

GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)

KUMBAKONAM – 612 001

Affiliated to Bharathidasan University

DST - CURIE Sponsored Institution

IV Cycle of Accreditation



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Course Outcomes(PG)

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M.Sc CHEMISTRY

INORGANIC CHEMISTRY (P21CHC101)

- CO1 Explain the principles of inorganic polymer synthesis and assess appropriate methods of synthesis
- CO2 Construct a plan for further research in inorganic polymers
- CO3 Illustrate the bonding system of inorganic compounds
- CO4 Understand the key features of Co-ordination chemistry
- CO5 Apply the concepts of Co-ordination chemistry for further research.

PHYSICAL CHEMISTRY I (P21CHC102)

- CO1 Understand the basic concepts of Chemical kinetics and thermodynamics
- CO2 Understand the energy equation and its application.
- CO3 Describe the fundamental concepts such as enthalpy, entropy, fugacity, etc.,
- CO4 Explain the concept of catalytic system in chemical reactions.

ORGANIC CHEMISTRY I (P21CHIMBE1:1)

- CO1 To make the students learn and understand the concept of stereochemistry,
- CO2 conformational analysis and their application in the determination of reaction mechanism.
- CO3 To understand the mechanism of nucleophilic and electrophilic substitution reactions

INORGANIC CHEMISTRY II (P21CHC205)

- CO1 Describe the relationship between structure and chemical bonding and draw conclusions about the physical properties of materials such as macroscopic magnetic, electrical and optical behaviour, describe structure, physical properties of semiconductors and operation principles of semiconductor devices.
- CO2 Describe the basic principles of solid-state NMR, X-rays diffraction and electron microscopy, describe and exercise selected methods of solid state synthesis.
- CO3 Apply the chemistry of lanthanides and actinides for future use in the field of nano technology

ORGANIC CHEMISTRY II (P21CHC206)

- CO1 Understand the nature carbon when tied –up with hetero atom and its reactions
- CO2 Understand the concept of Molecular rearrangements
- CO3 Describe different naming reactions
- CO4 To apply the knowledge of chemical reactions inorganic synthesis.

ANALYTICAL CHEMISTRY (P21CH2MBE2:1)

- CO1 Able to understand the theory, principles and applications of various advanced spectroscopic techniques.
- CO2 Knowledge in data and error analysis
- CO3 Understand chromatography techniques




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- CO4 Expertise in knowing about thermo analytical methods.
- CO5 Knowledge in redox system and in polarography techniques

INORGANIC CHEMISTRY III(P21CHC309)

- CO1 Illustrate the concept of co-ordination chemistry
- CO2 Illustrate the substitution in Co-ordination complexes and Inorganic photochemistry.
- CO 3 Explain the application of catalyst in chemical reactions

PHYSICAL CHEMISTRY II(P21CHC311)

- CO1 Understand the behavior of kinetics on chemical reactions.
- CO2 Illustrate of the structure of compounds through group theory
- CO3 Construct the character table.

MEDICINAL CHEMISTRY(P21CH3MBE3:1)

- CO1 First aid, medicinal plants, antibiotics, anesthetics and organic pharmaceutical aids.
- CO2 Availability, uses and side effects of some important drugs.
- CO3 Biological role of some inorganic compounds.
- CO4 Cause, symptoms, treatment and prevention of Deficiency disease diabetics and syndrome disease.
- CO5 Creates the interest to work in pharmaceutical companies.
- CO6 Motivates to research on identification of new drugs.


PHYSICAL CHEMISTRY III (P21CHC413)

- CO 1 Understand the electrochemical kinetics, overpotential, corrosions and fuel cells.
- CO 2 Illustrate about solid –state and its properties.
- CO 3 To Study the principles and applications of spectroscopy. To study statistical thermodynamics.

RECENT TRENDS IN CHEMISTRY(P21CH4MBE4:1)

- CO1 Able to work with computer for their research purpose
- CO2 Able to differentiate bulk and nano materials and apply their ideas in research.
- CO3 Able to choose innovative research for further studies
- CO4 Able to apply the applications of green chemistry to survive with pollution free environment
- CO5 Explain the basic modeling of electrons and atoms




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M.Com., COMMERCE

FINANCIAL MANAGEMENT- P21COC101

- CO 1 Apply the basic financial concepts in business.
- CO 2 Identify the optimum funding sources and instruments.
- CO 3 Prepare and analyse the financial proposals and plans
- CO 4 Choose the best method of capital budgeting.
- CO 5 Frame the capital structure of the business

COST AND MANAGEMENT ACCOUNTING- P21COC102

- CO 1 Analyse the financial statements by calculating ratios and construct a balance sheet with the help of available data and ratios.
- CO 2 Apply marginal costing techniques in decision making.
- CO 3 Make efficient use of budgeting technique.
- CO 4 Prepare the process cost of various industries.
- CO 5 Prepare the reconciliation statement between cost and financial accounting.

INDIAN FINANCIAL SYSTEM- P21COC103

- CO 1 Know the financial system and its working in our country.
- CO 2 Explain the functions of regulatory bodies in the financial system.
- CO 3 Outline the working of financial system in India.
- CO 4 Relate capital market and money market.
- CO 5 Show how a depository system works.

MANAGEMENT CONCEPTS- P21COC104

- CO 1 Apply the management functions.
- CO 2 Develop leadership quality.
- CO 3 Identify the best control techniques in business.
- CO 4 Meet the challenges of management.
- CO 5 Organize enterprise with business ethics.

MANAGERIAL ECONOMICS- P21CO1MBE1

- CO 1 Describe demand forecasting of a company
- CO 2 Design competition strategy including costing, pricing, product differentiation and market environment.
- CO 3 Analyse business problem with a systematic theoretical prime work.
- CO 4 Apply the profit policies and management in a business.
- CO 5 Understand the economic growth and development concepts – GDP, GNP.

INCOME TAX THEORY LAW AND PRACTICE- P21COC205

- CO 1 Understand the basic concept of income tax.
- CO 2 Have an idea about set off and carry forward of loss and clubbing of income
- CO 3 Assess the income of individuals




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- CO 4 Have an expertise knowledge to file return of income tax
- CO 5 Take jobs to calculate tax liability and filing of returns

QUANTITATIVE TECHNIQUES FOR BUSINESS DECISIONS- P21COC206

- CO 1 Choose the most economical solution to a problem within all its limitations or constraints.
- CO 2 Describe the behavior of rare events.
- CO 3 Identify optimal choices under conditions of uncertainty.
- CO 4 Find minimum transportation cost and time in business.
- CO 5 Develop a systematic quantitative approach for deciding the best strategy in competitive situations.

STRATEGIC MANAGEMENT- P21COC207

- CO 1 Describe major theories background work, concepts in the field of strategic management.
- CO 2 Demonstrate a clear understanding of tools and techniques used by an executive in developing and executive strategies.
- CO 3 Find practical solution for diagnosing and solving organizational problems.
- CO 4 Demonstrate capability of making their own decision in business.
- CO 5 Develop their capacity to think and execute strategically.

FINANCIAL SERVICES- P21COC208

- CO 1 Outline the recent trends in financial services sector.
- CO 2 List out the functions of various financial services.
- CO 3 Summarize and explain the players in financial sector.
- CO 4 Classify factoring, leasing and mutual funds.
- CO 5 Describe the process of securitization of assets.


BUSINESS ENVIRONMENT- P21CO2MBE2

- CO 1 Know what is business environment and its impact on business.
- CO 2 Apply the concepts in their own business.
- CO 3 Identify and analyse the issues in business situations and provide solutions.
- CO 4 Discuss the impact of economic, socio-cultural and labor environment over business.
- CO 5 Relate State policies, economic legislations and reforms by government in their business activities.

ADVANCED CORPORATE ACCOUNTING- P21COC309

- CO 1 Prepare final accounts of Banking companies.
- CO 2 Draft final accounts for Insurance Companies
- CO 3 Prepare final accounts as per Form I and Form II of the companies Act.
- CO 4 Apply the methods of human resource accounting and inflation accounting.
- CO 5 Make use of accounting standards while preparing final accounts.




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INTERNATIONAL FINANCIAL MANAGEMENT- P21COC311

- CO 1 Learning financial management from an international perspective.
- CO 2 Understand international capital and foreign exchange market and their functions.
- CO 3 Identify risk relating to exchange rate, fluctuation and develop strategy to deal with them.
- CO 4 Learn the functions of foreign capital markets.
- CO 5 Know the sources of external finance and international institutions.

RESEARCH METHODOLOGY- P21COC312

- CO 1 Outline various kinds of research objectives for doing research.
- CO 2 Develop apply the research process
- CO 3 Identify the sources of data collection.
- CO 4 Utilize measurement and scaling techniques as well as quantitative data analysis.
- CO 5 Develop the research methodology

HUMAN RESOURCE MANAGEMENT- P21CO3MBE3

- CO 1 Show about human resource management.
- CO 2 Apply design and evaluate various recruitment and placement policies, develops selection and interviewing process.
- CO 3 Develop ways in which training and development programmes can be provided to the employees.
- CO 4 Demonstrate the performance appraisal and reward system for the organization.
- CO 5 Select the strategy for good industrial relation.


SECURITY ANALYSIS AND PORTFOLIO MANAGEMENT- P21COC413

- CO 1 Analyse the various investments and their risk and return in the security market.
- CO 2 Explain the fundamental factors influencing investment in stock market.
- CO 3 Make use of technical analysis in preparing graph, bar and Charts.
- CO 4 Construct optimal Portfolio Securities
- CO 5 Analyse the performance ranking of different funds.

ENTREPRENEURIAL DEVELOPMENT- P21COC414

- CO 1 Construct different stages related to the entrepreneurial process
- CO 2 Apply different entrepreneurial strategies required in business.
- CO 3 Develop skills needed to run a business successfully
- CO 4 Make use of skills required for initiating entrepreneurial activities
- CO 5 Analyse opportunities and threats entrepreneurship.




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GOODS AND SERVICES TAX- P21CO4MBE4

- CO 1 enhance their knowledge about GST its features and importance.
- CO 2 practice financial transactions by applying different GST rates for different types of product.
- CO 3 Identify the persons who are liable to pay GST and also composition scheme of GST.
- CO 4 Have an idea about administration of GST, place of supply, value and time of goods and services.
- CO 5 Apply the provisions regarding registration, filing of returns under this act.




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M.Sc COMPUTER SCIENCE

MATHEMATICAL FOUNDATIONS (P21CSC101)

- CO1 Ability to apply mathematical logic to solve problems.
- CO2 Understand sets, relations, functions, Venn diagrams and discrete structures.
- CO3 Able to use logical notations to define and reason about fundamental mathematical concepts such as binary relations partial ordering.
- CO4 Able to model and solve real world problems using graphs and trees.
- CO5 Understand the different types of matrix in graphs.

OBJECT ORIENTED ANALYSIS AND DESIGN & UNIFIED MODELING LANGUAGE (P21CSC102)

- CO1 Defines the basic concepts of object oriented systems and methodologies
- CO2 Specify, analyze and design the use case driven requirements and explains about various object oriented methodologies.
- CO3 Illustrate modeling principles, structure and relationships.
- CO4 Model the event driven state of object and Explain about processes , threads and chart diagrams.
- CO5 Identify, analyze the subsystems, various components and collaborate them interchangeably.

PYTHON PROGRAMMING (P21CSC103)

- CO1 Explain the basic concepts of python variables, standard data types and operations.
- CO2 To understand the control statements and the usage list and tuples.
- CO3 Describe the concepts of function, built in function, mapping functions in a dictionary.
- CO4 Understand the concept of various Error handling & Exceptions
- CO5 Implement object oriented concepts.


PARALLEL PROCESSING (P21CSIMBE1:1)

- CO1 Elaborate advanced concept of Parallel Processing
- CO2 Describe the Parallel Programming platforms, principles and design algorithms
- CO3 Demonstrate the basic communication operations and algorithms
- CO4 Explain the organization of basic computer its design and the design of control unit
- CO5 Demonstrate the working of central processing Unit and RISC and CISC architecture.
- CO6 Describe the operations and language of the register transfer, micro operations and input output organization
- CO7 Understand the organization of memory and memory management hardware.

DISTRIBUTED OPERATING SYSTEM(P21CSC205)

- CO1 To provide hardware and software issues in modern distributed systems.
- CO2 To get knowledge in distributed architecture, naming synchronization, consistency and replication, fault tolerance security and distributed file systems




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- CO3 To get knowledge about deadlock, mutual exclusion, event ordering.
- CO4 To know about shared memory techniques.
- CO5 Discuss about how cryptography helps to achieve common security goals (data secrecy, message integrity, non-repudiation).

ADVANCED JAVA PROGRAMMING (P21CSC206)

- CO1 To learn the internet programming student should be able to using Java Applets.
- CO2 To know how to apply event handling on AWT and swing components.
- CO3 To learn access DB through Java programs using Java Data Base (JDBC).
- CO4 Create dynamic web pages using Servlets & JSP.
- CO5 To make a reusable Software component using Java Bean.
- CO6 To learn fundamental image concepts image consumer, image filter, cell animation, additional imaging, classes
- CO7 To describe regular expression and other packages API & RM

COMPILER DESIGN (P21CSC207)

- CO1 To describe the design of a compiler including its phases and components
- CO2 To make the lexical analysis of program.
- CO3 To demonstrate the flow of control using directed a cyclic graph.
- CO4 To introduce different translation language.
- CO5 To understand the importance of code optimization.
- CO6 To know about compiler generation tools and techniques
- CO7 To describe the role of compiler in ensuring the security, privacy and integrity of data

NETWORK SECURITY- P21CS2MBE2:1

- CO1 Describe network security services and mechanisms.
- CO2 To understand the fundamental of cryptography to provide confidentiality, integrity and authenticity, Symmetrical and Asymmetrical cryptography.
- CO3 To understand the various key distribution and management schemes.
- CO4 Able to know about Data integrity, Authentications, Digital Signature and Various security applications IPsec, Firewall, Web Security, Email Security and malicious software etc
- CO5 To design security applications in the field of IT.

ADVANCED COMPUTER ARCHITECTURE (P21CSC309)

- CO1 Understand the concepts of parallel processing and its applications.
- CO2 Implement the Hardware for arithmetic operations.
- CO3 Analyze the performance of different scalar components.
- CO4 Develop the pipelining concept for a given set of instructions.

DATA MINING (P21CSC310)

- CO 1 Discuss the types of data to be mined and present a general classification of data mining tasks.




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- CO 2 Discuss the techniques for pre-processing data before mining concepts such as the cleaning integrations, redirection, transformations & data discretization.
- CO 3 Provide solid introduction to data ware housing, OLAP, and data generalization, then provide the methods for mining frequent patterns, associations & correlation.
- CO 4 Provide solid introduction to data ware housing, OLAP, and data generalization, then provide the methods for mining frequent patterns, associations & correlation.
- CO 5 This unit describes the partitioning, hierarchical, density based methods, and grid based Methods and evaluation of clustering.
- CO6 It describes several major approaches to the detection of anomalies, such as outlier detection, statistical approaches. Proximity based, clustering based and classifications based methods.

DATA ANALYTICS (P21CSC311)

- CO1 To understand the basic concepts of big data.
- CO2 Understand Sqoop architecture and uses table to load real-time data and RDBMS table / Query on the HDFS able to write scripts for exporting data from HDFS onto RDMS table.
- CO3 Understand the key issues in Big Data management and its associated application in intelligent business and scientific computing.
- CO4 Acquire fundamental enabling techniques and scalable algorithms like Hadoop Map Reduce, in Big Data Analytics.
- CO5 Achieve adequate perspective of Big Data analytics in various application like recommend or systems, social media application.

SOFTWARE QUALITY ASSURANCE AND TESTING (P21CS3MBE3:1)

- CO1 Learn the principles of testing and software development life cycle methods.
- CO2 Discuss the various levels of techniques, such as white box testing, Integration, System and white box testing.
- CO3 It provide testing fundamentals and specialized testing, such as performance, Regression, object oriented systems, usability & Accessibility testing.
- CO4 Describe fundamental concepts in Software testing for test plan, Test management, Execution and reporting.
- CO5 Apply the different approaches of software test automation, Test metrics and measurement

OPEN SOURCE TECHNOLOGIES (P21CSC413)

- CO1 To learn how to install & configure Linux OS and some of the basic Linux administration commands.
- CO2 To know how to configure and secure apache.
- CO3 To learn about basis MYSQL commands and some of the administrative details.
- CO4 To know how to configure PHP and its basics.




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DEEP LEARNING (P21CS4MBE4:1)

- CO1 To identify the deep learning algorithms which are more appropriate for various types Of learning tasks in various domains.
- CO2 To appreciate the use of Deep Learning Applications.
- CO3 To understand and implement Deep Learning Architecture.
- CO4 To understand the role of Deep Learning in Machine Learning Applications.




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M.A. ECONOMICS

MICRO ECONOMIC ANALYSIS-I (P21ECC101)

- CO 1 Evaluate modern utility analysis
- CO 2 Appreciated recent theories of demand
- CO 3 Asses the deferent types of production function
- CO 4 Understand the price and determination in different market structures
- CO 5 Analyses the objectives of firm thought select models .

MACRO ECONOMIC ANALYSIS – I (P21ECC102)

- CO 1 Understand Concepts of national Income and Methods & difficulties in the measurement of National Income.
- CO 2 Appreciate different theories of Employment.
- CO 3 Analyses the theories of consumption Function.
- CO 4 Understand the concepts of multiplier to acceleration and types of MEC.
- CO 5 Critically evaluate General Equilibrium Analysis.

AGRICULTURAL ECONOMICS (P21ECC103)

- CO 1 To understand the significance of agriculture in economic development
- CO 2 Appreciate the role of land reforms measures in the development of agriculture in India
- CO 3 Evaluate institutional and non- institutional financial sources in agricultural Labour
- CO 4 Assess the significance of regulated market in agricultural marketing
- CO 5 Understand the issues of agricultural labour.


ECONOMIC STATISTICS -P21ECC104

- CO 1 Understand the concepts and Theorems of probability
- CO 2 Apply the theoretical distribution in economic analysis.
- CO 3 Interpret the results of different tests of significance.
- CO 4 Appriciate the significance and uses of Index numbers and time series analysis in economics
- CO 5 Understand the sources and uses of agricultural and industrial statistics.

URBAN ECONOMICS - P21ECIMBEI

- CO 1 Understand the Concept of urbanization and different theories of urbanization .
- CO 2 Understand the Concept of Migration , different types of Migration and Migration theories .
- CO 3 Analyse the problems of urbanization.
- CO 4 Asses the Urbanization trend and growth in India.
- CO 5 Evaluate the National Urban policies and programmes in India.




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MICRO ECONOMIC ANALYSIS II -P21ECC205

- CO 1 Understand the theories of distribution in fixing factor prices.
- CO 2 Appreciate the general equilibrium modal.
- CO 3 Demonstrate economic and general welfare judgment.
- CO 4 understand the individual consumers behaviour towards risks.
- CO 5 Evaluate the risk reduction measures.

MACRO ECONOMIC ANALYSIS II- P21ECC206

- CO 1 Appreciate the post Keynesian theories of Demand for money.
- CO 2 Understand the supply of money and evaluate the role of Central Bank in control of money supply.
- CO 3 Analyse the role of Non- Banking Financial Intermediaries.
- CO 4 Understand types, causes and effects of Inflation.
- CO 5 Demonstrate significance of Macro Economic policies.

FISCAL ECONOMICS -P21ECC207

- CO 1 understand the theories of public revenue and public Expenditure.
- CO 2 Assess the in Tax and Non-tax Revenues (ii) Plan and non-plan expenditure in India.
- CO 3 gain the knowledge of public debt trends in India.
- CO 4 Evaluate the state and union budgets of India.
- CO 5 understand the fiscal policy in India.

MANAGERIAL ECONOMICS (P21ECC208)

- CO 1 Enable the students to take business decisions
- CO 2 understand the concept, importance and application of different Forecasting techniques.
- CO 3 Appreciate various pricing decisions and understand the problem of pricing.
- CO 4 Evaluate the projects on the basis of investment decisions .
- CO 5 Analyse the implications of liberalizations and deregulations for managers.

WOMEN AND INDIAN ECONOMY -P21ECC209

- CO 1 Understand the nature and scope of women's studies.
- CO 2 Assess the contexts of women in India.
- CO 3 Assess the health status of women in India.
- CO 4 Evaluate state and central government initiatives in promoting women's entrepreneurship in India.
- CO 5 Appreciate various policies and programmes for women's empowerment in India.

INTERNATIONAL ECONOMICS -P21ECC309

- CO 1 Understand the principle of comparative advantage and its formal expression and interpretation within different theoretical models.
- CO 2 Apply general equilibrium models in analyzing the economic instruments such as




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tariffs, quotas, export subsidies, free trade areas, customs unions and common markets.

- CO 3 Familiar with, knowledge about balance of payment deficit and measures to correct disequilibrium.
- CO 4 Familiar with the major recent developments in the world trading system, and be able to critically analysis key issues raised both by the current round of WTO negotiations and by the spread of regional trading arrangements.
- CO 5 Understand the trade relations of various countries, import-export procedures
An currency exchange rate procedures.

INDUSTRIAL ECONOMICS -P2IECC310

- CO 1 Understand the process and pattern of industrialization.
- CO 2 Assess the theories of industrial location.
- CO 3 Know the sources of industrial finance.
- CO 4 Evaluate the issues of industrial labour and land market reforms.
- CO 5 Develop the skills in formulating and evaluating the projects.

MARKETING MANAGEMENT -P2IECC311

- CO 1 Understand the behaviour of consumers in marketing.
- CO 2 Know the management issues and challenges involved in marketing.
- CO 3 Understand how products are priced , promoted and physically distributed.
- CO 4 Appreciate importance of advertiment.
- CO 5 Know about the consumer protection act.

RESEARCH METHODOLOGY (P2IECC312)

- CO 1 Understand significance, methods of research and how formulate research problem.
- CO 2 Learn how to collect data from primary and secondary sources.
- CO 3 Prepare research design for their research work.
- CO 4 Familiarize in farming and testing of hypotheses.
- CO 5 Understand how to write research report.

HUMAN RESOURCE MANAGEMENT -P2IEC3MBE3

- CO 1 understand the importance of human resource management (HRM)
- CO 2 knowledge the different sources , solution process , techniques of requirement and placement with training procedure
- CO 3 understand the performance and managerial appraisal.
- CO 4 gain knowledge of methods of job evaluation
- CO 5 understand motivation theories.

ECONOMIC GROWTH AND DEVELOPMENT (P2IECC413)

- CO 1 Understand measures of economic growth.
- CO 2 Explain the relationship between technology and development.
- CO 3 Assess the development theories .
- CO 4 Evaluate the models of economic growth.




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CO 5 Construct human development index.


DEMOGRAPHY (P21ECC414)

- CO 1 understand the nature and scope of demography.
- CO 2 gain the knowledge of the determinants of population growth.
- CO 3 Relays the methods of measuring internal and external migration.
- CO 4 Understand the growth of urbanization in India.
- CO 5 Understand the population policy in India.

ENVIRONMENTAL ECONOMICS -P21EC4MBE4

- CO 1 Understand the nature and scope of Environmental economics.
- CO 2 Assess the theories of Environmental Economics.
- CO 3 Assess the Environment from the economic Perspective.
- CO 4 Explain the measurement of pollution.
- CO 5 Appreciate the policy measures to Environment.




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M.A., English

Modern Literature I (1400-1660) (P21ELC101)

- CO1 Understand how the socio-cultural and religious backgrounds against which Chaucer's writings were directed.
- CO2 Evaluate the ornamental style of Spenser and understand the bridal hymn tradition of the age.
- CO3 Know the features of metaphysical poetry with special reference to the poems of John Donne, Andrew Marvell, George Herbert and Henry Vaughan.
- CO4 Get to know Bacon's aphoristic style and develop an attitude to compare it with the great Tamil literary work Thirukural and appreciate the brevity with which great ideas were presented..
- CO5 Demonstrate their ability to identify and differentiate the modern literary devices from the classical literary devices.

Modern Literature II (1660-1798) (P21ELC102)

- CO1 Familiar on how literature portrays different ways of living and being.
- CO2 Interpret literary texts in English by nurturing and utilizing their ability to understand drama in a skilled, Knowledgeable and ethical manner.
- CO3 Students come to know of the changing trends in English poetry from Milton to Pre-Romantics.
- CO4 They get familiarized with the epic tradition of British poetry.
- CO5 They get to know the salient features of prose allegory, anti-sentimental comedy and Restoration comedy of the period through the varied prose works of the Age of Pope.
- CO6 Students are introduced to the emergence of the English novel during the Age of Transition.

Indian English Literature (P21ELC103)

- CO1 Understand how well the Indian culture is reflected in literature.
- CO2 Identify the unique features of Indian Writing in English.
- CO3 Interpret the works of great Indian writers in English
- CO4 Appreciate the language used in Indian context.
- CO5 Demonstrate knowledge of major texts written in English as well as their social, cultural, theoretical and historical contexts.

Literary Criticism – I (P21ELC104)

- CO1 Analyze the evolution literary theories from Greek to Modern age.
- CO2 Examine how theory and criticism has shaped the discipline we study.
- CO3 Emphasis is on the continuity of key ideas in the history of criticism.
- CO4 Write formal and informal responses to literary and critical theory that demonstrate




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engagement, reflective thought, effective inquiry, perception of patterns in language features, and responsible generalization.

CO5 Recognize and critique the argument underlying critical writings.

Modern Literature - III (1798 – 1832) (P21ELC205)

CO1 Expertise themselves effectively in a variety of genres.

CO2 Compare and contrast the two Augustan school and Romantic School of poetry.

CO3 Contribute to innovative thinking both within and outside of the sphere of Modern Literature.

CO4 Appreciate the characteristics of the novels of nineteenth century.

CO5 Identify the rise of novel as a dominant genre in this era.

Modern Literature – IV (1832 - 1945) (P21ELC206)

CO1 Familiar with representative literary and cultural texts within a significant number of historical, geographical and cultural contexts.

CO2 Apply critical and theoretical approaches to the reading and analysis of literary and cultural text in multiple genres.

CO3 Appreciate and analyze the various genres from Victorian Age to Age of Hardy.

CO4 Understand unfamiliar articles on current research, theories, and analyses theories.

CO5 Analyse any literary works from the political, historical and sociological perspectives.

Asian Literatures in English (P21ELC207)

CO1 Identify and analyse a variety of representative Asian literary masterpieces of various genres.

CO2 Define social and historical contexts out of which Major Asian Literatures in English emerged and trace the development of it over time and across cultures.

CO3 Compare and contrast the writing styles and generic forms of different literary periods against different Asian cultures.

CO4 Identify the major themes of representative Asian poetic, fictional and dramatic works.

CO5 Trace the influence of Western literature upon Asian literature.

Literary Criticism – II (P21ELC208)

CO1 Analyze the evolution literary theories from Greek to Modern age.

CO2 Examine how theory and criticism has shaped the discipline we study.

CO3 Emphasis is on the continuity of key ideas in the history of criticism.


CO4 Write formal and informal responses to literary and critical theory that demonstrate engagement, reflective thought, effective inquiry, perception of patterns in language features, and responsible generalization.

CO5 Recognize and critique the argument underlying critical writings.

English Language Teaching (P21ELC309)

CO1 Understand, interpret and evaluate different texts that they may encounter in their daily




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and professional life.

- CO2 Use the knowledge to comprehend and analyze the concepts and processes related to language teaching.
- CO3 Arrange multimedia environments in and out of class which enhance interaction with teacher and among students for learning purposes.
- CO4 Use/develop tools and methods of measurement and assessment used in the teaching process evaluating them in terms of usefulness, validity and reliability.
- CO5 Gain practical skills in classroom teaching at different levels.

Research Methodology (P21ELC310)

- CO1 Develop understanding on various kinds of research, objectives of doing research, research process' research designs and sampling.
- CO2 Have basic awareness of data analysis and hypothesis testing procedures.
- CO3 Understand research problem formulation. Analyze research related information. follow research ethics.
- CO4 Identify, explain, compare and prepare the key elements of a proposal or report.
- CO5 Distinguish a purpose statement, a research question or hypothesis, and a research objective.

Literary Theory I (P21ELC311)

- CO1 Demonstrate familiarity with the history of literary theory in the West, including prominent theorists and critics, important schools and movements, and the historical and cultural contexts important to those theories.
- CO2 Demonstrate an understanding of key concepts in literary theory.
- CO3 Explain to others the meaning, significance, and value of specific literary theoretical works.
- CO4 Use literary theoretical concepts to develop your own interpretations of literary texts.
- CO5 Analyze specific literary theories in order to distinguish them from other theories and to identify the structure and logic of their argument.


New Literatures in English (P21ELC312)

- CO1 Demonstrate knowledge of the history or culture of the English language.
- CO2 Appreciate English as a world language and English as a language of cultural imperialism.
- CO3 Recognize the diversity in literature.
- CO4 Understand the variety of social issues in the world especially in the Second World countries.
- CO5 Read and interpret the texts comparatively on literary and cultural traditions.

Modern European Literature In English Translation (P21ELC413)

- CO1 Demonstrate critical thinking skills in understanding the breadth of European Literature.
- CO2 Recognize the development of the literary genres of the Europe.




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- CO3 Trace the development of forms and ideas over time.
- CO4 Appreciate contributions and cultural insights of Europe to our modern times.
- CO5 Learn the cultural diversities found and highlighted in each of the literary masterpieces throughout Europe.

Literary Theory II (P21ELC414)

- CO1 Demonstrate familiarity with the history of literary theory in the West, including prominent theorists and critics, important schools and movements, and the historical and cultural contexts important to those theories.
- CO2 Demonstrate an understanding of key concepts in literary theory.
- CO3 Explain to others the meaning, significance, and value of specific literary theoretical works.
- CO4 Use literary theoretical concepts to develop your own interpretations of literary texts.
- CO5 Analyze specific literary theories in order to distinguish them from other theories and to identify the structure and logic of their arguments.




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M.Sc., Geography

APPLIED GEOMORPHOLOGY - P21GC101

- CO1 The student will demonstrate knowledge of the historical development of geomorphology and fundamental concepts of modern geomorphology.
- CO2 The course will provide an understanding of the conceptual and dynamic aspects of landform development. They will also gain knowledge of the Geomorphic Processes.
- CO3 The students will know about the causes and consequences of Natural and Man Made Disasters.
- CO4 They able to analyze how variations in Climate, Tectonics and Environment affect the development of landforms.
- CO5 They learn the relevance of applied aspects of Geomorphology in various fields.

CLIMATOLOGY AND OCEANOGRAPHY- P21GC102

- CO1 Understand the basic principles of climatology and complexity of meteorological processes.
- CO2 Analyze atmospheric and oceanic circulation systems as well as their interconnections and driving forces.
- CO3 Describe the principals involved in the generation of waves and tides and evaluate their effects on coastal processes and marine ecosystems

ADVANCED CARTOGRAPHY- P21GC103

- CO1 Students learn about the different types of maps and mapping techniques.
- CO2 Students learn to construct of the map in proper way.
- CO3 Students should be known about the differentiate the qualitative and quantitative data.
- CO4 After completion of this course they know about the reproduction processes and its modern techniques.

ENVIRONMENTAL GEOGRAPHY- P21G1MBE1

- CO1 Student would able to understand the forms and functions of ecosystem.
- CO2 Students will be well – versed with the analyzing different environmental programmes and policies

POPULATION AND SETTLEMENT GEOGRAPHY- P21GC205

- CO1 This paper would bring an understanding of population and settlement geography along with the relevance of demographic data.
- CO2 Students will have a proper understanding of the implications of population composition in different regions of the world.
- CO3 Students can able to identify and describe the structure and organization of urban and rural settlements in different regions.
- CO4 They can evaluate the function of a city and explain how its services affect its influence The surrounding rural areas.




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AGRICULTURAL GEOGRAPHY- P21GC206

- CO1 Understand the determinants of agriculture and agricultural productivity.
- CO2 Appraise various agricultural land use models.
- CO3 Familiarize with the agricultural types in the world.

GEOGRAPHICAL THOUGHT - P21GC207

- CO1 Student would able to get an insight into the historical evolution of the subject of geography. It will help them creating philosophical foundation of the subject.
- CO2 The contemporary modern views incorporated will inculcate critical thinking to the students.

GEOGRAPHY OF INDIA- P21G2MBE2

- CO1 After completion of course, the students will have a proper understanding of the physical, cultural, economic and demographic aspects of India which will help them to pursue it for competitive exams.

SOCIAL AND CULTURAL GEOGRAPHY- P21GC309

- CO1 Evaluate the social issues such as racism, cast conflict, social distance etc.
- CO2 Identify the issues / problems confronting various social and cultural groups in the world as well as in India

RESEARCH METHODOLOGY IN GEOGRAPHY- P21GC310

- CO1 Student would able to identify the concepts and procedures of sampling, data collection, analysis and reporting.
- CO2 They can formulate research design and conduct a systematic research.
- CO3 At end of the course students will have a keen interest in research.

URBAN GEOGRAPHY- P21GC311

- CO1 Students will gain knowledge of basic characteristics of urban environments, the common social and physical structures, trends and issues.
- CO2 Students will explore the spatial relationships in urban areas and impact of urbanization.
- CO3 Students can identify the structural features of cities to make analysis and compare them the present and plan for the future.

REMOTE SENSING, GIS AND GNSS- P21G3MBE3

- CO1 Understand the basic concept of electromagnetic radiation and sensing of earth surface features.
- CO2 Understand GIS data models and geospatial analysis tools.
- CO3 Apply knowledge of remote sensing, GIS and GNSS/GPS in various problems of earth surface.




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REGIONAL PLANNING- P21GC413

- CO1 At the end of the course, student would able to understand the need of regional planning at different levels.
- CO2 The course would develop a keen interest in appraising the socio and economic development strategies in India.
- CO3 The students will also get comprehensive knowledge on government programs aimed at regional development.

TRANSPORT GEOGRAPHY- P21G4MBE4

- CO1 Identify the need and significance of different modes of transport
- CO2 Explain the structure of network, methods of flow and role of transport in regional development.




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M.A., History

History Of Ancient India Upto 6th Century (P21hsc101)

- CO1 To know the Sources and its divisions, literature and foreign accounts, this depicts the society of ancient India.
- CO2 To understand the evolution of man and his life progress in various stone ages, making and use of weapons, and formation of permanent settlements.
- CO3 To interpret the origin and developments of civilizations, culture and trade contacts with meagre facilities.
- CO4 To know the changes of culture and customs, practices and methods in their livelihood, development process in occupations, arts and crafts.
- CO5 To analyze the factors lead to formation of Vedic society and its contributions for making perfect society.

History Of Ancient India 600 B.C To 647 A.D (P21hsc102)

- CO1 To analyze the factors lead to formation of petty kingdoms and their administrative systems and its significance for economic developments.
- CO2 To know the emergence of new religions and their impacts in minds of people And society.
- CO3 To interpret the factors for bestow some many reforms by emperors and the irroyal edict which pave great source to derive perfect ancient society.
- CO4 To understand about friendly alliance of North and South Kingdoms through trade and religious contacts.
- CO5 To know the developments of art and architecture, emergence of educational institutions and patronage of royal peoples.

Tamil Civilization And Culture Upto 1336 A.D (P21hsc103)

- CO1 Understand the Geographical features of Tamilnadu in Early Days.
- CO2 Know the Socio – Economics, Political and Cultural condition of Tamil Nadu in Sangam period.
- CO3 Acquire Knowledge about the origin of the Pallavas and their contribution to Art and Architecture.
- CO4 Evaluate the establishment imperial Chola Empire.
- CO5 Assess the role of Pandyas and Vijayanagar rule in Tamilnadu History.

Tamil Civilization And Culture From 1336 A.D To 1947 A.D (P21hsc104)

- CO1 Analyse the role of Nayaks in the Tamilnadu History.
- CO2 Observe the Maratha rule in Tamilnadu.
- CO3 Understand the Administrative Capability Sethupathi of Ramnad.
- CO4 Assess the European Settlement and its impact in the History of Tamilnadu.
- CO5 Limelight the importance of Poligars in the freedom Movement of Tamilnadu.




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History of medieval india upto a.d.1526 (p21hsc205)

- CO1 To evaluate the important features of the five different dynasties and to analyze the importance of the Sultanate under each dynasty.
- CO2 To examine about the development of Political Institutions and relationship amongst rulers and to understand the strategies of military control and resource mobilization.
- CO3 To acquire knowledge about administration, economic and social condition, literary development under Delhi Sultanate.
- CO4 To know the Islamic Architecture patronized by Delhi Sultanate and understand the new techniques used in art architecture, painting and music which emerged with the inter mingling of new languages.
- CO5 To illustrate how Traveller's accounts, court chronicles and historical buildings are used to write History.

History Of India From 1526 A.D To 1707 A.D (P21hsc206)

- CO1 To know the origin and foundation of Mughal empire in India.
- CO2 To explain about the qualities that made Babur and Akbar the great successful emperors.
- CO3 To discuss about the economic, social and religious conditions during various Mughal rulers in this period .
- CO4 To examine about the development of administrations and to understand the strategies of military control and resource mobilization.
- CO5 To understand the new techniques used in art architecture, painting and music.

Contemporary Tamilnadu Since 1947a.D.(P21hsc207)

- CO1 Have a knowledge on the Revenue Administration of British in Tamilnadu.
- CO2 Evaluate the introduction of Western education and its impact.
- CO3 Assess the Value of Socio - religious reform movements in Tamilnadu for the social changes.
- CO4 Analyse the role of leaders of Various parties.
- CO5 Assess the development of Tamilnadu under various party's Rule.

History Of China And Japan (A.D.1900 – 1990) (P21hsc208)

- CO1 To analyze the physical features and the development of earliest Chinese Civilization.
- CO2 To explore the Political Contributions of Various Dynasties.
- CO3 To discuss about the economic, religious and social structures of China and Japan.
- CO4 To describe about the Contributions of China and Japan to the World.
- CO5 To provide a sound basis, both in terms of factual knowledge and methodology approach towards the study of History of China and Japan.

International Relations Since 1919 A.D (P21hsc309)

- CO1 To know the Historical and diplomatic importance of relationship among various




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countries.

- CO2 To understand about a particular land, characteristic of human being and interactions with other countries.
- CO3 To examine various political, social and economic relations and impacts of global development.
- CO4 To interpret in the fields of economics, management, politics, diplomacy, law, history, Philosophy which enables students to contribute innovatively at international environment.
- CO5 To know the present global issues, economic and social significance of the contemporary world politics.

Research Methodology In History (P21hsc310)

- CO1 Understand the value of research in History.
- CO2 Assess the importance of sources and data for writing a thesis.
- CO3 Know the proper way of Criticism.
- CO4 Observe the importance of the methods of interpretation.
- CO5 Analyse how to write a thesis.

History Of India From 1707 A.D To 1947 A.D. (P21hsc311)

- CO1 Understand the value of research in History.
- CO2 Assess the importance of sources and data for writing a thesis.
- CO3 Know the proper way of Criticism.
- CO4 Observe the importance of the methods of interpretation.
- CO5 Analyse how to write a thesis.

Temple Art And Architecture Of Tamilnadu (P21hsc312)

- CO1 Understand the cave Architectural styles of Tamilnadu.
- CO2 Know the development of Architectural form Early period.
- CO3 Observe how they used as Source for writing History.
- CO4 Assess the iconographical revolution done by the cholas.
- CO5 To gain knowledge to do the research work in Architecture.

Historiography (P21hsc413)

- CO1 To familiarize the students with approaches to historical studies in the nineteenth and twentieth centuries.
- CO2 To highlight the major trends in the development of historical writing with a focus on Prominent Historians.
- CO3 To examine the emergence of History as a professional discipline in the Nineteenth century.
- CO4 To know the recent trends in new social history and post modern challenges to history as an intellectual discipline.
- CO5 To provide a comprehensive understanding of the Indian History and Historians and to know about the proper manner of writing thesis with perfect solution.




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Contemporary India Since 1947 A.D– 2000 A.D (P21hsc414)

- CO1 To know and analyze the development of India after independence.
- CO2 To understand various components, system of the nation and the form they had taken in past.
- CO3 To examine the fundamental changes of India after colonial rule in response to change in contemporary Indian society and polity.
- CO4 To illustrate about the implementation and impacts of five years plans for the growth of India.
- CO5 To examine the role of various political leaders contributed for the development of contemporary India.




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M.Sc MATHEMATICS

LINEAR ALGEBRA- P21MC101

- CO1 Discuss in detail the basic concept of linear system of equations, Vector spaces, Bases and Dimension
- CO2 Learn linear Transformations and double dual structure.
- CO3 Understand the algebra of polynomials and various properties of determinant.
- CO4 Evaluate Characteristic values and Direct-sum decompositions.
- CO5 Capture the idea of cyclic decompositions and the rational form.

REAL ANALYSIS- P21MC102

- CO1 Gain knowledge of basic topology, metric spaces.
- CO2 Analyze continuity, derivability of given real valued function.
- CO3 Realize the key idea convergence of sequences and the quantitative inequality estimates. Here numerous examples would have demonstrated the role of inequalities.
- CO4 Learn the crucial concept of limit of function and continuity and compactness, connectedness.
- CO5 Study thoroughly the Derivative of a Real Functions and discuss the ideas derivatives of higher order.

GRAPH THEORY- P21MC103


- CO1 Know some important classes of graph theoretic problem.
- CO2 Be able to formulate and prove connectivity, Euler Tours, Hamilton cycles.
- CO3 Good knowledge on graph theory of matching's, colorings and coverings.
- CO4 Workout in detail the independent sets and cliques of a given graph with help of Ramsey's theorem and Brook's theorem.
- CO5 Comprehend and work on me concept of planarity and discuss the dual of a plane graph.

ORDINARY DIFFERENTIAL EQUATIONS- P21MC104

- CO1 Find the general solution of the first order linear homogenous equations and solving various Second order Ordinary Differential Equations.
- CO2 Get introduced to the Hyper geometric functions which arise in connection with Solution of the Second Order Ordinary Differential Equations with regular singular points.
- CO3 Understand the importance of studying well- posed problems namely existence, Uniqueness and continuous dependence of the first order Differential Equation Through Picard's theorem and strum Liouviles problem.
- CO4 Solve the problem arise in mathematical physics using properties of special functions.
- CO5 Discuss the Critical points and stability for linear systems.

PROBABILITY THEORY- P21MIMBE1




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- CO1 Develop problem – solving techniques needed to accurately calculate probabilities.
- CO2 Understand probability axioms and find conditional probabilities for lot of cases to calculate probabilities for various examples.
- CO3 Evaluate the Mathematical Expectation .
- CO4 Determine the distribution function using characteristic function.
- CO5 Gain mastery in the important probability distributions, viz., Binomial, Poisson and normal.

ALGEBRA- P21MC205

- CO1 Analyze structure and properties of relation, conjugacy classes, counting principle and direct products.
- CO2 Understand the concepts of the integers serve as a motivation for the algebraic concepts for Rings.
- CO3 Identify the various algebraic structures and understand the concept of structures for finitely generated modules.
- CO4 Learn the fundamental concept in field theory of field extensions and would see the idea of generating new fields.
- CO5 Have a clear cut idea in the notion of Galois groups and solvability of radicals. Also will be able to prove the impossibility of certain geometric constructions.

REAL ANALYSIS II- P21MC206

- CO1 Analyze integrals of given real valued function through limits and gain the knowledge of Riemann integration of real valued functions.
- CO2 Solve the problems of convergence and divergence of sequences and series.
- CO3 Explain the applications and the usefulness of these special functions.
- CO4 Understand purpose and functions of the Inverse Function and Implicit Function.
- CO5 Evaluate the special functions of using in the Integration of Differential Forms.


COMPLEX ANALYSIS- P21MC207

- CO1 Determine whether a given function is differentiable and if so find its derivative.
- CO2 Analyze line integrals and Fundamental Theorems in Complex Integration.
- CO3 Determine Singularities, Zeros and Poles.
- CO4 Evaluation of Definite Integrals and Residues.
- CO5 Construct basic properties of Harmonic functions and Poisson's formula.

THEORY OF NUMBERS- P21MC208

- CO1 Understand and work numerous problems on concepts of divisibility and primes.
- CO2 Gain expertise in Euler's, Fermat's and Wilson theorems and work on applications illustrating them.
- CO3 Solve congruence's as application of Chinese remainder theorem.
- CO4 Discuss quadratic residue and Jacobi symbol and work on sum of two square problems.
- CO5 Attained mastery in the Elementary partition theorem, Graphical representation and searching for partition identities.




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PURE GEOMETRY- P21MC208

- CO1 Understand and generalize the concept of Harmonic Ranges and Pencils.
- CO2 The concept of a Harmonic Ranges and Pencils in outside mathematics.
- CO3 Determine the concept of properties of circles in geometrical concepts.
- CO4 Identify and characterize the properties of circles in mathematical structure.
- CO5 The concept of coaxial circles in outside oriented mathematics.

STOCHASTIC PROCESSES- P21M2MBE2

- CO1 Understand the deviations involving conditional probability distributions and conditional expectations.
- CO2 Classify the classes of states in Markov chain and characterize the class.
- CO3 To solve the derivation of the differential equations for time continuous Markov processes with discrete state space.
- CO4 Understand the renewal process with results.
- CO5 Using the queuing theory models of time series in Statistics.

PARTIAL DIFFERENTIAL EQUATIONS- P21MC309

- CO1 Classify first order partial differential equation and their solutions.
- CO2 Solve first order equations and non linear partial differential equation using various methods.
- CO3 Identify and solve the three main classes of second order equations, elliptic, Parabolic and hyperbolic.
- CO4 Solve the Dirichlet Problem for the upper half plane.
- CO5 Solve the Laplace equation and green's function.


MEASURE THEORY AND INTEGRATION- P21MC310

- CO1 Discuss the Measure on the Real Line. They will be able to capture the need for the modern integration theory.
- CO2 Analyze the Riemann and Lebesgue Integrals.
- CO3 Observe that the idea of Inequalities and the L_p Spaces.
- CO4 Discuss about the importance of Convergence in Measure and Singed Measures.
- CO5 Apply the Product Measure in Fubini's theorem and Radon Nikodyn theorem.

TOPOLOGY- P21MC311

- CO1 Understand of topological spaces and having a grasp on basic.
- CO2 Identify and characterize convergence of sequences, which are closed and explore the Continuity of functions in various topological spaces.
- CO3 Determine the connectedness and path connectedness of the product of an arbitrary family of spaces.
- CO4 Understand and generalize the generalization of the concept of compactness on Topological Spaces.
- CO5 The concept of a Topological space which generalizes the spaces arising in Real and




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Functional Analysis

ALGEBRAIC TOPOLOGY- P21MC311

- CO1 Review the basic topological concepts connecting geometry.
- CO2 Understand quotient topology and how the identification works.
- CO3 Learn thoroughly covering homotopy theorem.
- CO4 Understand simplicial complexes and its barycentric subdivisions.
- CO5 Use simplicial approximations to find the fundamental group of simplicial complexes.

CLASSICAL DYNAMICS- P21MC312

- CO1 Understand the basic mechanical concepts related to discrete and continuous mechanical system.
- CO2 Determine the nature of equations of motion for holonomic and non-holonomic system.
- CO3 Use the important definitions and introductory concept like virtual work and impact of motion.
- CO4 Classify the motion of a mechanical system using Lagrange –Hamilton formalism.
- CO5 Understand the concept of Hamilton –Jacobi theory.

INTEGRAL EQUATIONS, CALCULUS OF VARIATIONS AND FOURIER TRANSFORMS- P21MC312

- CO1 Apply the Natural Boundary and Transition conditions and use appropriate modern technology to explore calculus concepts of variation and its properties.
- CO2 Describe and Understand Fourier Transforms and Finite Fourier Sine and Cosine Transforms.
- CO3 Learn some important results for Bessel function and categorize Hankel Transform of differential operators.
- CO4 Classify Fredholm, Volterra and Singular type integral equations
- CO5 Understand the integral equations using First- Second- Third Fredholm theorem, Alternative theorem and method of successive approximations.

FUZZY MATHEMATICS- P21M3MBE3

- CO1 Gain the main subject of fuzzy sets learn crisp and fuzzy set theory decide the difference between crisp set and fuzzy set theory, make calculation on fuzzy set theory.
- CO2 Discuss the operations of fuzzy compliments, fuzzy unions and combinations.
- CO3 Use the fuzzy set theory on the statistical method which is analyzed statistical data by using fuzzy logic methods.
- CO4 Understand the concepts of fuzzy relations and fuzzy binary relations and fuzzy ordering relation.
- CO5 Apply the concept of fuzzy relation equations and solution methods of fuzzy relation equations.

FUNCTIONAL ANALYSIS- P20MC413




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- CO1 Understand functional analytic language required to study problems of practical interest and prove that norms on a finite dimensional space are equivalent.
- CO2 Comprehend the important of four pillars of functional analysis namely Hahn Banach theorem, Open mapping theorem, closed graph theorem, Uniform Bounded theorem.
- CO3 Gain mastery in basic Hilbert space theory, projection theorem.
- CO4 Analyze the Finite – Dimensional Spectral Theory
- CO5 Get a working knowledge on algebra of bounded linear operator.

DIFFERENTIAL GEOMETRY- P21MC414

- CO1 Understand the basic Classical concepts of Space Curves.
- CO2 Sketch and workout the graph of Contact between curves and surfaces, Fundamental Existence Theorem in space curve.
- CO3 Apply Intrinsic properties using Helicoids and Families of curves.
- CO4 Using Geodesic curves in Normal Property and Existence Theorems.
- CO5 Describe surfaces as a solution sets of differential equations, geodesic on surface and Complete the Gaussian curvature of various surfaces.


FLUID DYNAMICS- P21MC414

- CO1 Understand the basic mechanical concepts related to real fluids and ideal fluids.
- CO2 Determine the nature of two dimensional and three dimensional flows.
- CO3 Use the important definitions and introductory concept the Milne - Thomson circle theorem.
- CO4 Classify the motion of a mechanical system using the Navier – Stokes equations of motion of a Viscous Fluid.
- CO5 Understand the concept of the Prandtl's Boundary Layer.

AUTOMATA THEORY- P21M4MBE4

- CO1 Construct the mathematical proof for computation and algorithms.
- CO2 Understand Mathematical foundations of computation including automata theory; the theory of formal languages and grammars
- CO3 Analyze the regular languages and expressions.
- CO4 Simplifying the techniques of the context free grammars and have an exposure in normal forms.
- CO5 Analyze and design finite automata, pushdown automata, Turing machines.




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M.Sc PHYSICS

CLASSICAL DYNAMICS AND RELATIVITY-P21PHC101

- CO1 Acquire fundamental knowledge of classical dynamics.
- CO2 Use D'Alemberts principle to derive the language equations of motion.
- CO3 Understand theory of small oscillations in normal modes and their frequencies.
- CO4 Understand the Lagrangian and Hamiltonian methods.
- CO5 Understand the basic ideas of solutions.
- CO6 Gain the knowledge of relativity and its consequences.

MATHEMATICAL PHYSICS-P21PHC102

- CO1 Acquire knowledge of vector calculus for application to problems in electromagnetic theory, Fluid dynamics etc.
- CO2 Basics of Tensor and its applications.
- CO3 Understand the use of complex variables for solving definite integrals.
- CO4 Expertise of special functions and their application in Initial value problems and Boundary problems.
- CO5 Knowledge of group theory and its application to spectroscopy and Nuclear Physics.
- CO6 Acquisition of relevant mathematics skills to predict the dynamics of physical system.

NUMERICAL METHODS-P21PHC103

- CO1 Solving curve fitting for straight line, arabola and logarithmic curves.
- CO2 Expertise in numerical solving skills.
- CO3 Understand physical problems using interpolation methods.
- CO4 Understand numerical differentiation and integration.
- CO5 Correlate numerical solution with analytical solution.
- CO6 Acquire knowledge to solve any quantum mechanical/dynamical systems.

ANALOG ELECTRONICS, MICROPROCESSORS AND MICROCONTROLLER-P21PHIMBE1

- CO1 Understand the basic ideas of operational amplifier and its applications.
- CO2 Acquire knowledge of microprocessor 8085,8086 and microcontroller 8051.
- CO3 Gain knowledge about interfacing devices.
- CO4 Learn and write the assembly language programs.
- CO5 Apply the circuit theory to design sequential logic circuits
- CO6 Construction of AL AS a midway to build a digital computer.

STATISTICAL MECHANICS-P21PHC205

- CO1 Understand the laws of thermodynamics and give an account of the relevant quantities used to describe the macroscopic system, thermodynamics potentials etc.
- CO2 Describe the Reciprocity theorem, Thermodynamic Equilibrium and Nernst Heat theorem.



S. Anil
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- CO3 Give an account of kinetic theory of gases.
- CO4 Give a flavor of MB Statistics, Boltzmann transport equation and mean free path.
- CO5 Introduce the Concept of ensembles and phase space.
- CO6 Describe Maxwell Boltzmann distribution and its applications.
- CO7 Illustrate the role of Partition function and their applications.
- CO8 Describe the importance and consequences of Quantum statistics for microscopic particle.
- CO9 Explain Bose Einstein Condensation and Debye's Theory of specific heat of solids.
- CO10 Understand other applications of quantum statistics.

QUANTUM MECHANICS-P21PHC206

- CO1 Understand the fundamental concepts of quantum mechanics.
- CO2 Understand the importance Schrodinger equation and their simple applications.
- CO3 Understand approximation methods like time independent degenerate, non-degenerate perturbation theories variation methods etc.
- CO4 Study scattering theory and calculate scattering amplitude and cross sections.
- CO5 Understand the basic ideas of Clebsch-Gordan coefficients.
- CO6 Understand the basic of relativistic quantum mechanics and its wide ramifications.


PROGRAMMING IN C++-P21PHC207

- CO1 Understand the difference between the top-down and bottom up approach.
- CO2 Describe the object oriented programming approach in connection with C++.
- CO3 Apply the concepts of object oriented programming and procedural programming.
- CO4 Illustrate the process of data file manipulations using C++.
- CO5 Apply virtual and pure virtual function and complex programming situations.
- CO6 To apply object oriented (or) non-object oriented techniques to solve bigger computing problems.
- CO7 Understand dynamic memory management techniques using pointers, constructors, etc.
- CO8 Describe the concepts of function overloading, virtual functions and polymorphism.
- CO9 Classify inheritances.
- CO10 To code mathematical problems in C++.
- CO11 Develop the expertise to write source codes in C++

EXPERIMENTAL TECHNIQUES AND INSTRUMENTATION-P21PH2MBE2:1

- CO1 Identify the various transducers involved in measurement and select types of transducer for particular measurements.
- CO2 Understand the role of digital instruments for different applications.
- CO3 Usefulness of materials characterization and analysis.
- CO4 Understand the role of biomedical instrumentation for specific applications and the operation of medical imaging instruments.
- CO5 Knowledge of the different types of recorders and understand the principle behind printers.
- CO6 Awareness of different types of errors while making measurements and means of




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avoiding them.

ATOMIC AND MOLECULAR SPECTROSCOPY-P21PHC309

- CO1 Understand the concepts of atomic spectra and other features of alkali spectra.
- CO2 Apply the knowledge of Quantum chemistry of molecules in computational research.
- CO3 Analyze FTIR spectra and apply the instrumentation techniques in recording infrared (IR) spectrum.
- CO4 Comprehend the basics and importance of Raman spectroscopy and also able to extend the concepts of electronic spectroscopy to UV-visible analysis.
- CO5 Identify the appropriate spectral technique as an analytical tool to investigate the characteristics of materials.

ELECTROMAGNETIC THEORY-P21PHC310

- CO1 Understand the basics of electronics.
- CO2 Understand the basics of magnetostatics.
- CO3 Understand the ramifications of time varying electric and magnetic fields.
- CO4 Importance of Maxwell's equations and its consequence in optics Electromagnetic theory and other relative areas.
- CO5 Solving boundary value problems by solving poisson's and laplace's equations.
- CO6 Electromagnetic wave propagation through different media.
- CO7 Understand how electromagnetic energy is transferred from source to observation
- CO8 Examine the phenomena of wave propagation in different media and its interfaces.
- CO9 Analyze the nature of electromagnetic wave propagation in guided medium.
- CO10 Understand the concepts of antenna and to arrange and reapture electromagnetic signals.

NUCLEAR AND PARTICLE PHYSICS-P21PHC311

- CO1 Understand the fundamentals of nuclear properties and deuterons.
- CO2 Illustrate the radioactive process and their corresponding decay.
- CO3 Realize the importance of nuclear energy resources through various nuclear reactions.
- CO4 Apply the knowledge of elementary particles in the field of research on particle accelerators.
- CO5 Acquire a thorough knowledge on fission and fusion reactions of production of energy as well as weapons.
- CO6 Demonstrate the basic principles and applications of nuclear physics in the field of atomic research.

COMMUNICATION ELECTRONICS-P21PH3MBE3:1

- CO1 Explain the operation of VHF, UHF and microwave antenna.
- CO2 Understand the principle of microwave propagation and its applications.
- CO3 Demonstrate the working principle, design and applications color television.
- CO4 To understand the basics of satellite communications
- CO5 Understand the concepts of fiber fabrications.




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- CO6 Understand the role of transmitter and receiver in satellite communication networks.
- CO7 Study of basics of cellular communications.
- CO8 Understand the role of Erbium doped fibers structure and its properties
- CO9 Understand the different modes (CDMA, WDM) of the mobile communication.


CONDENSED MATTER PHYSICS-P21PHC413

- CO1 Able to correlate the x-ray diffraction pattern for a given crystal structure based on the corresponding reciprocal lattice and understand the types of crystalline imperfections.
- CO2 To enhance the ability of students to understand electron and band theories.
- CO3 Able to explain how the predicted electronic properties of solids differ in the classical free electron theory, Quantum free electron theory and the nearly free electron theory.
- CO4 To explain various magnetic phenomena and describe the different types of magnetic ordering based on the exchange interaction.
- CO5 Acquisition of knowledge concerning the electrical behavior of dielectric materials (polar and non-polar)
- CO6 Explain the structural dependence of electrical optical and mechanical properties of modern engineering materials

CRYSTAL GROWTH, THIN FILM AND NANO SCIENCE-P21PH4MBE4:1

- CO1 Understand the concept related to crystal growth, Epitaxy and the necessary concepts in thermodynamics and kinetics.
- CO2 Explain the connection between growth parameters and the quality and properties of the grown materials.
- CO3 Awareness of recent trends in crystal growth, super lattices and heterostructures.
- CO4 Knowledge of the preparation techniques of thin films using physical and chemical deposition method.
- CO5 To impart the basic knowledge on nanoscience and nanotechnology and understand the exotic properties of nano structured materials.
- CO6 Study the various techniques available for the processing of nano structured materials.
- CO7 Acquire in-depth knowledge of at least one specialization area within field of nano science and nanoscale.
- CO8 Gain fundamental knowledge to undertake research.




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M.A., Tamil

இக்கால இலக்கியம் (P2ITAC101)

- CO1 இக்கால இலக்கியங்களில் புதியபடைப்புகளின் சிறப்பு,நாகரிகம்,பண்பாடு, இலக்கியநயம்,எழுத்துநடை,எழுத்தாளனின் ஆளுமைகளைஅறிந்துமாணவர்கள் பயன்பெறுதல்.

பக்தி இலக்கியம் (P2ITAC102)

- CO1 சமயக் கருத்துக்களைஅறிந்துபக்திஉணர்வைப் பெறுதல்.
CO2 சமயஒருமைப்பாட்டுச் சிந்தனையைப் பெறுதல்.
CO3 தமிழ் மொழியின் சிறப்பினைப் பக்தி இலக்கியம் வாயிலாகஅறியச்செய்தல்
CO4 பக்தி இலக்கியம் தோன்றியகாலகட்டத்தினைஅறியச் செய்தல்.
CO5 பக்தி இலக்கியங்கள் மூலம் வாழ்ந்தபுலவர்கள்,ஆண்டஅரசர்கள்,ஆதரித்தவள்ளல்களைப் பற்றியும் அறியச் செய்தல்.

தொல்காப்பியம் எழுத்ததிகாரம் இளம்பூரணர் உரை (P2ITAC103)

- CO1 மாணவர்கள் எழுத்திலக்கணத்தைப் பிழையின்றிப் புரிந்துகொண்டபயனடைதல்.
CO2 மொழியின் சிறப்பினையும் மொழியின் வளத்தையும் இலக்கண வளத்தையும் அறிதல்.
CO3 அறிவியல் முறையில் எழுத்துக்களின் பிறப்புணர்தல்.
CO4 பிறமொழிகலப்பின் வரைமுறைஉணர்தல்.
CO5 மொழியின் பழமையைஅறிந்துகொள்ளுதல்.
CO6 அக்காலவழக்குச் சொற்களைத் தெரிந்துகொள்ளுதல்

மொழியியல் (P2ITAC104)

- CO1 மொழிஎன்பதன் வரையறையைஅறிதல்.
CO2 மொழியைஅறிவியல் அடிப்படையில் அறிந்துகொள்ளுதல்.
CO3 மொழியின் வடிவம்,பொருள், சூழல் .
CO4 பேச்சுமற்றும் உரையாடல் ஒலிகளைஆய்ந்துஅறிதல்.
CO5 சூழல்வழிமொழிக்கானபொருளைஉருவாக்கும் மொழியியல்.
CO6 நடைமுறையைஉணர்தல்.

சிறநிலக்கியம் (P2ITAC205)

- CO1 சிறநிலக்கியவகைமற்றும் வளர்ச்சியைஅறிதல்.
CO2 புதியசிறநிலக்கியங்களைபடைக்கபயிற்சிபெறுதல்.
CO3 சிறநிலக்கியங்கள் புலப்படுத்தும் சமுதாயச் சூழலைஅறிந்துகொள்ளுதல்.
CO4 கற்பனைஆற்றலைசிறநிலக்கியங்களைப் படிப்பதன் வாயிலாகபெறுதல்.
CO5 அளவிலேசிறியதாயிருந்தாலும் பெரும் சுவையைத் தருவனவாய்ச் சிறநிலக்கியங்கள் அமைதலைஅறிதல்.

காப்பியங்கள் (P2ITAC206)

- CO1 காப்பிய இலக்கியவகைமையின் இலக்கண இலக்கிய நயங்களை மாணவர்களுக்கு புலப்படுத்த செய்தல்.




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- CO2 சமணம்,பௌத்தம்,சைவம்,வைணவம், இஸ்லாம், கிறித்துவம் ஆகிய அறுவகை சமய காப்பியங்கள் உணர்த்தும் வாழ்வியல் நெறிகள், ஆன்மீகநெறிகள், அறக்கருத்துக்கள் ஆகியவற்றை மாணவர்களுக்கு உணர்த்தல்.
- CO3 காப்பியங்கள் எழுந்தகாலத்துவாழ்ந்தபல்வேறுமக்களின் நாகரிகம்,பண்பாடு. குறித்தசெய்திகளைமாணவர்களுக்குகற்பிப்பத்தோடு,காப்பிய லக்கியகற்றல் திறனைமேம்படுத்திபோட்டித் தேர்வுகளில் காப்பியம் குறித்த வினாக்களுக்கு விடையளிக்க பயிற்சி கொடுத்தல்.

தொல்காப்பியம் - சொல்லதிகாரம் (சேனாவரையர் உரை) (P21TAC207)

- CO1 மாணவர்கள் சொல்லிலக்கணத்தைப் புரிந்துகொண்டுபயனடைதல்.
- CO2 சொற்களைஉருவாக்குதலைஅறிதல்.
- CO3 சொற்கள் உருபுகளைஏற்கும் பொழுதுமயங்குதலைஅறிதல்.
- CO4 தன்மைமுன்னிலைப் படர்க்கை இட மாண்புகளைஅறிதல்.
- CO5 வினைஉருபுஏற்கின்றபொழுதுமாற்றங்களைத் தெரிந்துகொள்ளுதல்.
- CO6 தொடர் இணைப்புச் சொற்களைத் தெரிந்துகொள்ளுதல்.

ஒப்பிலக்கியம் (P21TAC208)

- CO1 ஒப்புமை,வேறுபாடு,செல்வாக்குதாக்கம் போன்றவற்றைஎடுத்துக்காட்டுதல்.
- CO2 பிறமொழி வளம் உணர்தல்.
- CO3 உலகளாவியநோக்கில் இலக்கியஒப்பீட்டினைஎடுத்துரைத்தல்.
- CO4 ஆய்வாளர்களின் ஒப்பிலக்கியத் தொண்டினைஅறிதல்.
- CO5 இலக்கியஒருமைப்பாட்டையும் அவற்றின் பயனையும் அறிதல்.

அற இலக்கியம் (P21TAC309)

- CO1 வாழ்க்கையில் பின்பற்றவேண்டியஉயர்ந்தநெறிகளைதெரிந்துகொள்ளுதல்.
- CO2 ஒழுக்கத்தையும் நல்லசெயல்பாட்டையும் வளர்த்தல்.
- CO3 சமூகத்தின் ஒழுங்கற்றதன்மைகளைநேர்படுத்தும் சிந்தனையைத் தூண்டுதல்.
- CO4 சமுதாயசீர்கேடுகளைக் களைதல்.
- CO5 மனிதன் மனிதனாகவாழ்வதற்கு அற இலக்கியம் உணர்த்தும் பாங்கினைஅறிதல்.

சங்க இலக்கியம் (P21TAC310)

- CO1 ஆய்வுமேற்படிப்பைமேற்கொள்வதற்கும் படைப்பாளர்களை உருவாக்குவதற்கும் இப்பாடத்திட்டம் பயன்படுகிறது.
- CO2 பண்டைய இலக்கியங்களின் வாழ்வியல் விழுமியங்களைஅறியபயன்படுகிறது.
- CO3 தமிழ்மொழியின் தொன்மையையும் இலக்கியவளத்தையும் அறியச் செய்தல்.
- CO4 பண்டையகாலமக்களின் திருமணமுறை,திருவிழாக்கள் போன்றவற்றைஅறிதல்.

தொல்காப்பியம் பொருளதிகாரம் (முதல் ஐந்து இயல்கள்) (P21TAC311)

- CO1 திணைக் கோட்பாடுகளைஅறிதல்.
- CO2 பழந்தமிழ் மக்களின் இல்லறநிகழ்வுகளை இலக்கணஅடிப்படையில் அறிந்துகொள்ளல்.
- CO3 வாழ்வியல் ஒழுக்கங்களைஆராய்தல். போர் நெறிகளைஉணர்ந்துகொள்ளுதல்.
- CO4 பொருளின் பயன்பாட்டினைஅறிந்துகொள்ளல்.




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ஆராய்ச்சிநெறிமுறைகள் (P21TAC312)

- CO1 தரமானஆய்வேட்டைஉருவாக்குதல்.
- CO2 ஆய்வுச்சிக்கலை இனம் கண்டுதீர்வுகாணுதல்.
- CO3 எதிர்காலஆய்வுகள் குறித்தசிந்தனைத் திறனைஅதிகரித்தல்.

தொல்காப்பியம் பொருளதிகாரம் (பின் நான்கு இயல்கள்) (P21TAC413)

- CO1 படைப்பிலக்கியமரபுகளைஅறிதல்.
- CO2 இலக்கியங்களில் இடம்பெறும் உவமைகளைஅறிந்துகொள்ளல்.
- CO3 செய்யுள் நடையில் இலக்கியங்களைப் படைக்கமுயற்சிசெய்தல்.
- CO4 நாடக இலக்கியங்களைஉணர்ந்துகொள்ளல்.
- CO5 ஆற்றிவுஉயிரினங்களைஅறிவியல் நோக்கில் அறிந்துகொள்ளல்.

மொழிபெயர்ப்பியல் (P21TAC414)

- CO1 பிறமொழி நூல்கள் வழி பண்பாடு,அறிவியல் கருத்துக்கள் உணர்தல்.
- CO2 பயிற்சித் தேர்வில் வெற்றிபெறல்.
- CO3 ஒப்பிலக்கியநோக்கு பயன்,பயிற்சிபெறல்.
- CO4 மொழிபெயர்ப்புதிறன் பெறல்,கலைச்சொல் அறிதல்.




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IV Cycle of Accreditation



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M.Sc ZOOLOGY

FUNCTIONAL MORPHOLOGY AND PHYLOGENY OF INVERTEBRATES AND CHORDATES- P21ZC101

- CO1 Understand the significance of symmetry and coelom in animal organization and General characteristics of invertebrates and chordates
- CO2 Understand the relation between structure and functions of organs of invertebrates and chordates
- CO3 Acquire knowledge on phylogenic importance of invertebrate fossils and larval forms in Echinodermata
- CO4 Know invertebrates that gave rise to the modern day vertebrates and interpret the gradual emergence of chordates.

CELL AND MOLECULAR BIOLOGY- P21ZC102

- CO1 Acquire knowledge about the structure and functions of cells.
- CO2 Understand the activity of the organism at cellular level.
- CO3 Acquire gene expression concepts in prokaryotes and eukaryotes.
- CO4 Know the role of cell cycle in cell division.
- CO5 Explain the molecular events in central dogma of life translation and transcription.

GENETICS- P21ZC103

- CO1 Understand the Theories of classical genetics, sex linked inheritance and genomic imprinting
- CO2 Able to describe the genetic variations through linkage and crossing over, recombination
- CO3 Obtain the knowledge about sex determination, Extra nuclear inheritance and microbial genetics.
- CO4 Gain knowledge on mutations chromosomal aberration and DNA repair mechanism
- CO5 Understand the genetic defects and inborn error in metabolism, Genetic counseling and effect of inbreeding


FISHERIES AND AQUACULTURE- P21ZIMBE1

- CO1 Gain knowledge of current perspectives on the fisheries and aquaculture.
- CO2 Know the biology of important cultivable fishes and gain Knowledge of fish disease management.
- CO3 Understanding of fish farm management and artificial breeding techniques
- CO4 Know about the water quality management
- CO5 Learning the fish harvest technology and marketing ethics.

BIOCHEMISTRY- P21ZC205

- CO1 Understand the various chemical Constituents of living organisms.
- CO2 Acquire knowledge on the micro and macro biomolecules.




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- CO3 Understand that energy flow in cells through the breakdown of carbohydrate.
- CO4 Know the significance of protein and amino acid metabolism and their role in human health.
- CO5 Understand the mechanism of enzyme action.

ANIMAL PHYSIOLOGY- P21ZC206

- CO1 Understand the functioning of digestive system and the importance of vitamins and minerals in human pathology
- CO2 Gain the knowledge on functioning of circulatory system, components of blood, significance in cardiac diseases. Improve the knowledge on gaseous exchange through respiration process.
- CO3 Acquire knowledge on the functioning of excretory system in relation to different habitats and homeostasis mechanism in crustaceans and fishes.
- CO4 Understand the physiological functions of muscle, nervous system and Endocrine glands and reproductive cycle
- CO5 Obtain the knowledge on human health related issues.

IMMUNOLOGY- P21ZC207

- CO1 Understand the types and functions of immune system.
- CO2 Induct basic concepts of antigenicity and immunogenicity.
- CO3 Understand the molecular basis of humoral (Cytokines and complement) and cellular process.
- CO4 Understand the principles of hypersensitivity and develop theoretical knowledge On tissue and organ transplantation.
- CO5 Integrate knowledge of immune prophylaxis (Vaccine), Auto immunity And tumour immunology.

ENTOMOLOGY- P21Z2MBE2

- CO1 Understand the taxonomy of insects
- CO2 Gain the knowledge on different types mouth parts in insects, their physiology and reproductive cycles that enable them to select appropriate pest control strategies.
- CO3 Acquire knowledge on medical entomology
- CO4 Obtain information on agricultural pest management

DEVELOPMENTAL BIOLOGY AND EVOLUTION- P21ZC309

- CO1 Understand the biological process involved in the development.
- CO2 Describe the intricate process of fertilization.
- CO3 Explain organogenesis
- CO4 Understand the origin of life.
- CO5 Understand various theories of evolution.

BIOTECHNOLOGY AND BIOINFORMATICS- P21ZC310

- CO1 Master the theoretical knowledge of various field in biotechnology.



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- CO2 Acquire and perform various experiment related aspects of biotechnology.
- CO3 Understand and acquire the knowledge of cloning vector, gene transfer techniques and equip the students to get job opportunity in these field of biotechnology based companies.
- CO4 Understand and acquire the knowledge of data base, types, and drug discovery with bioinformatics tools and equip the students to get job opportunity in these field
- CO5 Understand and carry out the bioinformatics applications in the field of medicine And environmental fields.

MICROBIOLOGY- P21ZC311

- CO1 Understand the classification and structure of microorganisms.
- CO2 Obtain the knowledge of nutritional requirements for growth of microbes.
- CO3 Understand the fermentation, food spoilage and preservation techniques.
- CO4 Enrich the knowledge of microbial mechanism involved in environment.
- CO5 Attain the knowledge of infectious diseases caused by microbes.

BIostatistics AND RESEARCH METHODOLOGY- P21Z3MBE3

- CO1 Acquire in depth knowledge on Statistical methods and presentation of data in research.
- CO2 Acquire a clear understanding about correlation and regression analysis.
- CO3 Know about the framing of research hypothesis.
- CO4 Understanding of online collection of data and preparation of article in peer reviewed journals for publication.
- CO5 Inculcate the modern techniques and tools applied in research field.

ECOLOGY AND ETHOLOGY- P21ZC413

- CO1 Understand the role of components on ecosystem.
- CO2 Acquire knowledge of population ecology, community ecology and animal association.
- CO3 Collect information on the impact of environmental pollution and global warming.
- CO4 Understand different animal behaviors through field trips and laboratory study.
- CO5 Assess the animal communication at various situations.

BIODIVERSITY AND CONSERVATION- P21Z4MBE4

- CO1 Familiarize with various types of bio diversity and their values.
- CO2 Understand the loss of biodiversity and its degradation.
- CO3 Recognize the importance of conservation of biodiversity.
- CO4 Impart knowledge on therole of government agencies and NGO's to protect the environment.
- CO5 Obtain the information about the biotechnological implications in the management of bio diversity.



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