immobilization techniques on foods.

Clinical Nutrition and Diet Therapy

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

i. Plan and prepare standardized hospital diet for the needed patients.
ii. Select specific foods for management of disease condition.
iii. Apply nutrition principles to health promotion and the prevention of l diseases.
iv. Compare the food exchange list in the control of diseases.
v. Identify the relationship between diet and disease.

Laboratory in Clinical Nutrition and Diet Therapy

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

i. To demonstrate in the method to plan and prepare diet for various diseases.
ii. To design the principles of meal planning, diet therapy, therapeutic diets and nutrition support.
iii. To create skill development in planning therapeutic diets using food exchange lists.
iv. To evaluate the concept of food groups and exchanges for planning and preparing a balanced diet for various age groups and physiological conditions.
v. To make appropriate dietary modifications for various disease conditions based on the path physiology

Scientific Writing

Upon completion of this course the students will be able to

i. Understand and apply scientific writing skills in drafting project proposals, thesis and journal articles.
ii. critically analyse data from research and incorporate it into a concise and logical sequence with proper citation.
iii. Design Proposals for projects and grants, and prepare data collection tools
iv. Create abstracts for presentations and articles for publication

Exercise and Sports Nutrition

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

i. Explain the body's adaptation to exercise and understand the physiology of exercise.
ii. Compile the importance of nutrition and its impact on sport performance.
iii. Critique the quality of protein and its importance in athlete's diet.
iv. Outline the effect of Ergogenic aids, nutraceuticals and herbal diuretics in sports nutrition.
v. Comprehensive understanding of how hydration status effects performance and exact recommended requirement of fluid pre, during, and post-exercise.

Food Service Management

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

i. Discuss about the scope of food industries.
ii. Explain the function of management organization.
iii. Plan about the developing of kitchen plant.
iv. Compare the electrical and non-electrical equipment's for food storage.
v. Outline the sanitation of plant and safety.

Obstetrics and Neo - Natal Nutrition

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

i. Explain the biochemical and endocrine changes during pregnancy.
ii. Discuss the signs and symptoms along with complications.
iii. Outline the anatomy and physiology of foetus and the principles of diet and nutrient modifications for the growth and development of foetus
iv. Outline the importance of lactation in neo natal nutrition and awareness on the immunization schedule.
v. Compute the required RDA as per ICMR guidelines for Pregnancy, Lactation and infancy.

Nutrition in Mental Health

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

i. Discuss on food addiction and mental health problems in various age groups.
ii. Analyse the role of food in mental health.
iii. Identify the role of lipids for a healthy mind.
iv. Outline the different mental disorders and role of nutrients for prevention and management.
v. Critique the stress and its effect on mental health.

Ethnic Foods

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

i. Understand the historical perspective of nutrient requirements
ii. Explain the emerging concepts in nutrition.
iii. Critically evaluate the methodology and derivation of requirements for specific macronutrients.
iv. Apply the importance of nutrition immunity interactions and their implications.
v. Identify various measures for enhancing nutritional quality of diets

Department of Mathematics

Course Outcomes – M. Sc Mathematics

Algebra I

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

i. explain the properties of homomorphism and automorphism in the context of Cayley and Cauchy theorem.
ii. characterize different groups in the context of Sylow's theorem.

iii. identify solvable groups and demonstrate Jordan Holder theorem.
iv. compare and contrast the algebraic structures such as rings, ideals, quotient rings and integral domain.
v. determine the characteristics of rings specifically polynomial rings and illustrate Hilbert basis theorem.

Real Analysis I

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

i. discuss well-order property of the real line and its completeness.
ii. explain the generalization of the distance in real line to the metric in any set, and its ramifications in the realm of compactness, connectedness and completeness.
iii. outline the importance of sequences and series by predict the limit of sequences/series using various tests.
iv. categorize continuity with limit as a tool and the implications of continuity on compactness and connectedness.
v. demonstrate with examples and counter examples of differentiable functions and their properties.

Fuzzy Mathematics

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

i. recall the basic concept of crisp sets and develop analogous patterns in fuzzy sets using alpha cuts and decomposition theorems.
ii. characterize fuzzy complement, t-norm, t-conorm.
iii. identify and characterize fuzzy numbers and realize real number as a special case of fuzzy number, illustrate arithmetic operation on fuzzy numbers and solve fuzzy equations.
iv. compare and contrast fuzzy relations with crisp relations.
v. discuss methods for solving fuzzy relation equations and illustrate with examples.

Number Theory

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

i. recall the fundamental concepts of divisibility.
ii. discuss congruences with emphasis on congruences involving prime modulus.
iii. find the existence or non - existence of solutions to congruences, and system of congruences.
iv. analyse the quadratic residues and quadratic non residues.
v. formulate integer functions. Find integral solutions to linear Diophantine equations.

Ordinary Differential Equations

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

i. recall the basic concepts of ordinary differential equations, Solve the initial value problems for the homogeneous equations and hence evaluate its independency using Wronskian.
ii. differentiate homogeneous, non-homogeneous and homogeneous with analytic coefficients equations. Solve homogeneous equations with analytic coefficients.
iii. identify the regular singular points for both linear and second order ordinary differential equations and hence solve them.
iv. compute the Bessel's function of zero order and order α.
v. illustrate the concept of variable separation, exact equation and successive approximation and derive the Lipchitz condition.

Algebra II

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

i. construct extension fields given an irreducible polynomial over the field, characterize the basic structure of finite field and splitting field.
ii. illustrate the Fundamental Theory of Galois Theory for small extensions.
iii. represent linear transformations and quadratic forms with matrices, and describe properties of these linear transformations based on the matrix representation.
iv. determine the Eigenvalues and associated Eigenvectors of a linear transformation with relevance to Cayley Hamilton theorem and demonstrate primary decomposition theorem with examples.
v. use the Gram-Schmidt ortho-normalization process to construct an ortho-normal basis for a given inner product space and discuss the operator theory.

Real Analysis II

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

i. understand the concept of Riemann-Stilettoes integral as a limit of summation and its relevance in the context of derivative.
ii. explain the idea of sequences and series of functions. Also the ramification of uniform convergence on integration, continuity and differentiation.
iii. discuss on the importance of Stone-Weierstrass theorem as a polynomial approximation of continuous function.
iv. categorize different special functions as a consequence of series of functions.
v. demonstrate higher level multivariable real valued functions and their properties.

Graph Theory

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

i. understand and write precise mathematical definitions of objects in graph theory.

ii. understand the properties of trees and distance concept in graphs.
iii. identify Eulerian/Hamiltonian graphs, apply algorithms to construct Eulerian trails in graphs, and understand the matching concepts.
iv. enumerate properties of vertex connectivity and edge connectivity.
v. validate and critically assess the vertex colouring and edge colouring.

Combinatorics

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

i. i identify and apply the rules of sum and product in combinatorics.
ii. discuss the distributions of distinct objects, identical objects and its application in counting principle.
iii. use generating function as a tool for solving counting problems.
iv. formulate recurrence relation for counting problems and solve them using known techniques including the generating functions.
v. outline the principle of inclusion and exclusion and solve counting problems.

Partial Differential Equations

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

i. Distinguish the first order linear and nonlinear partial differential equations and solve them using Charpit's method, examine the compatibility of the first order equations.
ii. Differentiate linear partial differential equations with constant coefficients and variable coefficients and classify the equations with variable coefficients to its canonical forms and hence solve them.
iii. Solve the Laplace equation using the method of separation of variables, examine the families of equipotential surfaces and interpret the concept of boundary value problems.
iv. Apply Kelvin's inversion theorem in the relevant fields, invokes Green's functions for Laplace equation in an appropriate situation.
v. Solve one dimensional wave equation using Riemann Volterra, apply the concept of the calculus of variation in vibrating Membranes.

Programming In C

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

i. explain the importance of C, Create and execute simple C programs.
ii. develop a C program using operators and manage I/O operations.
iii. construct C program with the help of branching statements
iv. recall the syntax and use loop statements in C program

v. illustrate the uses of arrays and create C programs using arrays to compute and print the specified output.

Mathematics for Career Prospects

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

i. solve verbal reasoning problems like series completion, Alpha-Numeric puzzle and time sequence test.
ii. apply mathematical operations to find the solution to the given situation.
iii. analyse and establish the relation between the given series of figures, solve arithmetic reasoning problems.
iv. iv. relate the given statements and draw conclusions from it.
v. solve quantitative aptitude problems under data interpretation.

Astronomy through Ages

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

i. define the celestial sphere and discuss its motion.
ii. determine variations in the duration of day and night, change of latitude and longitudes, distance between two mountains and duration of twilight.
iii. illustrate equation of time, astronomical seasons and different calendars and solve problems based on conversion of time.
iv. explain sidereal and synodic month and classify the successive phases of moon.
v. demonstrate and evaluate the conditions and occurrence of lunar and solar eclipses.

Introduction to Statistical Tools

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

i. utilize different tools in SPSS package as a statistical tool.
ii. use the basic workings of SPSS, and perform data checking and create simple tables and charts.
iii. compute the correlation coefficient and do regression analysis for the given data using SPSS.
iv. utilize effectively the sampling distribution to perform t-test, F-test and 2 □ test using SPSS.
v. perform advanced analysis like ANOVA in SPSS.

Topology

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

i. Define a topological space, correlate the relation between basis and sub basis, use the basis and sub basis for creation of new topologies, extend the concept called continuity to topological spaces.

ii. Create new topologies from the known topologies. Distinguish between connectedness and path connectedness and its ramifications. Demarcate a metric space from a topological space.
iii. Familiarize himself/herself with compactness and related concepts. Learn the technique of compactification of topological spaces.
iv. Conceptualize more intrinsic and inherent properties like countability axioms, separation axioms and separability.
v. Gain knowledge on metrization of topological spaces and compactness of product spaces.

Complex Analysis

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

i. recall the definition of an analytic function and realize the fact that every power series is infinitely differentiable.
ii. demonstrate the strong relation between complex integration of an analytic function and its power series representation, and demonstrate the effective use of Cauchy theorem and integral formula in realizing analytic functions as a power series.
iii. distinguish different versions of Cauchy's theorem. And demonstrate near converse version of the Cauchy's theorem in the form of Goursat's theorem.
iv. apply integral theorems to count zeros and poles, and utilize argument principal to prove fundamental theorem of algebra.
v. identify the maximum value of analytic function in a region and estimate integrals of special forms in certain regions.

Statistics

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

i. recognize the difference between the discrete and continuous random variables.
ii. derive the distributions of two random variables and extent it to several random variables.
iii. explore some special distributions and their relevance in every walk of life.
iv. analyse the unbiasedness, consistency for different types of discrete and continuous functions. Realise the fact that the limiting case of all distributions are identical which is the normal distributions.
v. compile the theoretical build up for Sampling.

Measure Theory

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

i. understand the fundamental concepts of Lebesgue outer measure and its properties also distinguish between Borel and Lebsegue measurability.
ii. distinguish between Riemann and Lebesgue integrations and the ramifications on convergent sequence of functions

iii. analyse the four derivatives and evolve the relation between the integration and differentiation.
iv. understand and analyse an abstract measure and a measure space and integration with respect to an abstract measure.
v. understand and analyse a signed measure and evolve various decomposition theorems

Programming in C++ With Oops

At the end of this course, students will be able to

i. describe the structure and concept of object-oriented programming
ii. differentiate various 'function prototypes'. Analyse overloading concept and understand the idea of constructors and destructors, and demonstrate in programming
iii. write programs using overloading concepts in conjunction with friend function
iv. categorize between various inheritances and apply them to write programs
v. evaluate the idea of polymorphism and manage to handle files

Programming in C++ With Oops Lab

At the end of this course, students will be able to

i. execute simple programs using input/ output, conditional statements and looping statements
ii. execute simple programs using functions and function overloading.
iii. write programs using overloading concepts along with friend function.
iv. categorize between various inheritances and apply them to write programs.
v. evaluate the idea of polymorphism and manage to handle files.

Functional Analysis

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

i. Explain the concept of Normed linear spaces and the relevance of Hahn Banach theorems.
ii. Demonstrate the relevance of Open mapping theorem and closed graph theorems in the context of Normed linear spaces.
iii. Discuss the structural specialty of Inner product space as a special case of Banach spaces and its ramifications on the properties of Banach spaces.
iv. Compile the additional properties peculiar to Inner product space apart from those of the Banach space.
v. Outline the finite dimensional spectral theory

Classical Mechanics

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

i. recall the concept of mechanics of a particle and define D' Alembert's principle

ii. understand the concept of Hamilton's principle, the Euler angles and the Cayley –Klein parameters
iii. discuss on the concept of Angular momentum and kinetic energy, and apply it to derive moment of inertia.
iv. analyse equations of Canonical transformation and examine the angular momentum – Poisson bracket relation
v. apply Jacobi equation in Hamilton's principle and illustrate the Kepler problem in action.

Statistical Inference & Stochastic Processes

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

i. compute maximum likelihood estimation.
ii. enlist different measures of quality estimators, parameters for sufficient statistic.
iii. illustrate with examples of different likelihood ratio test.
iv. explain the concept of stochastic process and classify states and chains
v. apply the generalization of Poisson process and can compare and contrast the difference between Markov and Erlang process

Operations Research

At the end of this course, students will be able to

i. understand the theoretical background for Linear Programming Problem which culminates as Simplex method.
ii. solve Integer Programming Problem using Simplex method. Demonstrate that Dynamic Programming Problem is a tool for solving problems in real life.
iii. exploit the network models for finding shortest route problem and maximal flow problem.
iv. develop different Queuing models using suitable parameters.
v. solve unconstrained problems using Lagrangian multiplier techniques and Kuhn Tucker optimality conditions. Outline Nonlinear programming techniques and solve Quadratic programming problem.

Project

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

i. understand need and scope of research.
ii. compile and write dissertation based on their experiences as a researcher.
iii. use the modern gadgets and exploit the digital data for an enhanced accuracy and reliability.
iv. develop critical analysis and understanding on issues handled in the project as a mathematical model imitating the real time problem.
v. use the mathematical techniques for solving real time issues.
vi. make them sensitive to social issues and mould them as socially upright citizen.
vii. enhance their communication skill through meticulous interactions.

Department of Microbiology

Course Outcomes – M. Sc Microbiology

Principles of Microbiology

Upon completion of this course, students will be able to

i. Evaluate the basics concepts of Microbiology
ii. Compile the history of microbiology, the contribution of microbiologists, microscopy and staining of microbes
iii. Revise the methods of isolating, growing, maintaining microbes in vitro and the fine structure of microbes, phases of bacterial growth and various control measures
iv. Compare and contrast the diverse and versatile metabolism of microbes, the ways in which nutrients are carried in to the microbial cells and microbial response to stress
v. Use the different methods of classification of microbes

Lab. in Principles of Microbiology

Upon completion of this course, students will be able to

i. Apply aseptic handling techniques and sterilization methods
ii. Demonstrate pure culture isolation techniques and staining methods
iii. Utilize biochemical assays to identify extracellular enzyme production by bacteria.
iv. Analyse bacterial growth and antimicrobial susceptibility by various methods
v. Design experiments aseptically and identify bacteria and fungi by biochemical, as well as microscopic methods.

Biological Chemistry

Upon completion of this course, students will be able to

i. Explain the basic concepts of biochemistry such as chemical bonds, pH, buffer and kinetic properties of biological reactions.
ii. Analyse the biomolecular structures of carbohydrates, proteins, lipids and vitamins.
iii. Evaluate the regulation and mechanism of enzyme activity and the role of thermodynamic principles in metabolic reactions.
iv. Discuss the metabolic pathways of carbohydrates and vitamins.
v. Explain the amino acid, nucleic acid and lipid metabolism

Cell Biology

Upon completion of this course, students will be able to

i. Explain the fundamental principles of cell biology
ii. Explain the cell structure and how it relates to cell functions
iii. Identify the cell movement and how it is accomplished

iv. Outline how cells grow, divide, and die and how these important processes are regulated
v. Evaluate cell signalling and how it regulates cellular functions and also how their dysregulation leads to cancer and other diseases

Lab. in Biological Chemistry, Cell and Molecular Biology

Upon completion of this course, students will be able to

i. Explain the principles of basic instruments
ii. Analyse biomolecules qualitatively and quantitatively
iii. Formulate the separation of biomolecules
iv. Design the isolation of nucleic acids from different samples
v. Prepare buffers and other necessary solutions for analysis

Human Health and Hygiene

Upon completion of this course, students will be able to

i. Explore and explain the importance of health at the level of individual and society in relevance to the status of health and its standards in the country.
ii. Analyse the factors that determine health in association with the habits and the governmental health care systems and their structure.
iii. Assess the critical factors that provide risk for health and the habits that cause diseases.
iv. Discuss the role of education to maintain public health and the systems that plan and manage the health of the country with its governing bodies and the environment.
v. Compare the role of public and private agencies of national and international importance and the funding available for the maintenance of health at a global level.

Medical Microbiology

Upon completion of this course, students will be able to:

i. Outline various types of microbial infections and their aetiology
ii. Analyse the clinical specimens and laboratory diagnosis of bacteria
iii. Compare the fungal infections and their epidemiology
iv. Revise the clinical manifestations of viruses
v. Identify the clinical symptoms, treatment and prevention of protozoan and helminth infections

Lab. in Medical Microbiology

Upon completion of this course, students will be able to

i. Plan the organization of a clinical microbiology laboratory
ii. Perform collections, storage and transport of clinical specimens

iii. Identify requirements for the investigation, diagnosis, and treatment of patients suffering from infectious diseases.
iv. Analyse the epidemiology of communicable diseases and their prevention
v. Design experiments to identify the causative agents of bacterial and fungal diseases

Immunology

Upon completion of this course, students will be able to

i. Explain the cells and organs of the immune system; antigens, antibody, antibody diversity and antigen-antibody interactions.
ii. Discuss the roles of MHC, maturation, activation and differentiation of T & B cells, cytokines and cytokine receptors in fighting infections
iii. Identify the adverse effects of immune system in hypersensitivity reactions, autoimmunity and immunodeficiency diseases.
iv. Analyse the role of immune system in transfusion and transplantation.
v. Explain the immune surveillance of cancer cells in host and the effector mechanisms against bacterial, viral, fungal and parasitic pathogens.

Lab. in Immunology

Upon completion of this course, students will be able to

i. Identify the lymphoid organs
ii. Perform the basic experiments in immunology such as isolation and separation of immunoglobulins.
iii. Prepare soluble, particulate and cellular antigens.
iv. Demonstrate the bleeding techniques and antigen-antibody interactions.
v. Evaluate the cellular immune response

Molecular Biology and Microbial Genetics

Upon completion of this course, students will be able to

i. Explain the mechanisms involved in replication, recombination, transposition and repair of DNA.
ii. Compare the prokaryotic and eukaryotic mechanisms of transcription, translation and gene regulation.
iii. Critique the biology of plasmids and transposons, process of mutagenesis and genetic mapping.

iv. Discuss the life cycle of bacteriophages and genetics of yeast mating type conversion.
v. Assess the mechanisms of genetic exchange in bacteria through transformation, conjugation and transduction.

Dairy Science

Upon completion of this course, students will be able to

i. Explain the global production of milk
ii. Assess the nutritive value of different types and grades of milk.
iii. Identify the microbiota of the milk and ways to prevent spoilage of milk
iv. Apply different methods for the collection, preservation, storage, package and distribution.
v. Evaluate the quality and composition of the different types of milk and milk products.

Molecular Biotechnology

Upon completion of this course, students will be able to

i. Discuss the biology of cloning and expression vectors, principles of gene manipulation, PCR and DNA sequencing techniques.
ii. Critique the techniques involved in gene expression analysis and site directed mutagenesis.
iii. Analyse the principles and applications of various molecular diagnostic methods.
iv. Explain the methods involved in generation of transgenic plants and animals.
v. Evaluate the applications of microarray technology and various types of gene therapy.

Immunotechniques & Immunotechnology

Upon completion of this course, students will be able to

i. Perform and analyse the mechanisms behind serological assays
ii. Compare the types and principles of effector cell assays and immunofluorescence techniques
iii. Discuss the importance of experimental animal models, gene targeting tools and immunofluorescence techniques
iv. Explain techniques involved in synthesis of monoclonal antibodies
v. Evaluate the applications of recombinant antibodies in clinical diagnosis and treatment

Lab. in Immunotechniques and Molecular Biotechnology

Upon completion of this course, students will be able to

i. Utilize the electrophoresis technique for quantitative and qualitative analysis of the antigens, antibodies, plasmids and other DNA molecules.
ii. Select different cells of the immune system to separate them for analysis
iii. Design laboratory tools for the diagnosis of different pathogens
iv. Perform the isolation and purification of plasmids for cloning experiments
v. Select plasmids and restriction enzymes for cloning and screen the recombinants.

Animal Cell Culture

Upon completion of this course, students will be able to

i. Outline the history and the biology of cultured cells in terms of their properties, advantages and disadvantages.
ii. Explore the role of different culture vessels, substrates, media used in cell culture.
iii. Perform the techniques of primary explants, monolayer culture, and cell line characterization
iv. Utilize animal cell culture for scale up.
v. Apply the learnt techniques for the microscopic observation, cell separation and testing the viability of the cultured cells.

Lab. in Animal Cell culture

Upon completion of this course, student will be able to

i. Prepare animal cell culture media
ii. Demonstrate different methods of tissue disaggregation
iii. Prepare primary explants and perform in vitro cell culture
iv. Perform maintenance and sub-culturing of animal cells
v. Compare the monolayer & suspension culture and their viability

Bioinformatics and Biostatistics

Upon completion of this course, students will be able to

i. Outline the evolution of bioinformatics.
ii. Discuss basic concepts in storage, submission, retrieval of data and data formats
iii. Apply the fundamental tools in sequence analysis, structure analysis, molecular docking, drug design and phylogeny
iv. Compile data from different sources, organize and present them
v. Formulate hypothesis, evaluate data and interpret them using data analysis tools.

Environmental and Agricultural Microbiology

Upon completion of this course, students will be able to

i. Outline the host-microbe interactions and their role in environment
ii. Compile the air and soil microflora and their habitats
iii. Assess the different types of freshwater and marine microbial habitats
iv. Analyse water samples and evaluate their quality
v. Discuss the different types of microbes as biocontrol agents

Lab. in Environmental and Agricultural Microbiology

Upon completion of this course, students will be able to

i. Analyse microbial interactions
ii. Identify physico-chemical properties of soil and water samples
iii. Plan isolation and enumeration of microbial populations from soil, water and air
iv. Assess the biodegradation of selected pollutants
v. Plan isolation and enumeration of microorganisms of plant rhizosphere soil.

Food and Industrial Microbiology

Upon completion of this course, students will be able to

i. Outline the sources and components of food and their preservation techniques.
ii. Analyse the factors influencing food spoilage
iii. Apply principles of various facets of food fermentation technology
iv. Design appropriate techniques for the recovery of fermented products
v. Compare the production processes of various fermented foods

Lab. in Food and Industrial Microbiology

Upon completion of this course, students will be able to

i. Evaluate food products for microbial contaminants.
ii. Identify and characterize specific organisms found in spoiled food.
iii. Apply the techniques of quality assessment to grade eggs.
iv. Demonstrate the production of fermented products.
v. Assess food products by microbial screening techniques.

Vaccinology

Upon completion of the course, students will be able to

i. Identify the basic concept, types of immunization and the characteristics of an ideal vaccine.
ii. Explain the evolution of diverse types of vaccines.
iii. Discuss the vaccine development strategies against AIDS, malaria & leprosy
iv. Evaluate antifertility vaccine development.
v. Compare the advantages of natural and artificial passive immunization.

Research Project

Upon completion of the project students will be able to

i. Formulate a hypothesis to investigate on any particular issue
ii. Design a set of experiments to verify the formulate a hypothesis
iii. Compile the set of data generated by the designed experimental set up
iv. Analyse the different parameters that are studied to verify the hypothesis
v. Communicate the outcome of the analytical approach to resolve the hypothesis

Department of Physics

Course Outcomes – M. Sc Physics

Classical and Non-Linear Dynamics

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

i. construct Lagrangian for holonomic systems and analyse its behaviour using Lagrangian dynamics
ii. analyse central force problems and find the normal modes of vibration of oscillating bodies
iii. form inertia matrix and solve rigid body problems using Euler's equation of motion
iv. analyse the system using Hamiltonian dynamics and Poisson brackets
v. find the equilibrium points and classify the non-linear systems in to major bifurcations

Mathematical Physics - I

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

i. explain the characteristics of complex functions, evaluate residues and definite integrals.
ii. describe the properties and usage of special functions in physics
iii. elucidate the characteristics of orthogonal polynomials
iv. expand the periodic functions using Fourier series and apply integral transforms
v. solve polynomials, integral and differential equations using numerical methods.

Condensed Matter Physics – I

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

i. determine the structure factors and atomic scattering factor of crystal lattices.
ii. describe the X-ray diffraction and anomalous dispersion to predict the crystal structure and temperature effects
iii. classify and differentiate the defects in crystals.
iv. explain and relate different crystal binding forces.
v. describe and examine the effect of lattice vibrations.

Astrophysics

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

i. explain the role of Copernicus, Kepler and Newton in the development of modern astronomy and specify the classification of stars and compute the magnitudes of stars.
ii. describe the working of various types of telescopes and outline the spectral analysis
iii. predict the structure of the sun, its layers and compile types of galaxies and various mysterious objects

iv. analyse the birth and death of stars using H-R diagram and quote the fate of the star using Chandrasekhar's mass limit.
v. ascertain the evolution of universe using different models

Observational Astronomy

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

i. summarise the birth of modern astronomy from ancient times
ii. describe the theory of birth and evolution of stars.
iii. categorize galaxies based on Hubble classification and distinguish various mysterious objects
iv. compare the different types of telescopes
v. explain different models of origin of universe

Physics of Home Appliances

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

i. explain the fundamentals of electricity and electronic components.
ii. implement the skills of testing and servicing the basic equipment of the home appliances.
iii. classify different domestic appliances and explain the physics of appliances
iv. ascertain the maintenance of domestic appliances
v. explain the energy consumption of home appliances

Physics Lab – I

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

i. practice systematic laboratory work habits;
ii. design experiments and verify theoretical concepts;
iii. perform Data and error analysis;
iv. handle advanced equipment in the lab;
v. troubleshoot physics experiments.

Instrumentation & Microcontrollers

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

i. analyse the fundamentals of system design and instrumentation.
ii. elucidate the characteristics and applications of transducers
iii. explain the fundamentals of signal processing
iv. describe the architecture and the instruction sets of microcontrollers
v. explain the different interfaces related to microcontroller

Mathematical Physics - II

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

i. explain the properties of linear vector space and matrices and apply them to analyse a broad range of physical models
ii. apply the concepts of Tensor analysis and Tensor calculus to formulate physical laws and simplify them using coordinate transformations
iii. apply probability and statistical laws to physical problems
iv. explain basic concepts in group theory and its importance in physics
v. use character table and group symmetry to form irreducible representations

Quantum Mechanics - I

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

i. describe and apply the concepts of quantum mechanics to exactly solvable systems
ii. explain the general formalism of wave mechanics.
iii. find the energy eigen functions and eigen values of bound state systems
iv. describe the theory of general angular momentum and its applications
v. elucidate the quantum theory of scattering in low energy and high energy approximations.

Nano Physics

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

i. explain the various techniques of crystal growth
ii. discuss the basics of Nanophysics and Methods of synthesis
iii. analyse quantum nanostructure and discuss its applications
iv. describe biological nanostructures, MEMS AND NEMS
v. compute nano particle size and structure using various instruments

Physics in Human Physiology

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

i. describe the behaviour of human body under various forces
ii. explain the human functions under gravitational force
iii. identify the physics behind the blood flow in the human body
iv. relate the biological phenomenon to the physics of sound and heat
v. explain the physics of vision

Sustainable Energy Resources

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

i. distinguish the characteristics of renewable energy.

ii. explain the significance of solar radiation and their applications
iii. explain the energy extraction from wind, tides and organic substances.
iv. Describe the thermal energy conversions in ocean and earth's core.
v. interpret different forms of energy storage and their transmission.

Physics Lab - II

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

i. practice systematic laboratory work habits.
ii. design experiments and verify theoretical concepts
iii. perform Data and error analysis
iv. handle advanced equipment in the lab
v. troubleshoot physics experiments

Nuclear & Particle Physics

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

i. explain the structure of nucleus, its stability and various nuclear models
ii. categorize various nuclear decay process and the associated selection rules
iii. discuss the nature of nuclear forces
iv. elucidate key features of nuclear fission reactors and fusion reactions
v. classify elementary particles and quark states using group theory

Electrodynamics and Plasma Physics

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

i. describe electrostatic phenomenon using method of images and boundary value approach
ii. explain magneto-statics phenomenon and construct Maxwell's equations
iii. describe propagation of electromagnetic waves in different media using Maxwell's equations
iv. elucidate the production of electromagnetic waves and derive the relativistic electro dynamic field equations
v. explain elementary phenomena and concepts in plasma physics.

Physical Electronics

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

i. explain the phenomena of conduction in metals
ii. describe electrical conduction in semiconductors
iii. account for charge transport across semiconductor junctions
iv. describe the operations of FET and microwave devices
v. elucidate the physics of photonic devices

Laser & Spectroscopy

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

i. explain the theory of lasers and its line broadening mechanism.
ii. describe the design characteristics of optical cavities for laser systems.
iii. elucidate rotational and vibrational spectroscopy
iv. discuss Raman and electronic spectroscopy
v. describe the theory of resonance spectroscopy

Quantum Mechanics -II

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

i. apply different approximation methods for stationary states.
ii. describe the time evolution of quantum systems and discuss matter radiation interaction
iii. differentiate Schrodinger, Heisenberg and Dirac pictures and quantum theory of photon interaction
iv. describe the relativistic quantum phenomena and account for electron spin and electron magnetic moment.
v. Analyse Fermi and Bose systems using quantum field theory

Project – I

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

i. define problems, formulate hypotheses, test hypotheses, analyse, interpret and draw conclusions from data;
ii. identify relevant assumptions or implications; formulate coherent arguments;
iii. act together as a group or a team in the interests of a common cause and work efficiently as a member of a team;
iv. use ICT and demonstrate ability to access, evaluate, and use a variety of relevant information sources;
v. communicate with others using appropriate media; confidently share one's views and express herself/himself.

Thin Films & Vacuum Technology

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

i. identify and explain different high vacuum system and its components
ii. distinguish between different types of coating procedures
iii. explain the physics of thin film growth
iv. analyse and interpret the characteristics of thin film
v. describe the properties and applications of thin films

Condensed Matter Physics – II

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

i. derive and explain the electrical properties of crystals
ii. explain the theory of quasi particles and their characteristics
iii. classify the types of superconductors and explain its properties
iv. explain the origin of dielectric and Ferro-electric phenomena
v. describe quantum theory of magnetism and classify magnetic materials

Analog Electronics

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

i. interpret the theory behind the modes of operation
ii. analyse theoretically, the different types of filters and their characteristics
iii. describe the non-linear models of operational amplifiers
iv. design and explain oscillator circuits
v. explain the limitations in the use of operational amplifier and apply it for constructing amplifiers and oscillators.

Thermodynamics & Statistical Physics

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

i. solve problems related to heat and thermodynamics using the laws of thermodynamics and thermodynamic potentials
ii. define statistical ensembles and use partition function to derive the thermodynamic properties of two level system and ideal gas model
iii. explain the thermodynamic properties of Black body radiation, degenerate Fermi gas and Bose gases using quantum statistics
iv. identify the order of phase transitions, explain its properties using Clapeyron latent heat equation and Landau theory and calculate the energy transfer involved in phase transitions
v. appreciate the role of non-equilibrium statistics in nature and explain its origin using physical laws

Matrix, Fourier And Non Linear Optics

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

i. apply matrix methods in optics.
ii. describe the characteristics of two dimensional Fourier transform and explain the analysis of linear optical systems.
iii. explain the theory of construction and reproduction of holograms and its applications
iv. elucidate the propagation of light in anisotropic media and electro-optic effect
v. discuss acousto-optic effect and non-linear phenomena in crystals

Project – II

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

i. define problems, formulate hypotheses, test hypotheses, analyse, interpret and draw conclusions from data;
ii. identify relevant assumptions or implications; formulate coherent arguments;
iii. act together as a group or a team in the interests of a common cause and work efficiently as a member of a team;
iv. use ICT and demonstrate ability to access, evaluate, and use a variety of relevant information sources;
v. communicate with others using appropriate media; confidently share one's views and express herself/himself.

Department of Zoology

Course Outcomes – M. Sc Zoology

Animal Diversity

Upon completion of this course, students will be able to:

i. Explain principles and practice of animal systematics.
ii. Outline evolution, hierarchy and classification of Invertebrate phyla and Chordates.
iii. Apply the basics of systematics by learning the specific and general characters of various groups.
iv. Identify typical examples for each class.
v. Demonstrate in-depth knowledge on the diversity and relationships in animal world.

Biological Chemistry

Upon completion of this course, students will be able to:

i. Explain the basic concepts of biochemistry such as chemical bonds, pH, buffer and kinetic properties of biological reactions.
ii. Analyse the biomolecular structures of carbohydrates, proteins, lipids and vitamins.
iii. Evaluate the regulation and mechanism of enzyme activity and the role of thermodynamic principles in metabolic reactions.
iv. Demonstrate the metabolic pathways of carbohydrates and vitamins.
v. Explain the amino acid, nucleic acid and lipid metabolism.

Cell Biology

Upon completion of this course, students will be able to:

i. Explain the structure, functions and properties of cell membrane.
ii. Discuss the mechanisms and control of inter-cellular communication.
iii. Outline the structure and functions of cell organelles in cell functioning.
iv. Evaluate the structure and organization of nucleus and chromo

Know Your Body

Upon completion of this course, students will be able to:

i. Discuss nutrient requirements, structure and functions of digestive system in humans.
ii. Explain the structure and functions of skeleton, muscles and central nervous system.
iii. Demonstrate in depth knowledge on the physiology of circulatory and respiratory system.
iv. Outline the organs of excretory and reproductive systems and their disorders.
v. Utilize their knowledge to maintain health and hygiene.

Microbiology

Upon completion of this course, students will be able to:

i. Analyse the evidences, historical events, diversity and scope of microbiology.
ii. Assess the classification of bacteria, fungi, algae and protozoa and characteristic features of prokaryotic and eukaryotic cells.
iii. Explain various bacterial growth media, sterilization and growth curve.
iv. Apply the knowledge of microorganisms in soil, food and industrial sectors.
v. Evaluate the role of microorganisms in epidemic and communicable diseases in global perspectives.

Lab in Cell Biology, Biological Chemistry & Microbiology

I. Lab. in Cell Biology

Upon completion of this course, students will be able to:

i. Identify various types of cells.
ii. Utilize various microscopes and Camera Lucida.
iii. Prepare various types of microscopic slide mountings.
iv. Demonstrate various phases of cell division and types of chromosomes.
v. Explain the effects of pH, ionic concentration and solvents on cell membrane.

II. Lab. in Biological Chemistry

Upon completion of this course, students will be able to:

i. Use pH meter, colorimeter, spectrophotometer and centrifuge.
ii. Demonstrate paper and thin layer chromatography.
iii. Design experiments using quantitative tests for carbohydrates, protein and nucleic acids.
iv. Analyse the enzyme activity.
v. Compare the different methods of centrifugation

III. Lab. in Microbiology

Upon completion of this course, students will be able to:

i. Prepare media, isolate pure cultures, biochemically test and stain microbes.
ii. Perform antimicrobial susceptibility test and methylene reduction test.
iii. Analyze microbes from sewage, soil, root nodule and human body.
iv. Identify nosocomial infection causing organisms.
v. Plan visits to hospitals and industries.

Animal Physiology

Upon completion of this course, students will be able to:

i. Compare digestive and respiratory systems of animals and infer mechanism of digestion and respiration.
ii. Explain the functions of circulatory and excretory systems of animals.
iii. Assess the relationship between nervous system and muscle contraction.
iv. Evaluate the principles of endocrinology and sensory physiology.
v. Analyse the relationship between environment and physiological adaptations.

Biostatistics and Bioinformatics

Upon completion of this course, students will be able to:

i. Identify the sources and methods of data collection, classification and presentation.
ii. Compute the central tendencies, measures of dispersion, standard deviation & error, linear regression and simple correlation.
iii. Analyse the significance, goodness of fit, variance & use SPSS package.
iv. Utilize biological databases for bioinformatics analysis.
v. Analyse biological sequence alignments and create phylogenetic tree.

Genetics

Upon completion of this course, students will be able to:

i. Identify Mendelian principles and theories of heredity.
ii. Explain the mechanisms and importance of linkage and crossing over.
iii. Analyse the mechanisms of microbial genetics.
iv. Discuss the importance of Hardy-Weinberg equilibrium and factors affecting it.
v. Apply the concepts related to human genetics.

Molecular Biology

Upon completion of this course, students will be able to:

i. Explain chromatin structure, DNA topology, replication & recombination.
ii. Discuss the events involved in transcription and post transcriptional modifications.
iii. Analyse the different stages of translation and post translational modifications of proteins.
iv. Compare the different gene regulatory mechanisms in prokaryotes and eukaryotes.
v. Evaluate the types of DNA damage, repair, mutation and transposition mechanism

Poultry Farming

Upon completion of this course, students will be able to:

i. Discuss the aspects of poultry industry, biology of fowl and nutrition.
ii. Identify the Indian exotic breeds, importance of layers and broilers and to evaluate their efficiency.

iii. Use the poultry equipment for day to day activities to be involved in the farm and explain the rearing system and use them efficiently.
iv. Compile the source of ingredients for the poultry feed stuff and formulate homemade feed for broilers and layers, feed additives and summer and winter management.
v. Analyse the nature and control of bacterial, fungal, viral and parasitic infections.

Lab in Animal Physiology and Molecular Biology

I. Lab. in Animal Physiology

Upon completion of this course, students will be able to:

i. Evaluate factors influencing physiological activity.
ii. Analyse the constituents of blood.
iii. Explain the process of excretion and osmoregulation in animals.
iv. Assess the physiology of heart and sense organs.
v. Demonstrate influence of stress in oxygen consumption in fish.

II. Lab. in Molecular Biology

Upon completion of this course, students will be able to:

i. Analyse molecular mechanisms in various microbial processes.
ii. Apply molecular aspects of isolation and quantification of nucleic acids.
iii. Demonstrate skill in performing transduction and mutagenesis.
iv. Plan molecular biology experiments and solve problems.
v. Communicate in experiments involving team activities.

Entomology

Upon completion of this course, students will be able to:

i. Compare the external morphological features of insects.
ii. Identify the different orders of insects with taxonomy.
iii. Outline the organ systems in insects.
iv. Discuss the beneficial and harmful aspects of insects.
v. Assess integrated pest management and use of insecticides.

Evolution

Upon completion of this course, students will be able to:

i. Discuss the evidences and objectives of evolutionary theories.
ii. Analyse the various theories of evolution.
iii. Assess DNA, protein and biotechnology principles in phylogenies.
iv. Discuss the isolation and speciation mechanisms in evolution.
v. Explain the concept of micro and macro evolutionary thoughts.

Immunology

Upon completion of this course, students will be able to:

i. Explain the lymphoid organs, molecular structure of antibodies and antigen-antibody interactions.

ii. Analyse MHC molecule and differentiation of T & B cells.
iii. Evaluate complement system and immune response.
iv. Explain hypersensitivity and immunodeficiency disorders.
v. Assess the importance of ABO system, transplantation and tumor immunology.

Methods in Biology

Upon completion of this course, students will be able to:

i. Explain the principles and applications of various recombinant DNA methods.
ii. Analyse the immunotechniques of ELISA, RIA, immunoblotting, immunofluoresence microscopy, flow cytometry and cytofluorometry.
iii. Outline the biophysical and radiolabelling techniques.
iv. Evaluate the principle and applications of electrophysiological methods of EEG and Tomography.
v. Compare and evaluate various ecological sampling methods to study animal behaviour.

Lab in Entomology

Upon completion of this course, students will be able to:

i. Plan collection, preservation and identification of insect fauna and preparation of insect box.
ii. Apply dichotomous key on insect identification.
iii. Identify digestive and reproductive system of Mylabris and Chrysocoris.
iv. Assess the insect fauna of agro-ecosystem.
v. Analyse insect damage on selected crops and stored grains and compare the efficacy of a chitin inhibitor, predators and parasitoids.

Lab in Immunology and Methods in Biology

I. Lab. in Immunology

Upon completion of this course, students will be able to:

i. Prepare soluble, particulate and cellular antigens.
ii. Demonstrate the bleeding techniques and antigen-antibody interactions.
iii. Compare the structure of lymphoid organs in vertebrates.
iv. Explain complement mediated lysis and peritoneal lavage.
v. Demonstrate foot pad thickening in mice and scale transplantation in fish.

II. Lab. in Methods in Biology

Upon completion of this course, students will be able to:

i. Demonstrate phagocytosis by macrophages.
ii. Use different methods of purification of proteins.
iii. Design experiments involving electrophoretic techniques.
iv. Critique the principles and methods involved in ELISA, RAPD and RFLP.
v. Plan experiments with animal models to study their behaviour.

Biotechnology

Upon completion of this course, students will be able to:

i. Discuss the importance of enzymes, gene transfer methods and techniques in biotechnology.
ii. Explain the procedures in animal cell culture and applications.
iii. Identify the overall process in plant tissue culture and applications.
iv. Analyse the principles in formulating pharmaceutical industrial products.
v. Evaluate the role of microbes in environmental biotechnology.

Developmental Biology

Upon completion of this course, students will be able to:

i. Explain specialized cells of gonads and the process of gametogenesis.
ii. Compare fertilization process, events during and after fertilization and cleavage patterns in selected animals.
iii. Discuss the role of genes and cytoplasm in ontogeny.
iv. Analyse the process of induction, differentiation in embryonic development and the role of stem cells and applications.
v. Outline the process of embryonic development and assisted reproductive technology in human.

Environmental Biology

Upon completion of this course, students will be able to:

i. Discuss the nature of population, community and species interactions.
ii. Compare different types of habitats, ecosystems and assess their primary productivity.
iii. Outline biomes and biogeographical zones and evaluate conservation management strategies.
iv. Discuss the issues associated with natural resources.
v. Evaluate the impact of urbanization on environment.

Lab in Biotechnology and Developmental Biology

I. Lab. in Biotechnology

Upon completion of this course, students will be able to:

i. Demonstrate knowledge and understanding of applications of biotechnology techniques.
ii. Critique the strategies employed in various fields of biotechnology.
iii. Apply the methods of isolation and amplification of DNA from various sources.
iv. Plan and conduct animal and plant tissue culture experiments.
v. Identify and analyse the use of microbes in biotechnology procedures.

II. Lab. in Developmental Biology

Upon completion of this course, students will be able to:

i. Identify gametes of various species and their developmental stages.
ii. Assess the role of pituitary gland in development.

iii. Compare various stages of chick development.
iv. Explain the roles of various hormones in development.
v. Analyse the pattern of regeneration in various organisms.

Lab in Environmental Biology

Upon completion of this course, students will be able to:

i. Identify and count plankton.
ii. Evaluate primary productivity and physico-chemical parameters of water samples.
iii. Analyse the levels of pollutants in air and water samples.
iv. Apply environmental data using GIS and remote sensing.
v. Plan visits to environmentally sensitive areas and prepare report.

Research Project

Upon completion of this course, students will be able to:

i. Identify a research problem and collect relevant literature
ii. Plan out research activities and collect data
iii. Analyse data using statistical tools and synthesize research findings
iv. Demonstrate capacity to carry out independent research work
v. Create new applications and prepare project proposals

Department of Business Administration

Course Outcomes – M B A

Essentials of Management

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

i. Compile the Overview of the concept of Management
ii. Summarize the Function of Planning
iii. Outline the concepts of Organising & Staffing Functions
iv. Explain the Facet of Direction in Management
v. Recognize the importance & Function of Controlling

Organizational Behaviour

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

i. Associate the evolution of organizational behaviour and its different school of thoughts
ii. Identify the pertinent determinants of individual behaviour and describe the impact of each determinant at the individual level
iii. Demonstrate the nature of attitude and motivation in influencing individual behaviour and to discuss the key theories

iv. Analyse the behaviour of individuals in a group setting, to demonstrate the effectiveness of different leadership styles and to analyse the causes and management of stress
v. To explain the role of organizational change and to assess the importance of organizational development and organizational culture

Economics for Managers

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

i. Summarize the Fundamentals of Managerial Economics
ii. Identify Supply Determinants & Analyse Cost-Output Relationship
iii. Classify the market structures & Examine the Pricing Strategies under each market.
iv. Analyse the role of Profits in Investment & Output Decisions
v. Discuss the influences of Macro Economic Concepts in a business

Marketing Management

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

i. Identify and explain the functions of marketing and impact of environmental factors.
ii. Outline the MIS – discuss the research process
iii. Analyse the product and pricing tools of marketing
iv. Identify the existing marketing channels and logistics
v. Can evaluate the current promotional strategies.

Managerial Accounting

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

i. Prepare the corporate financial statements as per the accounting standards
ii. Compute ratios by comparing financial information presented and critically evaluate the performance of the firm over a period of time
iii. Compilation of cost related records to determine breakeven point and variances in the standard operating procedure
iv. Formulate a business plan to go about starting a new venture and outline the scope of various audit programs.
v. Outline the contemporary areas in accounting and costing to use updated methods warranted by changing business scenario

Information Technology for Managerial Decisions

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

i. Identify the basics of Management Information System
ii. Outline the Decision support systems used by the Management in the organization organizational decision making
iii. Analyse and design the system and the different tools required for the Information system
iv. Compile the Data ware housing and data mining techniques
v. Outline the Customer Relationship Concepts in the Business World

Operations Management and Information Systems

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

i. Identify the meaning scope, meaning of productions and operations management and predict the demand forecasting methods
ii. Design different plant layout types – merits and demerits
iii. Formulate the inventory management, EOQ, material management and discus the ERP system
iv. Compute the PERT, CPM –understand the lean manufacturing systems
v. Identify and apply the concept of TQM and different tools for TQM.

Research Methodology

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

i. Demonstrate and apply the Research Process
ii. Formulate the Research design and sample design
iii. Compare different data collection methods and devise the steps in data preparation
iv. Demonstrate proficiency in hypothesis testing using different statistical methods
v. Design and organize a research report using appropriate manuscript writing procedures

Business Environment

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

i. Learn the nature of business environment – political factors and discuss important acts.
ii. Discuss the social, cultural and economic systems
iii. Analyse the reasons for international business
iv. Analyse the nature of business ethics and its role
v. Learn the corporate social responsibility and its importance

Corporate Finance

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

i. Identify the key decisions of financial management and demonstrate how they are connected to the objective of financial management
ii. Demonstrate the effect of fixed charges obligation on the value of firm and selecting an optimal capital structures
iii. Evaluate the alternative investments by applying capital budgeting methods and assess the working capital requirements
iv. Analyse the effect of dividend policies by discussing the dividend theories.
v. Outline the regulations regarding borrowing powers, inter-corporate loans and winding up given under companies act.

Human Resource Management

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

i. Outline a framework of knowledge relating to the concepts and evolution of Human

Resources Management
ii. Apply the knowledge of Job analysis and job specification in the field of HR
iii. Identify the correct recruitment methods for different job openings in the industry
iv. Analyse the different training needs in an organization and suggest appropriate training methods.
v. Evaluate the importance of Industrial relations concept

Entrepreneurship

At the end of the course, students will be able to
i. Outline the Importance of Entrepreneurship & its Evolution in India
ii. Identify the Major Characteristics and Types of Entrepreneurs
iii. Explain the Importance, Role & Nature of Entrepreneurship
iv. Narrate the process of Creation & Managing of an Enterprise
v. Specify the stages of Growth & Closure of an Enterprise

Strategic Management

At the end of the course, students will be able to
i. Demonstrate the need for strategies in business context and to illustrate the strategic management process
ii. Outline the mechanism and guidelines for formulating mission and vision
iii. Distinguish the key environmental and organizational assessment techniques and interpret their key characteristics
iv. Compare and discriminate the different types of strategies and to discuss the conceptual basis for its application in different contexts.
v. Describe the nature of strategy implementation and to provide a practical framework for evaluating strategies and control

E-Commerce

At the end of the course, students will be able to
i. Discuss the scope of e-commerce, applications and explain the terminologies
ii. To identify and design business models – evaluation of successful sites
iii. Evaluate the trends in e-marketing
iv. Explain the e-payment and mechanism of ATM, online transaction
v. Explain the prevailing cybercrime and frame suitable security measures.

Quantitative Techniques

At the end of the course, students will be able to
i. Gain analytical skills in the field of statistics
ii. Apply choice of tools and linking them with the process of decision making.
iii. Create a tight and sufficient control of the management of complex projects through an integrated system of forced planning and evaluation.
iv. Analyse the future values of the Business.
v. Predict the changes in the business

Investment and Portfolio Management

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

i. Identify the investment alternatives and discussing the risk return relationship
ii. Compute the value of debt, equity, options, futures, convertible securities and warrants
iii. Utilize the fundamental analysis to pick out the most promising stocks
iv. Apply technical analysis tools to predict the next possible move of stock prices.
v. Discuss about various portfolio models to select the best performing portfolio

International Financial Management

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

i. Distinguish the various International theories and International business methods
ii. Analyse international exchange rates and arbitrage methods
iii. Evaluate different foreign exchange exposure and classify Forex derivatives
iv. Explain euro currency, credit and bond market
v. Discuss International payment methods and foreign direct investment

Strategic Cost Management

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

i. Analyse the concept of SCM & its applications
ii. Design SCM tools & Techniques
iii. Develop Balanced Scorecard
iv. Discuss the different pricing strategies
v. Develop cost reduction techniques

Financial Markets, Treasury and Risk Management

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

i. Discuss about the Indian Financial system and its components
ii. Evaluate the treasury management in banking industry
iii. Demonstrate the risk management process in banking and discuss about capital adequacy norms.
iv. Discuss about the commercial banks and their roles in Indian economy
v. Analyse the profit planning activities of banks through subsidiary activities

Project Management and Control

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

i. Identify the steps involved in project management and compile the characteristics of a project
ii. Analyse the sources of project ideas and formulate project feasibility report
iii. Assess the technical, economic, financial, managerial and commercial viability of projects

iv. identify the sources and patterns of financing a project and formulate projected financial statement
v. Utilize the project scheduling techniques in project administration

Marketing Research

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

i. Describe a conceptual framework for conducting marketing research and explain the importance and process in defining a marketing research problem
ii. Outline research design, classify various research designs and compare and contrast the basic research designs
iii. Discuss the concepts and primary scales of measurement, discuss the sampling design process and classify sampling techniques
iv. Discuss data analysis associated with frequencies, cross tabulation and evaluate data analysis associated with hypothesis testing
v. Evaluate the basic concept and scope of multidimensional scaling (MDS) in marketing research and describe the concept and procedure for conducting conjoint analysis

Consumer Behaviour

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

i. Outline the marketing concept and the discipline of consumer behaviour
ii. Identify the psychological influences on consumer behaviour
iii. Analyse the consumer learning, memory and involvement in consumption related activities
iv. Discuss about the sociological influences on consumer behavior
v. Explain the consumer decision making process, innovation and diffusion process

Services Marketing

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

i. Define the importance, nature and features of services sector and its differences with product, the challenges.
ii. Analyse the service market potential and other service marketing concepts.
iii. Define and design the SERVQUAL model
iv. Analyse the service delivery system and channels.
v. Discuss the different service sectors and its features

Logistics Management

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

i. Identify the selling and sales management functions
ii. Assess the sales budgeting and sales force requirement planning
iii. Identify the sales control system.
iv. Explain the different logistics systems
v. Discus the types of warehouse systems.

Brand Management

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

i. Identify the concept of brand – functions and types.
ii. Evaluate the brand management process with elements.
iii. Evaluate the brand promotion methods and role of celebrities.
iv. Explain the brand extension and rebranding.
v. Assess the brand audit and brand equity measurement.

Training & Development

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

i. Understand the concepts of training and development and its roles
ii. Plan and design training programs as per the needs of an organization
iii. Gain insights of various training & evaluation methods
iv. Analyse the different learning principles and OD models
v. Expose the latest training methods followed in Organization

Emotional Intelligence

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

i. Outline the Emotional Intelligence Concepts
ii. Discuss the various emotional competencies found among humans
iii. Analyse the different levels of emotional literacy
iv. Demonstrate the emotional intelligence traits at workplace
v. Explain the emotional intelligence from an organizational perspective

Workplace Counselling

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

i. Discuss the workplace counselling concept with different work oriented models
ii. Compile the role of counsellors, their duties and responsibilities
iii. Analyse the different counselling techniques followed
iv. Evaluate the effectiveness and efficiency if counselling
v. Explain the methods of training the counsellors

Techniques for Selection Of Personnel

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

i. Discuss the concept of recruitment in organizations
ii. Analyse the different selection techniques
iii. Explain the statistical tools and parametric and non-parametric tools
iv. Asses the testing methodologies in evaluating the employees
v. Identify the personalities through latest techniques used in assessment of personnel

Labour Law Applications

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

i. Discuss the role of labour legislation in India
ii. Revise the factories act and workmen's compensation Act
iii. Analyse the payment of wages and bonus act
iv. Discuss the various employee benefits through Maternity act and Insurance act
v. Explain the trade union act and industrial disputes act

Entrepreneurship & Project Management

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

i. Impart basic entrepreneurial skills and understanding to run a business effectively & efficiently
ii. Discuss the different support mechanism for budding entrepreneurs in India
iii. Outline the concept of feasibility studies
iv. Analyse the financial concepts related to entrepreneurship
v. Explain the various aspects of project management

Entrepreneurial Marketing

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

i. Design different types of marketing as per customer needs.
ii. Analyse different market opportunities for new markets
iii. Development of different market strategies
iv. Calculation of breakeven point
v. Design distribution strategy for different marketing channels.

Entrepreneurship & Management of Small and Medium Enterprises

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

i. Identify the concept of entrepreneur and analyse the success and failures of entrepreneurs.
ii. Develop project preparation and financial outlay for small business
iii. Analyse the cause of industrial sickness and remedial measures.
iv. Develop a business plan
v. Discuss the problems pertinent to financial management and marketing management.

Entrepreneurial Methods

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

i. Identify the types of entrepreneur – their role and status in India
ii. Analyse the concept of small business and its impact in Indian economy.
iii. Design a business plan for a medium business
iv. Identify the loans and financial facilities for modern entrepreneurs.
v. Identify cost planning methods.

Financing of Small Business

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

i. Identify the Capital Requirements in Small Scale Industries
ii. Analyse the Short & Long Term Sources of Finance available for SSIs in India
iii. Outline the financial assistance from Central & State Governments
iv. Summarise the facilities provided by different agencies to small business
v. Identify & financially analyse a New Project.

Summer Internship

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

i. Learn the functions of different departments in an organization
ii. Synergize the theoretical knowledge with real time exposure
iii. Use hands-on experience on various industry practices
iv. Involve in all the three levels of management
v. Utilize the knowledge gained in future course of action

Project Work

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

i. Demonstrate the knowledge in the subject of Business Administration and
ii. Apply the principles of Business Administration to the needs of the Employer / Institution /Enterprise/ Society.
iii. Gain Analytical skills in the field/area of Management and Administration
iv. Solve the complex management problems and evolve strategies for organization development
v. Demonstrate professional ethics, community living and Nation Building initiatives

Department of Tamil

Course Outcomes - M.A Tamil

PGT 4541 7Hr/5Cr

தொல். எழுத்து

நோக்கம்:

தொல்காப்பிய எழுத்ததிகார நூற்பாக்களை உரையாசிரியர்களின் துணையோடு பொருள் விளங்கிக் கொள்ளும் திறன் பெறுதலும் தொல்காப்பியக் கோட்பாடுகளை நன்னூல் முதலிய இலக்கண நூல்களின் கருத்துக்களோடு ஒப்பிட்டறிதலும் மொழியியல் அறிஞர்களின் கருத்துக்களைத் தொல்காப்பியரின் கருத்துக்களோடு பொருத்திப் பார்த்தலும் இப்பாடத்திட்டத்தின் நோக்கங்களாகும்.

கற்றலின் பயன் :

1. தமிழின் தொன்மை இலக்கணநூலான தொல்காப்பியத்தின் அமைப்பு, சிறப்பு ஆகியவற்றைத் அறிந்துகொள்வதோடு எழுத்துக்கள், அவை பிறக்கும் முறை,மயங்கி வரும் தன்மை, புணர்ச்சி நிலை ஆகியனவற்றையும் தெளிவாகப் புரிந்துகொள்ளும் திறன் பெற்றிருப்பர்.

2. தொல்காப்பிய நூற்பாக்களை உரையாசிரியர்களின் கருத்துக்களோடு பொருத்திப் பார்த்துப் பொருள் விளங்கிக் கொள்ளும் திறன் பெற்றிருப்பர்.

3. தொல்காப்பியக் கோட்பாடுகளை நன்னூல் முதலான இலக்கண நூல்களுடன் ஒப்பிட்டுப் பார்க்கும் திறன் பெற்றிருப்பர்.

4. தொல்காப்பியக் கருத்துக்களை மொழியியல் கருத்துக்களோடு ஒப்பிட்டுப் பார்க்கும் திறன் பெற்றிருப்பர்.

5. காலந்தோறும் மாற்றம் அடைந்துவரும் மொழியின் அமைப்பிற்கேற்ப தொல்காப்பியம் விளங்குவதை முறைமைப்படுத்தும் திறனைப் பெற்றிருப்பர்.

PGT 4443 வாசிப்புக் கோட்பாடுகள் 6 HRS / 4 Cr

நோக்கம்: தமிழின் மரபான திறனாய்வு முறைகளில் மட்டுமல்லாது மேற்கின் நவீன இலக்கிய கோட்பாடுகள் வழியாகவும் தமிழிலக்கியங்களை வாசிப்பதன் மூலம் கூடுதல் புரிதல்களை அடைய முடியும் அதன் அடிப்படையில் நவீன இலக்கிய வாசிப்பு கோட்பாடுகள் சிலவற்றின் அடிப்படையான அறிமுகங்களை பெறுவது இப்பாடத்தின் நோக்கம்.

கற்றலின் பயன்:

1. சமூகத்தில் இலக்கியத்தின் வழி அறியப்படும் உண்மைகள் இன்னின்னவை என்பதைப் பகுத்து ஆராயும் திறன் பெற்றிருப்பர்.
2. மனிதர்களின் தொடர்புக் கருவியாக உள்ள மொழிக்குள் அமைந்திருக்கும் அடையாளங்களைக் காணும் தகுதி அடைந்திருப்பர்.
3. இலக்கியங்களின் வழி விளிம்பு நிலை மக்களின் மதிப்புகளும் அவை மையத்தில் பெற்றிருக்கும் இருப்பையும் மதிப்பிடும் திறன் பெற்றிருப்பர்.
4. பிரதியின் அர்த்தத்தை வாசகன் அடையும் விதத்தை விவாதிக்கும் திறன் பெற்றிருப்பர்.
5. நவீனக் கோட்பாடுகளின் வழியாகப் பிரதிக்குள் இயங்கும் ஒரு பார்வையையோ, பன்முக அர்த்தங்களையோ வெளிக்கொணரும் திறன் கொண்டிருப்பர்.

PGT 4545 இக்கால இலக்கியம் - தொடக்கம் 7 Hr/5Cr

நோக்கம்:

இக்கால இலக்கிய வகைமைகளை இனங்கண்டு, அவை தோன்றிய அரசியல், சமூக, வரலாற்றுப் பின்புலத்தில் அவற்றை அறிந்து கொள்ளுதல் இப்பாடத்தின் முதன்மை நோக்கங்களாகின்றன. இத்துடன், பிற்காலத்தெழுந்த நவீனத் தமிழிலக்கிய வளத்திற்கு மேற்சுட்டிய காரணிகள் அடிப்படையாக அமைந்த விதங்களையும் போக்குகளையும் ஒன்றிணைத்துப் புரிந்து கொள்ளுவதும் இதன் பிற நோக்கங்களாக அமைவனவாகின்றன.

கற்றலின் பயன் :

1. இக்கால இலக்கிய வகைமைகளை அடையாளங்கண்டு வரையறுக்கும் திறன்களைப் பெற்றிருப்பர்.
2. காவியம் மற்றும் நாவல் படைக்கும் முறைமைகளுக்கெனவுள்ள இலக்கண வரையறைகளை ஒப்பிட்டு அவற்றிற்கிடையிலான ஒற்றுமை வேற்றுமைகளை அறிகிற திறன்களை எய்தியிருப்பர்.
3. இக்காலத் தமிழிலக்கிய முன்னோடியரைத் தேர்வு செய்து, அவர்களின் படைப்புகளிலுள்ள நவீனத் தன்மைகளைக் கண்டறிந்து நவீன இலக்கியப் பண்பாம்சங்களை அவர்களின் பிரதிகளோடு பொருத்திப் பார்க்கின்ற திறன்களை அடைந்திருப்பர்.
4. சிறுகதைப் படைப்புகள் மற்றும் படைப்பாளர்களுக்கிடையிலான பன்முக அம்சங்களைப் பகுத்துப் பார்த்து, வேறுபடுத்தி அறிகிற திறன்களைப் பெற்றிருப்பர்.
5. இக்கால இலக்கியத்தின் தொடக்கச் சூழலானது எதிர்கால நவீன இலக்கிய வளர்ச்சிக்கு அடிப்படையாக அமைந்த முறைமை குறித்து மதிப்பீடு செய்து, விமரிசிக்கின்ற மற்றும் புதிதாகப் படைக்கின்ற ஆற்றல்களை எய்தியிருப்பர்.

PGT-4447 இக்கால மொழியியல் 6Hr/4Cr

நோக்கம் :

தமிழ் மொழியின் இலக்கணத்தை மரபுவழிக் கற்றலிலிருந்து வேறுபடுத்தி நவீன மொழிக் கோட்பாடுகளைப் பயிலுதல் இப்பாடத்தின் நோக்கமாகும். கிளைமொழியியல், சமுதாய மொழியியல் ஆகியனவும் இப்பாடத்திட்டத்துள் இடம்பெறும்.

கற்றலின் பயன் :

1. தமிழ்மொழியின் வரலாற்றை இனங்கண்டிருப்பர்.
2. உயிரொலி, மெய்யொலிகளைச் சரியான பிறப்பிடத்தில் ஒலிக்கும் திறன் பெற்றிருப்பர்.
3. ஒலிக்கும் ஒலியனுக்குமான வேறுபாட்டினை இனங்காணும் திறன் பெற்றிருப்பர்.
4. தமிழ்மொழியின் உருபன்களை றைடா வீதியைக் கொண்டு பொருத்திப் பார்க்கும் திறன் பெற்றிருப்பர்.
5. தமிழில் வழங்கும் வட்டாரக் கிளைமொழிகளையும், இனக்குழு மொழிகளுக்கான புரிதலையும் பெற்றிருப்பர்.

PGT4349 **காட்சி ஊடகங்களும் சமூக மாற்றமும்** **4Hr/3Cr**

நோக்கம்: வெகுசனகாட்சி ஊடகங்களான தொலைக்காட்சி, திரைப்படங்களுக்குமாற்றாக 21-ஆம் நூற்றாண்டில் செல்வாக்குப்பெற்றுவரும் காணொளிகள் (Video), குறும்படங்கள் (short films) மற்றும் ஆவணப்பட்கள் (documentaries) ஆகியனவற்றின் இயல்பு, செயல்படும்விதம், ஆக்கபூர்வமான சமூகமாற்றத்தில் அவற்றின் பங்களிப்பு ஆகியனவற்றை அறிமுகம் செய்து, அவ்வூடகங்களைக் கையாள்வதற்கான சாத்தியக் கூறுகளை அறிமுகப்படுத்துவது இப்பாடத்தின் நோக்கமாகும்.

கற்றலின் பயன் :

1. இந்த நூற்றாண்டின் புதிய ஊடகங்களின் தோற்றம் - இயங்குமுறைகள் பற்றிய விளக்கங்களைப் பெறுவர்.
2. காட்சி ஊடகங்களின் சமூக, பண்பாட்டு, உளவியல் காரணிகளை விவாதிக்கும் திறன்பெறுவர்.
3. குறும்படங்களின் உலகளாவிய வீச்சு, இயங்குதளம் ஆகியவற்றைப் பற்றிய மதிப்பீட்டை உருவாக்கும் திறன்பெறுவர்.
4. ஆவணப்படங்கள் சமூகமாற்றத்திற்கு முக்கியப் பங்கு வைப்பதை மதிப்பீடு செய்யும் திறனைப் பெறுவர்.
5. மாணவர்கள் தாங்களாகவே சமூக மேம்பாட்டுக்கான ஒரு காட்சிப்பிரதியை உருவாக்கி மறுசீரமைக்கும் திறனைப் பெறுவர்.

PGT 4542 **தொல். சொல்** **7hr/5cr**

நோக்கம்: தொல்காப்பிய சொல்லதிகார நூற்பாக்களை உரையாசிரியர்களின் துணையோடு படித்துப் பொருள் விளங்கிக் கொள்ளும் திறன் பெறுதலும், அவ்வாறு புரிந்து கொண்டதைப் பிற்கால இலக்கண நூலார் எதிர் கொள்ளும் விதத்தினைத் தெரிந்து கொள்ளுதலும் இப்பாடத்தின் நோக்கம் ஆகும்.

கற்றலின் பயன் :

1. தமிழின் முதல் நூலான தொல்காப்பியத்தைத் தெளிவுற அறிந்தும், அறிந்த செய்திகளைப் பிற்கால இலக்கண நூல்களின் கருத்துக்களோடு ஒப்பிட்டுப் பார்க்கும் திறன் பெற்றிருப்பர்.
2. சொற்களின் வகை, அவற்றைப் பயன்படுத்தும் முறை, வேற்றுமை உருபு பயன்பாட்டின் அவசியம், உருபுகள் மயங்கி வரும் தன்மை ஆகியவற்றை அடையாளம் காணும் திறன் பெற்றிருப்பர்.
3. இடைச்சொல், உரிச்சொல், ஆகியவற்றின் தன்மை, வாக்கிய அமைப்பில் அவற்றின் பங்கு, தொகைச் சொற்களின் பயன்பாடு, எச்சங்களின் வகையும் வருகையும் ஆகியனவற்றை அறிந்து, அவற்றைத் தற்காலப் பயன்பாட்டிற்குக் கொண்டு வரும் திறன் பெற்றிருப்பர்.
4. மரபிலக்கணத்தின் தன்மையை மொழியியல் கருத்துக்களோடு ஒப்பிடும் திறன் பெற்றிருப்பர்.
5. இன்றைய சூழலில் மாற்றம் பெறும் மொழியின் அமைப்பிற்கிணங்கத் தொல்காப்பியம் விளங்குவதை முறைமைப்படுத்தும் ஆற்றலைப் பெற்றிருப்பர்.

PGT-4544 **சிலப்பதிகாரம்** **7Hr/5Cr**

நோக்கம்:

சிலப்பதிகாரப் பனுவலை மரபு வழி வாசிப்பு முறைமைக்கு உட்படுத்தலும், உரையாசிரியர்களின் துணையோடு விளங்கிக் கொள்ளுதலும் இப்பாடத்தின் நோக்கங்களாகும்.

கற்றலின் பயன் :

1. காப்பியம் தோன்றியதன் பின்னணியை இலக்கணங்களின் மூலமாக அடையாளப்படுத்தும் திறன் பெற்றிருப்பர்.
2. சிலப்பதிகாரக் காண்டங்களை வாசிப்பதன் மூலம் தமிழ்க் காப்பிய மரபு பிற காப்பிய மரபுகளில் இருந்து எவ்வாறு வேறுபட்டுள்ளது என்பதை விமர்சிப்பர்.
3. சிலப்பதிகாரத்தைப் படிப்பதன் மூலம் தமிழர்களின் இலக்கிய மரபோடு அரசியல், சமூக, பண்பாட்டுக் கூறுகளைப் பொருத்திப் பார்ப்பர்.
4. சிலப்பதிகாரத்தின் நாட்டார் கூறுகள் இன்னும் மக்களிடையே நிலவுவதைப் பகுத்து மதிப்பிடும் ஆற்றல் பெற்றிருப்பர்.
5. சிலப்பதிகார நாடக உத்திகளையும் நவீன நாடக உத்திகளையும் இணைத்துப் புதிய உத்திகளை உருவாக்கி நவீன நாடகம் உருவாக்கும் திறன் பெற்றிருப்பர்.

PGT4446 **சமய இலக்கியம்** **6Hrs/4credits**

நோக்கம்: சமணம், பௌத்தம், சைவம், வைணவம், கிறித்தவம், இஸ்லாம் சமயங்களில் இலக்கியங்கள் தோன்றுவதற்கான காரணங்களை வரலாற்றுப் பின்புலத்தோடு விளக்கி, சமய இலக்கியங்களை அறிமுகப்படுத்துவதும் இதன் வழி, சமயக் கருத்துக்களை அறிந்து கொள்ளுதலும் இப்பாடத் திட்டத்தின் நோக்கங்களாகும்.

கற்றலின் பயன் :

தமிழ் இலக்கண இலக்கியங்களின் வழியாகத் தமிழர்களின் தொல் சமய வழிபாட்டுமுறைகளை நினைவூட்டல். அதன்வழி மாணவர்கள் தமிழ் தினைமரபிலுள்ள இயற்கை வழிபாட்டு முறைகளை அடையாளப்படுத்தும் திறனைப் பெற்றிருப்பர்.

சமண, பௌத்த – சைவ, வைணவ சமய இயக்கங்களின் வளர்ச்சியையும் நெறியையும் அதனதன் இலக்கியங்களை மேற்கோட்டி விளக்குவதன் வழியாக மாணவர்கள் சமயங்களுக்கிடையிலான நெறிகளை வேறுபடுத்தும் திறனைப் பெற்றிருப்பர்.

பிற சமய இலக்கியங்களிலிருந்து இஸ்லாமிய சிற்றிலக்கியங்கள் புதிய வடிவம் பெற்று வளர்ச்சியடைந்தமையைச் சான்றுகளுடன் நிருபிக்கும் திறனடைவர்.

கிறித்தவத்தின் கொள்கைகளும் தத்துவங்களும் கிறித்தவ இலக்கியங்களில் அமைந்து கிடப்பதைக் கூர்ந்தறியும் திறன் பெற்றிருப்பர்.

பல சமயத் தத்துவங்களுக்கிடையே உள்ள பொதுமையையும் இணக்கத்தையும் இணக்கமின்மையையும் தொகுத்து, மதிப்பிடு செய்யும் பயிற்சி பெற்றிருப்பர்.

PGT 4448 **இக்கால இலக்கியம் - மேதமை** **6 Hrs/ 4 Credits**

நோக்கம்:

இக்கால இலக்கியப் புனைவுகர்த்தாக்களுள் அதிமுக்கிய மேதமையரை இனங்கண்டு, அவர்களையொட்டிய நவீன இலக்கிய வளர்ச்சிக்குப் போக்குகளை அவதானித்தறிதலும் மதிப்பிடுதலும் இப்பாடத்தின் முதன்மை நோக்கங்களாக அமைகின்றன. இத்துடன், குறிப்பிடத்தக்கப் படைப்புப் பிரதிகளை இரசனை முறையில் அணுகுவதும், பரந்துபட்ட பன்முக வாசிப்புத்திறனை வளர்த்துக் கொள்வதும் இப்பாடத்தின் பிற நோக்கங்களாக அமைவுறுகின்றன.

கற்றலின் பயன் :

1. இக்கால இலக்கியப் புனைவுக் கர்த்தாக்களுள் அதிமுக்கிய மேதமையரை அடையாளங்கண்டு அவர்களையொட்டிய நவீன இலக்கிய வளர்ச்சிப் போக்குகளை உற்றுநோக்குகிற திறன்களைப் பெற்றிருப்பர்.
2. தொடக்காலத் தமிழ்ச் சிறுகதை மேதமையருடன் சமகாலச் சிறுகதையாளர்களை ஒப்பிட்டு அவர்களின் தர மேம்பாடு குறித்து முடிவு செய்கிற தகுதிகளை எய்தியிருப்பர்.
3. நவீனகாலப் புதினப் படைப்பாளர்கள் மற்றும் அவர்கள்தம் படைப்புப் பிரதிகளைத் தர அடிப்படையில் நிரல்படுத்தி பகுத்தாய்கிற திறன்களைக் கைக்கொண்டிருப்பர்.
4. தொடக்ககால மற்றும் இடைக்காலக் கவிதை மேதமையர்களின் படைப்பு நேர்த்தி குறித்துத் தரமதிப்பீடு செய்து, விவாதிக்கின்ற திறமைகளை எய்தியிருப்பர்.
5. நவீனகாலக் கவிஞர்களின் படைப்புப் பலுவல்களைக் கூர்ந்து அவதானித்து, அவற்றைப் போலப் புதிதாகக் கவிதைகளைப் படைத்திடும் திறன்களை அடைந்திருப்பர்.

PGT 4300 **அரங்கக்கலை** **4Hr/3Cr**

நோக்கம்:

அரங்கக்கலையை செயல்முறையாக அணுகுவன் மூலம் நாடகக்கலையின் நுட்பங்களை அறிமுகப்படுத்தி, குறிப்பாக நடிகனுக்கான பயிற்சிகள் மூலம் மாணவர்தம் ஆளுமைத்திறன்களை மேம்படுத்துதல் இப்பாடத்தின் நோக்கமாக அமையும்.

கற்றலின் பயன் :

1. நடிகனின் அடிப்படைத் தகுதிகளை / திறன்களை அடையாளம் கண்டு கொள்வர்.
2. உடல் - குரல் - மனம் ஆகியவற்றின் கூட்டிணைவைக் கண்டறியும் திறன்பெற்றிருப்பர்.
3. பல்வேறுவகையான நாடக வகைகளைப் புரிந்து தங்களுக்கான நாடக வகைமையைக் கண்டுபிடிக்கும் திறன் பெற்றிருப்பர்.
4. ஒரு பிரதியைத் தேர்ந்தெடுத்து நாடகமாக்கும் பயிற்சியின் மூலம் திறனாய்வு செய்யும் திறன் பெற்றிருப்பர்.
5. இறுதி அரங்கேற்றத்திற்கான இதர கூறுகளை ஒருங்கமைத்து மேடையேற்றும் திறனைப் பெற்றிருப்பர்.

PGT 5541 தொல்காப்பியம் - பொருள் (அகம்) **6Hr/5Cr**

நோக்கம்:

தொல்காப்பிய பொருளதிகார நூற்பாக்களை மரபுவழி வாசித்தலும் உரையாசிரியர்களின் உரைகளின் துணையோடு அகம் சார்ந்த நிகழ்வுகளையும் அவற்றின் வெளிப்பாடுகளையும் அறிந்து கொள்ளுதல் இப்பாடத்தின் நோக்கமாகும். மேலும், நம்பியகப்பொருள் வாயிலாகப் பிற்காலப் பார்வையைப் புரிந்து கொள்ளுதலும் இப்பாடத்தில் அடங்கும்.

கற்றலின் பயன்:

1. அக உணர்வுகளைச் செய்யுளில் கையாளும் முறை குறித்துத் தொல்காப்பியர் பொருளதிகாரத்தில் கூவலும செய்திகளைத் தெளிவுற அறியும் ஆற்றல் பெற்றிருப்பர்.
2. நானிலப் பாகுபாடு, முதல், கரு, உரி, பாலையின் தனித்தன்மை ஆகியவற்றை அறிந்தும், அறிந்ததைப் பிற்கால இலக்கண நூலோடு பொருத்திப் பார்க்கும் திறன் பெற்றிருப்பர்.
3. 'களவு – கற்பு' பாகுபாடு, இயற்கைப் புணர்ச்சி, இடந்தலைப்பாடு, பாங்கர் கூட்டம், அறத்தொடு நிற்றல், உடன் போக்கு, வரைவு, பரத்தை பிரிவு ஆகிய தொல் இலக்கிய விமரிசனக் கூறுகளைப் பிரித்தறியும் திறன் பெற்றிருப்பர்.
4. தொல்காப்பியத்தின் கவிதைக் கூறுகள் இன்றைய படைப்புகளில் - திரையிசைப் பாடல், புதுக்கவிதை – பயின்று வருவதை எடுத்துரைக்கும் திறன் பெற்றிருப்பர்.
5. அகத்திணைக்குரிய மெய்ப்பாடுகளை அறிந்தும், அவற்றின் வழி நடிப்புத் திறனை, படைப்புத் திறனை மேம்படுத்திக் கொள்ளும் திறன் பெற்றிருப்பர்.

PGT 5543 சங்க இலக்கியம் - அகம் **6Hr/5Cr**

நோக்கம்: சங்கப் பாடல்களில் அகவுணர்வுகளை வெவ்வேறு நிலைகளில் தெரிந்து கொள்ளுதலும் இலக்கியத்தின் வடிவத்தையும், உள்ளடக்கத்தையும் அறியும் படிச் செய்தலும் தமிழரின் தொன்மைக் கால பண்பாட்டு அக மரபினை ஐந்திணைக் கோட்பாட்டின் அடிப்படையில் அறிந்து கொள்ளும்படிச் செய்தலும் இப்பாடத்தின் நோக்கமாகும்

கற்றலின் பயன் :

1. முதல், கரு, உரி போன்றவை அகப்பாடல்களில் பொருத்தப்பாடு கொள்வதை இனங்கண்டு, அவற்றைப் பரிசோதனைச் செய்யும் திறனைப் பெற்றிருப்பர்.
2. கிரேக்க இலக்கியத்துடன் ஒப்பிட்டு, மதிப்பீடு செய்யும் திறன் பெற்றிருப்பர்.
3. அமைப்பு முறையில் வேறுபட்டு இருப்பதைக் கணிக்கும் திறன் பெற்றிருப்பர்.
4. முல்லைக்குரிய இருத்தல் உணர்வினை, கவிதை முழுமைக்கும் நியாயம் செய்யும் பயிற்சிப் பெற்றிருப்பர்.
5. அக நாடகப் பாங்கினைக் கட்டுமானம் செய்து முறைப்படுத்தும் திறனைப் பெற்றிருப்பர்.

PGT 5545 சமயக்காப்பியம் **6Hr /5Cr**

நோக்கம் :

காப்பியங்கள் சமயங்களின் பின்புலத்தில் உருப்பெற்றமையை இனங்காணுதலும் காப்பியங்களை அதனதன் போக்கில் புரிந்து கொள்ளுதலும் இப்பாடத்தின் நோக்கங்களாகும். தற்காலத்தில் சமயங்கள் முன்னெடுக்கும் இலக்கிய வடிவங்களைப் பயிலுதலும் இப்பாடத்திட்டத்துள் அடங்கும்.

கற்றலின் பயன் :

1. சமயப் பரவலாக்கத்தின் கருவியாக இலக்கியங்கள் அடித்தளமாவதை அடையாளம் காணும் திறன் பெற்றிருப்பர்.
2. சைவ வைணவத்திற்கிடையேயான ஒற்றுமை, வேற்றுமைகளைப் பகுத்தாயும் திறன் பெற்றிருப்பர்.
3. தர்க்க இலக்கியம் குறித்த அறிமுகமும் பிற இலக்கிய வகைமையினின்று வேறுபடுத்தும் திறனும் பெற்றிருப்பர்.
4. தமிழில் எழுந்த காப்பியங்களுக்கு நிகராகக் கிரித்தவக் காப்பியங்களும் அமையப்பெற்றுள்ளமையை மதிப்பீடு செய்யும் திறன் பெற்றிருப்பர்.
5. நவீன இலக்கிய வடிவங்களை உள்வாங்கிப் படைப்பாக்கம் பெற்ற பஸ்சமயப் பனுவல்களைக் கண்டறியும் திறன் பெற்றிருப்பர்.

PGT5547 **நாட்டுப்புறவியல்** **6Hrs/5credits**

நோக்கம்: நாட்டுப்புற இலக்கியங்களை அறிமுகம் செய்தலும் களஆய்வின் வழியாக வழக்காறுகளைச் சேகரிக்கும் பயிற்சியினை மாணவர்களுக்கு கற்றுத்தருவதும் இப்பாடத்தின் நோக்கமாகும்.

கற்றலின் பயன் :

1. தமிழ் நாட்டுப்புற வழக்காறுகளை முழுமையாகக் காணும் திறன் பெற்றிருப்பர்.
2. நாட்டுப்புற வழக்காறுகளை வகைப்படுத்தி வழக்காறுகளுக்கும் பண்பாட்டிற்குமான உறவினை அறிந்திருப்பர்.
3. சமயத்தின் தோற்ற காரணிகளை கோட்பாடுகளின் வழியாக அறிந்து, முறைகள் சமயத்தின் உட்கூறுகளுடன் இணைந்து வினையாற்றுவதைப் பொருத்திப் பார்த்து அறியும் திறன் பெற்றிருப்பர்.
4. களஆய்வின் வழியாக நாட்டுப்புற வழக்காறுகளைக் கண்டறிந்து அவற்றை மதிப்பிடு செய்யும் திறன் பெற்றிருப்பர். நாட்டுப்புறவியலுக்கும் பிற துறைகளுக்குமான நெருக்கத்தினை தொடர்புபடுத்தி புரிந்து கொள்ளும் திறன் பெறுவர்.
5. போலி வழக்காறுகளை உருவாக்கி படைக்கும் திறன் பெற்றிருப்பர்.

PGT 5449 **புலம்பெயர் இலக்கியம்** 6Hrs/4Cr

நோக்கம்: சொந்த நிலத்திலிருந்து பல்வேறு சமூக, பொருளாதார, அரசியல் காரணங்களால் புலம் பெயர்ந்து வாழுகிற அயலகத் தமிழர்களின் வாழ்வியலை, அவர்தம் படைப்புகளின் வாயிலாக விளங்கிக் கொள்ளுதல் இப்பாடத்தின் நோக்கமாகும்.

கற்றலின் பயன் :

1. தமிழ்ச்சமூகம் புலம்பெயர்ந்தமைக்கான காரணங்கள், வரலாற்று உண்மை மற்றும் புலம்பெயர் இலக்கியத்தை வரையறுக்கும் திறனைப் பெற்றிருப்பர்.
2. புலம் பெயர் இலக்கியத்தை உள்வாங்கிக் கொள்ளும் திறனைப் பெறுவதோடு, அதன் வழியே ஆராயும் திறனையும் பெற்றிருப்பர்.
3. புலம்பெயர் இலக்கியத்தைப் பற்றிச் சொந்தமாக விளக்கி எழுதும் திறனைப் பெற்றருப்பர்.
4. புலம்பெயர்தலைப் பற்றி எழுதப்பட்டுள்ள நாவல், சிறுகதை, கவிதை ஆகியவற்றோடு மற்ற இலக்கியத்தோடு ஒப்பிட்டு விவாதிக்கும் திறனைப்பெற்றிருப்பர்.
5. புலம்பெயர் மக்களின் தற்கால நிலவரங்களைத் தொகுத்து அவர்களைப் பற்றி மதிப்பீட்டு அறிக்கையை உருவாக்கும் திறனைப் பெற்றிருப்பர்.

PGT 5452 தொல். பொருள் (புறம்) 6Hrs/4Cr

நோக்கம் : தொல்காப்பியப் பொருளதிகார நூற்பாக்களை மரபு வழி வாசித்தலும், உரையாசிரியர் தம் உரைகளின் துணையோடு புறம் சார்ந்த நிகழ்வு நிலைகளை அறிந்து கொள்ளுதலும், செய்யுளின் உறுப்புக்களையும் வடிவத்தையும் அறிந்து கொள்ளுதலும், யாப்பருங்கலக்காரிகை வாயிலாகப் பிற்கால வளர்ச்சியை அறிந்து கொள்ளுதலும் இப்பாடத்தின் நோக்கங்கள் ஆகும்.

கற்றலின் பயன்:

1. சங்கப்புறப்பாடல்கள் திணைச்சமூகத்தின் பண்பாட்டு மூலங்களாக அமைகின்றன என்பதைத் தெளிவுற விவரிக்கும் ஆற்றல் பெற்றிருப்பர்.
2. செவ்விலக்கியங்களின் மரபுத் தொடர்ச்சியே பிற்கால புறப்பொருள் இலக்கண நூல்கள் என்பதைப் ஒப்பிட்டுப் பகுத்தாராய்வர்
3. பண்டைய தமிழ் செவ்விலக்கியங்கள் உருவாக்கித் தந்திருக்கும் நுட்பமான புறச்சமூக மனவியக்கத்தின் வெளிப்பாடான புறப்பாடல்களில் சித்தரிக்கப்படும் வீரயுகத்தொன்மங்கள், வழிபாடு, போர்ச் செயலாற்றல், அறம் பற்றிய மதிப்பீடுகள் மற்றும் புறமாந்தர் உளவியலைத் தர்க்க முறைகளாக ஆராய்ந்தறியும் திறன் பெற்றிருப்பர்.
4. பண்டைய தமிழ்ச் சமூகத்தின் மாறுட மதிப்புகளை அகத்திணைக்கு மாற்றாகத் தர்க்கப்பூர்வமாக வரையறுக்கும் / மதிப்பிடும் திறன் பெற்றிருப்பதோடு, சங்கப் புறப்பாடல்கள் வாசிப்பின் வழியாகப் புனையும் பன்மியச் சமூகக் கட்டமைப்பினையும் ஒருசேர திறனாயும் ஆற்றல் பெற்றிருப்பர்
5. மரபிலக்கணத்தின் புலமைசார்வெளிப்பாடான செய்யுளின் கட்டமைப்பினையும் மரபியல் சார்ந்த உயிர்ப்பாகுபாட்டினையும் ஒருசேர் மூலங்களாகச் செவ்விலக்கியங்கள் கொண்டிருப்பதைச் சமகாலப் பயிற்சியில் அவற்றை நிறுவும் திறன் பெற்றிருப்பர்

PGT 5444 சங்க இலக்கியம் - புறம் 6Hr/4Cr

நோக்கம்: சங்க இலக்கியப் பாடல்களில் புறத்திணைக் கோட்பாட்டின் அடிப்படையிலான புறக்கூறுகளை அறிமுகம் செய்வதும், பண்டைத் தமிழர்களின் வீரயுகப் பாடல்களின் தன்மைகளைத் தெரிந்து கொள்ளும்படி விளக்குவதும் இப்பாடத்தின் நோக்கமாகும்.

கற்றலின் பயன்:

1. புறம் சார்ந்த மரபுகளை அடையாளம் கண்டு அவற்றின் சிறப்புக்களை உற்று நோக்கி விவாதிக்கும் திறன் பெற்றிருப்பர்.
2. ஆற்றுப்படை இலக்கியத்தையும், தன்னுணர்ச்சிப் பாடல்களையும் சோதனை செய்து நிறுவும் திறனைப் பெற்றிருப்பர்.
3. அகமும் புறமும் கலந்த பாடல்களின் தன்மையைக் கணித்துத் தொடர்பு படுத்தும் திறனைப் பெற்றிருப்பர்.
4. சேர்களின் ஆளுமையை மதிப்பிடு செய்யும் திறனைப் பெற்றிருப்பர்.
5. பாடலின் உள்ளடக்கத்தைக் கொண்டு, காலத்தால் பிந்தியது என்பதை முறைபடுத்திப் பார்க்கும் திறனைப் பெற்றிருப்பர்.

PGT 5446 அறமும் இலக்கியமும் 4 Hrs/4Cr

நோக்கம்:

சங்க இலக்கியம் தொடங்கிப் பதினெண் கீழ்க்கணக்கு நூல்கள், சித்தர் பாடல்கள், சிற்றிலக்கியங்கள் ஆகியவை அறம் குறித்து கூறுவனவற்றை இனம் கண்டு கற்றல் இப்பாடத்தின் நோக்கமாகும். இதன் தொடர்ச்சியாகத் தமிழ்ச் சமூகத்தில் காலந்தோறும் அறம் மாற்றமடைந்து வந்திருப்பது, அறக் கருத்துக்கள் கேள்விக்குட்படுத்தப்பட்டு எதிர்வினைகள் உருவானது ஆகியவை பற்றி அறிதலும் இப்பாடத்தில் அடங்கும்.

கற்றலின் பயன்:

1. இலக்கியங்களின் பாடுபொருளாக அறம் அமைவதையும், அது காலத்திற்கு ஏற்ப மாற்றம் பெற்று வந்திருப்பதையும், அம்மாற்றத்திற்குப் பின்னால் நிலவிய அரசியலைப் புரிந்து கொள்ளும் ஆற்றலையும் பெற்றிருப்பர்.
2. சங்க இலக்கியம் கூறும் அறங்களில் சமயங்களின் தாக்கத்தையும் கொல்லாமை, நிலையாமை ஆகிய இரண்டு அறங்களும் கூடுதல் அழுத்தம் பெறுவதையும் அறிந்து கொள்ளும் ஆற்றல் பெற்றிருப்பர்.
3. சமண, பௌத்த சமயங்கள் அறங்களையும், இவற்றுக்கு மாறாக வைதீக சமயங்களின் முன்னெடுக்கும் அறங்களையும் இலக்கியங்களின் துணைகொண்டு அறியும் ஆற்றலையும் பெற்றிருப்பர்.
4. நிறுவனமயப்பட்ட சமயங்களுக்கு எதிராகச் சித்தர்கள் கிளர்ந்து எழுதலையும், அவர்கள் முன்னிறுத்தும் அறங்களையும் அறிவதோடு அவற்றை எடுத்துரைக்கும் வன்மையையும் பெற்றிருப்பர்.
5. 'மையம்' முன்னிறுத்திய அறங்களை 'விளிம்பு' கேள்விக்கு ஆளாக்குவதையும், புதிய அறங்களை அது முன்னெடுப்பதையும் அறிந்து கொள்ளும் திறன் பெற்றிருப்பர்.

PGT5448 இக்கால இலக்கியம்: அண்மைப்போக்குகள் 6Hr/4Cr

நோக்கம்:

தமிழில் பின்னை நவீனத்துவ இலக்கியங்களை அறிமுகம் செய்வதன் மூலம் 1990-களுக்குப்பிந்தைய இலக்கியப்போக்குகளை அறிந்துகொள்வது இப்பாடத்தின் நோக்கமாக அமையும்.

கற்றலின் பயன்:

1. இக்கால இலக்கியத்தின் பல்வேறு வகைமைகள் உருப்பெற்ற பின்புலத்தை உலக இலக்கியப் பின்புலத்தில் விவரிக்கும் திறனைப் பெறுவர்.
2. தலித் இலக்கியத் தோற்றம், தமிழில் அதன் வீச்சு ஆகியனவற்றைப் பிற இலக்கிய வகைமைகளோடு ஒப்பிட்டு நோக்கும் ஆற்றல் பெறுவர்.
3. பெண்ணிய வகைமைகள், தமிழில் பெண்ணிய இலக்கியப் போக்கினை விமரிசன நோக்கில் அணுகும் திறன் பெறுவர்.
4. விளிம்புநிலை மாந்தர் இலக்கியம் என்ற வகைப்பாட்டுக்கான பொருத்தப்பாட்டிற்கு நியாயம் செய்யும் திறன் பெற்றிருப்பர்.
5. 21-ஆம் நூற்றாண்டில் அரும்பு விட்டிருக்கின்ற சில புதுவகை இலக்கிய வகைமைகளை மதிப்பிடும் திறன் பெறுவர்.

PGT 5400 **தொல்லியலும் தமிழகமும்** **4Hrs/4Cr**

நோக்கம்: தமிழக வரலாற்றின் அடித்தளமான தொல்லியலை மாணவர்களுக்கு அறிமுகப்படுத்தி தமிழகத் தொல்லியல் களங்களைப் பார்வையிட்டுப் பயிலுதலும், தொல்லியல் கூறுகளுக்கும் தமிழ் இலக்கியங்களுக்கும் இடையே உள்ள பொருத்தப்பாடுகளை இனங்காணுதலும் இப்பாடத்தின் நோக்கமாகும்.

கற்றலின் பயன்:

1. தொல்லியல் கூறுகளுக்கும் தமிழ் இலக்கியங்களுக்கும் இடையே உள்ள பொருத்தப்பாடுகளை மாணவர்கள் இனம் காணும் திறன் பெற்றிருப்பர்.
2. தொல்லியல் சார்ந்த அடிப்படைச் செய்திகளையும், தொல்லியலுக்கும் பிறதுறைகளுக்கும் இடையே உள்ள தொடர்பினையும், கல்வெட்டுக்களைப் படியெடுக்கும் முறையினையும், விளக்கும் திறன் பெற்றிருப்பர்.
3. தொல்லியலின் மூலம் தமிழக வரலாற்றினை, சங்க காலம், களப்பிர் காலம், பல்லவர் காலம், பிற்காலச் சோழர் காலம், பிற்காலப் பாண்டியர் காலம் எனப் பகுத்துப் பொருத்திப் பார்க்கும் திறனைப் பெற்றிருப்பர்.
4. மட்பாண்டங்கள், பானை ஓவியங்கள், தமிழ் பிராமிக் கல்வெட்டுக்கள், நடுகல், கோயில்கள், செப்பேடுகள், ஓலைச் சுவடிகள், காசுகள், பயணக்குறிப்புகள் எனத் தொல்லியல் சான்றுகளை வகைப்படுத்தி இதன் மூலம் தமிழக வரலாற்றின் உண்மைத் தன்மையைப் பகுத்தறியும் திறனைப் பெற்றிருப்பர்.
5. தொல்லியல் களச் சுற்றுலாவின் மூலம் வரலாற்று அறிவை மாணவர்கள் விசாலப்படுத்துவதோடு தமிழக வரலாற்றின் உண்மைத்தன்மையை உணரும் திறன் பெற்றிருப்பர்.

PGT 5402 **ஆய்வுநெறியும் ஆய்வேடும்** **4 Hrs/4Cr**

நோக்கம்:

ஆய்வு குறித்த நெறிமுறைகளைத் தெரிந்துகொள்வதுடன் ஆய்வுப்பொருள் பற்றிய தெளிவைப் பெறுதல் இப்பாடத்தின் முதன்மை நோக்கங்களாகும். இவற்றைத் தொடர்ந்து முதுகலைப் பாடப்பிரிவில் பயிலுகிற ஏனைய பாடங்களையொட்டி ஆய்வுத்தலைப்பினைத் தெரிவு செய்து, ஆய்வேட்டினை உருவாக்குதல் இப்பாடத்தில் அடங்கும்.

கற்றலின் பயன்:

1. முதுகலைப் பாடத்திட்டத்தில் இடம்பெற்றுள்ள பாடங்களின் அடிப்படையில் சிக்கல்களை இனங்கண்டு தலைப்பினைத் தெரிவு செய்யும் ஆற்றல் பெற்றிருப்பர்.
2. ஆய்வேட்டினை உருவாக்கும் வழிமுறைகளைத் திறம்பட அறிந்து அவற்றைச் செயல்படுத்தும் திறன் பெற்றிருப்பர்.
3. பல்வேறு அணுகுமுறைகளின் துணை கொண்டு சிக்கலை ஆராயும் திறன் பெற்றிருப்பர்.
4. ஆய்வாளராக, ஆய்வுக் கட்டுரை, நூல் எழுதும் திறம் பெற்றவராக மாறும் ஆற்றல் பெற்றிருப்பர்.
5. எதிர்காலத் தலைமுறையினருக்கு ஏற்பப் பாடத்திட்டங்களை உருவாக்குதல், பாடங்களை வடிவமைத்தல் ஆகிய திறன்களைப் பெற்றிருப்பர்.