



POSTGRADUATE PROGRAMMES

POs, PSOs and COs

SACRED HEART COLLEGE, THEVARA

PG Programme Outcomes (POs)

At the end of the programme,

PO1

the students are capable of exercising their critical thinking in creating new knowledge leading to innovation, entrepreneurship and employability.

PO2

the students are able to effectively communicate the knowledge of their study and research in their respective disciplines to their employers and to the society at large.

PO3

the students are able to make choices based on the values upheld by the college, and have the readiness and know-how to preserve the environment and work towards sustainable growth and development.

PO4

the students possess an ethical view of life and have a broader (global) perspective transcending the provincial outlook.

PO5

the students possess a passion for exploring new knowledge independently for the development of the nation and the world and are able to engage in a lifelong learning process.

M.Sc. Aquaculture

Programme Specific Outcomes (PSOs)

At the end of the programme a student should be able to:

PSO1

Understand the taxonomy and biology of cultivable fin fishes and other organisms.

PSO2

Understand the ecology and culture of cultivable fin fishes, shell fishes, sea cucumber, seaweeds and various engineering principles applied to aquaculture structures.

PSO3

Understand the harvest and post-harvest technology of aquaculture organisms.

PSO4

Demonstrate their awareness of the nutrition, physiology and pathology of aquaculture organisms.

PSO5

Apply statistical and computer tools in relevant research fields pertaining to aquaculture.

Taxonomy and Biology of commercially and cultivable fin fish and shell fish

Course Title:	Taxonomy and Biology of commercially and cultivable fin fish and shell fish
Course Code:	20P1AQCT01
Semester:	One

Course Outcomes

C01: Identify the commercially important fin fish and shell fish through taxonomic studies and their distribution in Indian waters

C02: Understand the structural , functional and physiological features of digestive system and associated glands in fin fishes and shell fishes

C03: Determine food and feeding habits of fin fish and shell fish

C04: Understand the structural and functional features of circulatory system in fin fishes and shell fishes

C05: Understand the structural , functional and physiological features of respiratory system and accessory organs in fin fishes and shell fishes

C06: Understand the structure , function and role of excretory organs in osmoregulation of fin fishes and shell fishes

C07: Understand the structure and function of nervous system and endocrine system in fin fishes and shell fishes

C08: Understand the structure and function of reproductive system in fin fishes and shell fishes

Biophysics, Instrumentation, Micro techniques and Research Methodology

Course Title:	Biophysics, Instrumentation, Micro techniques and Research Methodology
Course Code:	20P1AQCT02
Semester:	One

Course Outcomes

- C01:** Understand the principles and operation of electroelectric equipment's in biological research
- C02:** Create information on biophysics and instrumentation as applied to aquaculture
- C03:** Evaluate detailed anatomic studies with the help of micro techniques
- C04:** Understand the basic principles of physiology as applied to aquaculture systems
- C05:** Understand introduction to research methods as a prelude to research work at higher level.

Biostatistics and Computer Applications

Course Title: Biostatistics and Computer Applications
Course Code: 20P1AQCT03
Semester: One

Course Outcomes

- C01:** Application of statistical tools for experimental practices
- C02:** Basic awareness on statistical tools in research and analysis of biological phenomenon
- C03:** Computer knowledge are imparted as applicable to aquacultural practices
- C04:** Computer knowledge at preliminary level for further studies
- C05:** Appropriate use of internet and communication system
- C06:** Sampling methods useful in estimation of marine fish landings

Aquaculture Engineering

Course Title: Aquaculture Engineering
Course Code: 20P1AQCT04
Semester: One

Course Outcomes

C01: Describe the criteria for selection of site for freshwater, brackish water and mariculture systems.

C02: Understand the engineering principles which is helpful in design and construction of aqua farms

C03: Evaluate the basic features of soil by sampling method for classification ,distribution and strength

C04: Understanding the working of different aquaculture equipment including hand tools

C05: Understand engineering principles which is helpful in design and construction of hatcheries

C06: Understand preparation of aquacultural projects

C07: Understanding the management pond and hatcheries

C08: Understand the application of feeding systems in aquaculture

Ecology of culture systems and Aquatic biology

Course Title: Ecology of culture systems and Aquatic biology
Course Code: 20P2AQCT05
Semester: Two

Course Outcomes

C01: Understand the basic ecology and aquatic biology as applicable to aquacultural organisms in captivity and controlled conditions

C02: Evaluate the ways and means of circumventing, ecological imbalances for production of better aquacultural yield

C03: Understanding the basic features of fisheries oceanography

C04: Understanding the physico-chemical characteristics of marine environment

C05: Describing mud banks in capture fisheries

C06: Evaluate the effect of trawl banning in stock enhancement

C07: Enumeration different types of major groups of microbes from culture ecosystems

C08: Understand the growth and reproduction of microbes in relation to different physico-chemical conditions in pond

Biochemistry and nutrition of finfish and shellfish

Course Title:	Biochemistry and nutrition of finfish and shellfish
Course Code:	20P2AQCT06
Semester:	Two

Course Outcomes

- C01:** Understand the basic principles of biochemistry as applied to aquaculture organisms in relation with environmental factors
- C02:** Understand the application of different additives in aquaculture feeds
- C03:** Describe the nutritional bioenergetics in fin fish and shell fish
- C04:** Understand the classification of feed stuff and anti-nutritional factors present in its
- C05:** Evaluation of quality of feed ingredients and finished feed
- C06:** Analyse the feed formulation strategies and methods
- C07:** Understand the management of feeding in aquaculture farms and hatcheries
- C08:** Understand the nutritional requirements of finfishes and shell fishes under culture condition

Physiology and Pathology of in fish and shell fish

Course Title:	Physiology and Pathology of in fish and shell fish
Course Code:	20P2AQCT07
Semester:	Two

Course Outcomes

C01: Understand the basic physiology of fin fish and shell fish and its relation to cultural conditions

C02: Identification of pathogens in aquacultural organisms

C03: Understand the classification of disease in aquaculture systems

C04: Describe the disease control of fin and shellfish, remedial and prophylactic measures

C05: Comparative study of physiological characters of fin fish and shell fish

C06: Understanding the biological rhythm in aquatic organisms

C07: Understand the ecophysiology and environmental requirements for the metabolism of aquatic organisms

C08: Understand the principles and application of eye stalk ablation and hypophysation in fin fish and shell fish hatcheries

Genetics and Biotechnology

Course Title: Genetics and Biotechnology
Course Code: 20P2AQCT08
Semester: Two

Course Outcomes

C01: Understand Induced breeding ,genetic improvement of the stock for better strains of cultural organisms

C02: Genetic engineering and biotechnological principles for crop improvement

C03: Understand the principles of genetic technique in cytogenetics

C04: Describing different hybridization techniques

C05: Describing different types of probiotics and its application in aquaculture

C06: Introduction to tools and techniques in modern biotechnology

C07: Analyze the developments of fish cell lines and their application in aquaculture

C08: Understanding the different types of vaccination in fish genetics

Culture of fin fishes, Mollusc and Sea cucumbers

Course Title: Culture of fin fishes, Mollusc and Sea cucumbers
Course Code: 20P3AQCT09
Semester: Three

Course Outcomes

- C01:** Understand the commercial practices on culture of fin fishes and mollusc
- C02:** Analyse the food and feeding of fin fishes ,mollusc and sea cucumbers
- C03:** Understanding the characteristics and criteria for selection of species for mariculture
- C04:** Understanding the seed collection and transportation techniques
- C05:** Describe the culture and conservation of sea cucumbers n India
- C06:** Understanding the processing of sea cucumbers
- C07:** Describing different types of grow out culture systems
- C08:** Study of ecolabelling and organizations related to it.

Aquariculture, Aquaculture Economics, Management and Administration

Course Title:	Aquariculture, Aquaculture Economics, Management and Administration
Course Code:	20P3AQCT10
Semester:	Three

Course Outcomes

C01: Identification and breeding of ornamental fin fishes

C02: Understand the basic principles of economic theories applied to farm management ,entrepreneurships and small scale industries

C03: Identification of aquarium plants and invertebrates

C04: Study of construction and maintenance of aquarium

C05: Setting up of aquarium tanks

C06: Identification of common diseases in aquarium fishes and management

C07: Application of production economics in aquaculture

C08: Analyse market demand for aquaculture products by conducting consumer surveys

Culture of Crustaceans, Sea weeds and Fisheries technology

	Culture of Crustaceans, Sea weeds and Fisheries
Course Title:	technology
Course Code:	16P3AQCT11
Semester:	Three

Course Outcomes

C01: Understand the culture of the economically important crustaceans and seaweeds

C02: Identification of economically important sea weeds

C03: Describe the methods of processing and extraction of different seaweed products

C04: Understanding the fundamental principle of bacteriology

C05: Describe spoilage causing microorganisms of fish and fishery products

C06: Sensory evaluation of fresh fish and fish products

C07: Analysing post mortem changes in fish

C08: Describing handling of fish onboard , landing centres ,retail outlets and pre-processing centres

Fishing Technology

Course Title: Fishing Technology
Course Code: 16P4AQC T12
Semester: Four

Course Outcomes

C01: Understand the basic principles of capture of fin fishes and crustaceans from inland ,marine as well as from closed water system

C02: Describe different types of fishing crafts

C03: Describe different types of fishing gears

C04: Understand the different materials used for the construction of fishing crafts

C05: Understand different materials used for the construction of fishing gears

C06: Understand the marine fouling and corrosion in fishing boats and their maintenance

C07: Understand the basic principles of navigation

C08: Understand the different fish finding devices

Fish Processing Technology

Course Title: Fish Processing Technology
Course Code: 16P4AQCT13
Semester: Four

Course Outcomes

C01: Understand the handling of fishes both culture and capture

C02: Understand the handling of fishes both culture and capture

C03: Understand the freezing technology of fish

C04: Understand the canning of fish

C05: Understand the curing and drying of fish

C06: Understand the value added fish products

C07: Understand the Fishery By-products

C08: Understand the Packaging of fish products

Fish Microbiology and Quality Assurance

Course Title: Fish Microbiology and Quality Assurance
Course Code: 16P4AQCT14
Semester: Four

Course Outcomes

- C01:** Understand the trace metals in fins fish and shell fish
- C02:** Understand the general aspects of seafood quality and quality problems
- C03:** Understand the biological hazards in seafoods
- C04:** Analyse the fish spoilage and quality assessments
- C05:** Understand the Good manufacturing practices in seafood processing
- C06:** Understand the Hazard analysis and critical control points in seafood industry
- C07:** Understand the National and international standards for fish and fish products
- C08:** Understand the Waste management in seafood plants

M.Sc Botany

Programme Specific Outcomes (PSOs)

At the end of the programme a student should be able to:

PSO1

Demonstrate a clear, comprehensive and advanced mastery in the field of Botany.

PSO2

Understand the basic principles of biological sciences with special reference to Botany and its applied branches.

PSO3

Explore the intricacies of life forms at cellular, molecular and nano level.

PSO4

Appreciate the beauty of different life forms and be aware of the concept of biodiversity conservation.

PSO5

Develop problem solving skills and carry out innovative research projects, thereby fostering the spirit of knowledge creation

Microbiology And Phycology

Course Title: Microbiology And Phycology

Course Code: 20P1BOTT01

Semester: One

Course Outcomes

C01 : Understand the world of microbial diversity and their evolutionary relationships

C02 : Understand the reproductive behaviour in Algae and microbes

C03 : Understand ecological significance of the lower groups of plants and protists

C04 : Understand economic significance of the lower groups of plants and protists

C05 : Collect various algal forms, identify and classify them in the laboratory

C06 : Compare various life cycles exhibited different classes of algae

Mycology And Crop Pathology

Course Title: Mycology And Crop Pathology

Course Code: 20P1BOTT02

Semester: One

Course Outcomes

C01 : Able to collect, preserve, identify and classify different micro and macro fungi.

C02 : Have a better understanding on different classification systems and their applications.

C03 : Create awareness about the significance of mycotic diseases

C04 : Have advanced learning about fungal associations, their usefulness and harmfulness

C05 : Develop advanced theoretical and practical knowledge about phytopathogens and their control.

Ecology, Environmental Biology, Phytogeography & Research Methodology

Course Title: Ecology, Environmental Biology,
Phytogeography & Research Methodology

Course Code: 20P1BOTT03

Semester: One

Course Outcomes

C01 : To enable the students to have a better understanding of the environment

C02 : To enrich the students with advanced theoretical and practical knowledge on ecology and environmental science

C03 : To train the students, both theoretically and practically, with different mathematical and statistical models and indices to explain natural phenomena and theoretical principles with which several ecological processes are explained.

C04 : To enable the students to have detailed understanding about the environmental problems.

C05 : To provide the students detailed learning about the origin of the Western Ghats and diversity and conservation in the Western Ghats

C06 : To facilitate the students to have advanced learning about biodiversity, phytogeography, ecosystem functioning etc.

C07 : To enrich the students with the principle, necessity and methods of conservation managements of natural ecosystems and rare, endemic and threatened species in the Western Ghats.

C08 : To develop scientific aptitude and apply methodologies to pursue scientific researches.

Cell Biology

Course Title: Cell Biology
Course Code: 20P1BOTT04
Semester: One

Course Outcomes

C01 : Understand the structures and purposes of basic components of prokaryotic and eukaryotic cells, especially macromolecules, membranes, and organelles.

C02 : Understand how the cells interact among themselves and with the environment through signal molecules.

C03 : Acquire in depth knowledge in cytoskeleton, endomembrane system, protein trafficking and cell cycle.

C04 : Familiarize with recent advancements in Chloroplast and Mitochondrial research.

C05 : Learn the molecular mechanisms of cancer.

C06 : Confident in basic knowledge to prepare for competitive examinations in life science.

Bryology And Pteridology

Course Title: Bryology And Pteridology

Course Code: 20P2BOTT05

Semester: Two

Course Outcomes

C01 : Understand the diversity of primitive land plants.

C02 : Familiarize with the morphological and anatomical features of Bryophytes and Pteridophytes.

C03 : Identify the main characteristics of Bryophytes and Pteridophytes

C04 : Chart the development of land adaptations in the Bryophytes and Pteridophytes.

C05 : Acquaintance with various lifecycle events in theBbryophyte and Pteridophytes.

C06 : Understand the evolutionary trends primitive plant groups.

C07 : Ability to identify various Bryophytes and Pteridophytes in their habitats.

Molecular Biology & Immunology

Course Title: Molecular Biology & Immunology

Course Code: 20P2BOTT06

Semester: Two

Course Outcomes

C01 : Understand the basic properties, structure and functions of genetic materials.

C02 : Understand the central dogma of molecular biology.

C03 : To get a thorough knowledge in gene expression mechanisms.

C04 : Understand the mechanism of DNA repair systems.

C05 : Know the alternate forms of DNA and its significance

C06 : Know the diversity RNA molecules and its diverse functions in biological systems.

Plant Anatomy, Angiosperm Systematics & Morphology

Course Title: Plant Anatomy, Angiosperm Systematics & Morphology

Course Code: 20P2BOTT07

Semester: Two

Course Outcomes

- C01** : Understand the plant cell structure in a detailed manner
- C02** : Understand the tissue level organization in plant system
- C03** : Understand the morphological features of angiosperms
- C04** : Know and carry out the plant anatomical specimen preparations
- C05** : Understand the details of wood anatomy, plant fibres and secretory tissues
- C06** : Understand different inflorescence and fruit types in plant kingdom
- C07** : Compare different wood types looking into anatomical peculiarities
- C08** : Understands floral, nodal and reproductive anatomy of plants

Genetics & Biochemistry

Course Title: Genetics & Biochemistry

Course Code: 20P2BOTT08

Semester: Two

Course Outcomes

C01 : To understand the Mendelian and Non-Mendelian modes of inheritance that governs passage of genetic traits across generation.

C02 : To understand the Hardy-Weinberg equilibrium.

C03 : To have a clear cut idea of linkage and mapping which will help them to work out problems related to map distance, gene order, coefficient of coincidence and interference.

C04 : To get a basic knowledge regarding the structure and functions of biomolecules.

C05 : To learn a detailed account on enzymology, nucleotide metabolism and secondary metabolites.

Taxonomy Of Angiosperms

Course Title: Taxonomy Of Angiosperms

Course Code: 20P3BOTT09

Semester: Three

Course Outcomes

C01 : Know about the natural order in Angiosperms

C02 : Understand the various classification systems and its scope in angiosperm systematics

C03 : Understand the morphological and molecular features of angiosperms in a systematic way

C04 : Gain knowledge about various plants and plant products and its role in human welfare

C05 : Understand the ethnobotanical aspects

C06 : Know about field exploration and plant specimen handling in botanical studies

C07 : Understand the evolutionary trends in Angiosperms

C08 : Know about the various taxonomic literature and other tools in Angiosperm taxonomy

Gymnosperms, Evolution & Paleobotany

Course Title: Gymnosperms, Evolution & Paleobotany

Course Code: 20P3BOTT10

Semester: Three

Course Outcomes

C01 : Understand the morphological diversity of gymnosperms

C02 : Understand the reproductive behaviour in gymnosperms

C03 : Know the evolutionary trends in biological systems

C04 : Understand ecological significance of gymnosperms

C05 : Know the economic significance gymnosperms

C06 : Understand the origin and phylogeny organisms

C07 : Understand the diversity and distributions of prehistoric flora

Plant Physiology

Course Title: Plant Physiology

Course Code: 20P3BOTT11

Semester: Three

Course Outcomes

C01 : Understand the relationship of plant with its habitat

C02 : Differentiate mineral nutrition and mechanism of absorption

C03 : Understand the mechanism of photosynthesis

C04 : Know the transport mechanism happening in plant system

C05 : Understand the respiration mechanism in plants

C06 : Know the plant responses to environment

C07 : Understand the physiology of growth and development in plants

Plant Reproductive Biology, Palynology And Plant Breeding

Course Title: Plant Reproductive Biology, Palynology And
Plant Breeding

Course Code: 20P3BOTT12

Semester: Three

Course Outcomes

C01 : Understand the basic concepts of developmental biology

C02 : Know about the breeding system and self incompatibility in plants

C03 : Understand the pollination and post pollination changes

C04 : Know the structure of pollen grains and applications of palynology

C05 : Understand the classical and advanced methchanges

Genetic Engineering

Course Title: Genetic Engineering

Course Code: 20P4BOTT13

Semester: Four

Course Outcomes

C01 : Understands the fundamental and advanced aspects of recombinant DNA technology, gene cloning strategies

C02 : Know the various aspects of advanced transgenic technology

C03 : Know the social and ethical issues in the field of biotechnology

C04 : Understand the scope and relevance of genome editing

C05 : Understand the applications of rDNA technology

Genomics, Proteomics & Bioinformatics

Course Title: Genomics, Proteomics & Bioinformatics

Course Code: 20P4BOTT14

Semester: Four

Course Outcomes

C01 : Know about all the structural features of genome

C02 : Understands the fundamentals functional genomics

C03 : Know the social and ethical issues in the field of genomics

C04 : Understand the scope and relevance of genome, transcriptome and proteome

C05 : Understands the fundamentals of bioinformatics

Tissue Culture And Microbial Biotechnology

Course Title: Tissue Culture And Microbial Biotechnology

Course Code: 20PE1BOTT15

Semester: Four

Course Outcomes

C01 : Know about all the basic aspects of plant tissue culture

C02 : Understands the fundamentals of microbial biotechnology

C03 : Know the various applications of plant tissue culture

C04 : Understand the scope and relevance of Bioreactors and fermentation technology

C05 : Understand the in vitro germplasm conservation strategies

Biostatistics, Microtechniques & Biophysics

Course Title: Biostatistics, Microtechniques & Biophysics

Course Code: 20PE1BOTT16

Semester: Four

Course Outcomes

C01 : Understand the tools and techniques available for studying biochemical and biophysical nature of life.

C02 : Understand the basics of experimental design in research

C03 : Understand the preparation of plants for microscopic examination and histochemical studies.

C04 : Identify the various statistical tools and its applications in data processing

C05 : Know the principles and working of various types of microscopes and other instruments in biological research

M.Com

Programme Specific Outcomes (PSOs)

At the end of the programme a student should be able to:

PSO1

Display advanced knowledge and skills in the field of accounting, management, finance, taxation and the securities market.

PSO2

Demonstrate an aptitude for and interest in a career of their choice in commerce.

PSO3

Engage in research and pursue NET/SET and other competitive exams.

PSO4

Imbibe problem-solving skills in their respective fields along with achieving the overall development of their personality.

PSO5

Create a community invested in sustainable development, inclusive growth and nation building through the development of a global perspective, giving priority to ethics.

Advanced Financial Accounting I

Course Title: Advanced Financial Accounting I
Semester: One
Code: 20P1COMT01

Course Outcomes

C01: Critical analysis and valuation of goodwill and value of shares and compare the real value of shares and with the market prices

C02: Determination of purchase consideration in the event of amalgamation and to prepare post amalgamation financial statements

C03: Students are able to prepare consolidated financial statements of group companies.

C04: Strong understanding about the International Financial Reporting Standards which is necessary in the modern Global Market

C05: Study of Human Resource Accounting various methods of Valuing Human Resource enabling students in calculating the value of Human Resource which is the most important resource of the business

Management and Organisation Behaviour

Course Title: Management and Organisation Behaviour
Semester: One
Code: 20P1COMT02

Course Outcomes

C01: To ensure students' knowledge enhancement on various management concepts

C02: To equip students with various management functions and OB techniques

C03: Make students familiar with the topics of motivation and leadership

C04: Make the students appreciate change management and its techniques

C05: Understand the relevance of goal, goal setting and its congruency

C06: Help them explore more about recent trends in Management

Financial Management Principles

Course Title: Financial Management Principles
Semester: One
Code: 20P1COMT03

Course Outcomes

- C01:** Familiarise the various concepts and approaches in financial management
- C02:** Understand various issues involved in financial management of a firm
- C03:** Equip them with advanced analytical tools and techniques that are used for making sound financial decisions
- C04:** Enable students to compare and contrast the implications of financial decisions
- C05:** Familiarise the types of financial decisions namely financing, dividend and investment decisions
- C06:** Enables comparison of the risk- return analysis and liquidity-profitability analysis of different alternatives in financial management

Research Methodology

Course Title: Research Methodology
Semester: One
Code: 20P1COMT04

Course Outcomes

- C01:** To enumerate basic research methodology concepts and steps in research
- C02:** Understand research problem, research design, related terminologies apart from familiarizing research hypothesis and research proposal
- C03:** To comprehend various methods of sampling and sampling techniques
- C04:** Enhancement of knowledge in data collection, analysis and interpretations
- C05:** To acquire knowledge for the successful application of computers in research and related areas
- C06:** To formulate and generate research reports in a logical and scientific manner

Quantitative Techniques

Course Title: Quantitative Techniques
Semester: One
Code: 20P1COMT05

Course Outcomes

- C01:** Understand various quantitative & statistical methods
- C02:** Understand data and draw inference from data
- C03:** Calculate and interpret statistical values by using statistical tools
- C04:** Demonstrate an ability to apply various statistical tools to solve business problem
- C05:** Understand and master the handling of data and employ proper analyses
- C06:** Demonstrate their competence and confidence in using descriptive statistics
- C07:** Carry out a simple sample survey, analyse the results and present the findings to the class.
- C08:** Extrapolate from data the important trends in order to forecast as accurately as possible

Advanced Financial Accounting II

Course Title: Advanced Financial Accounting II
Semester: Two
Code: 20P2COMT06

Course Outcomes

C01: understand and manage accounts in a real-life situation which will enabling them to explore a career in the field of Accounting.

C02: Critical thinking and selection of different methods of valuation based on situation will help in the development of overall personality and problem solving capacity.

C03: Green accounting, which considering impact of business activities in the natural resources enabling students to contribute towards sustainable development and environment friendliness

C04: Study of Farm Accounting, Accounting of Hotels and Educational institutions will contribute towards sustainable development and inclusive growth

C05: Study of double accounting followed by Public Utility Undertakings, leads to better citizenship.

C06: Study of recent developments in Accounting like Green accounting Artificial intelligence in Accounting- Forensic Accounting gives better career opportunities

Human Resource Management

Course Title: Human Resource Management
Semester: Two
Code: 16P2COMT07

Course Outcomes

C01: To enhance students' knowledge on human resource management

C02: To equip students with various HR concepts

C03: Make students familiar with the latest trends in HRM

C04: Help students understand the importance of recruitment and selections

C05: Help them appreciate the concepts of motivation and leadership apart from familiarizing them with the relevant theories.

Strategic Financial Management

Course Title: Strategic Financial Management
Semester: Two
Code: 20P2COMT08

Course Outcomes

- C01:** Understand the application of Strategic Management concepts in finance area
- C02:** Examine the tax implications of various events and financial decisions
- C03:** Evaluation of the cost-benefit analysis of various events in the business
- C04:** Examine the legal procedures of various events and financial decisions
- C05:** Evaluate and justify the reasons for taking a particular financial decision
- C06:** Familiarise with the different alternatives and its financial implications when confronting a problem.

Strategic Management

Course Title: Strategic Management
Semester: Two
Code: 20P3COMT09

Course Outcomes

C01: To familiarize students with strategic decision making in organisations

C02: Analyze operations of an organisation in a strategic perspective

C03: Formulation of strategies in various organizational business situations

C04: To enhance students' knowledge in the areas of organizational strategies viz take overs, consortium, networking and acquisitions

C05: To learn the implementation criterion as well as to identify the performance gap through analysis and to negate the same.

Operations Research

Course Title: Operations Research
Semester: Two
Code: 20P3COMT10

Course Outcomes

- C01:** To understand the meaning and evolution of Operations Research
- C02:** To understand the concept of Linear Programming and its application for business solution.
- C03:** To learn the transportation and assignment techniques for business application.
- C04:** To understand the decision theory and quantitative approach to managerial decision making.
- C05:** To learn the techniques of Networking and different types of Networking.

Management Accounting

Course Title: Management Accounting
Semester: Three
Code: 20P3COMT11

Course Outcomes

- C01:** Understand the concept of cash flow and prepare cash flow statement
- C02:** Understand the concept of flow of fund and prepare fund flow statement
- C03:** Understand various ratios as a tool of financial analysis and take suitable financial decisions
- C04:** Understand the concept of price level accounting and apply in real life situation
- C05:** Proper reporting of information to various level of management
- C06:** Analysis of financial performance of companies and identify the strength and weakness
- C07:** Demonstrate their competence and analytical skill
- C08:** Managerial decision making through analysis of financial statements

Direct Taxes: Law and Practice

Course Title: Direct Taxes: Law and Practice
Semester: Three
Code: 20P3COMT12

Course Outcomes

- C01:** To understand the laws of Direct Taxes and objectives of taxation.
- C02:** To learn the different classes of assesses and various slabs of Tax rates.
- C03:** To learn the provisions under the various heads of Income.
- C04:** To understand the provisions of Clubbing of Income, Set off and Carry forward of Losses.

Corporate Governance and Business Ethics

Course Title: Corporate Governance and Business Ethics
Semester: Three
Code: 20P3COMT13

Course Outcomes

- C01:** To ensure students' knowledge enhancement on corporate governance
- C02:** To equip students with various business ethics topics and concepts
- C03:** Make students familiar with clause 49 and the various provisions relating to the Act
- C04:** Understand the concept of corporate excellence and its relevance
- C05:** To comprehend on corporate image and relevance of Work Life Balance and QWL

International Business Environment

Course Title: International Business Environment
Semester: Three
Code: 20P3COMT14

Course Outcomes

C01: To provide an exposure to students about the various business environmental factors with a global perspective

C02: To gain substantial knowledge in various theories related to international business environment

C03: To familiarize students on the various modes of entry into international business along with basic knowledge about MNC's

C04: Analysis of various SLEPT factors in international business environment and its implications

C05: To enhance students broad knowledge on international institutions and about various trade agreement

C06: Enumerate the importance and implications of various economic groupings in international business

C07: Gain an overview about international marketing

Econometrics for Finance

Course Title: Econometrics for Finance
Semester: Three
Code: 20P3COMT15

Course Outcomes

- C01:** Enable students to study the basics of econometrics
- C02:** Create an understanding of how econometric methods are applied in finance
- C03:** Impart working knowledge of financial time series
- C04:** Familiarize the software with which analysis is performed
- C05:** Explain the technique of modelling
- C06:** Understand the basic regression models

Advanced Cost Accounting

Course Title: Advanced Cost Accounting
Semester: Four
Code: 20P4COMT16EL

Course Outcomes

C01: Understand the process costing concepts, inter process profit and equivalent production so that logical decision can be taken

C02: Identify the role of CVP Analysis and apply the marginal costing principles in decision making situations of businesses

C03: Understand the concepts of standard costing and managerial uses of variance analyses and apply cost control through it.

C04: Understand the concept of various budget and apply budgetary control in business situation

C05: To know the application of cost control techniques

C06: To learn about the higher application of cost accounting techniques and methods

Direct Taxes- Assessment and Procedure

Course Title: Direct Taxes- Assessment and Procedure
Semester: Four
Code: 20P4COMT17EL

Course Outcomes

C01: To Assess the tax of firms/AOP/BOI and Companies.

C02: To learn the Assessment procedures and various types of returns

C03: To learn the various class of income tax authorities and their powers.

C04: To understand the provisions of International taxation and concept of GAAR, Advance Pricing Agreement (APA).

International Financial Management

Course Title: International Financial Management
Semester: Four
Code: 20P4COMT18EL

Course Outcomes

- C01:** Understand the basics of international financial system
- C02:** Familiarise in brief the history of international monetary system
- C03:** Familiarise the theories of international finance
- C04:** Examine the advantages and disadvantages of FDI and FPI in India
- C05:** Evaluate the global regulatory environment
- C06:** Examine the various alternatives of financing global business

Derivatives and Risk Management

Course Title: Derivatives and Risk Management
Semester: Four
Code: 20P4COMT19EL

Course Outcomes

C01: Demonstrate an understanding of the uses of financial engineering and risk management approaches and techniques used by modern organisations.

C02: Apply their knowledge of derivatives in solving problems involving financial risks including foreign exchange risk, interest rate risk, credit risk and portfolio risks.

C03: Analyse and price diverse derivatives products to generate an optimal risk management strategy.

C04: Demonstrate critical thinking, analytical and problem solving skills in the context of derivatives pricing and hedging practice.

C05: Explain the binomial model and its extension in continuous time to the Black-Scholes model.

C06: Demonstrate an understanding of pricing forwards, futures and options contracts.

C07: Be able to decide which securities to use for hedging and/or speculative purposes.

C08: Acquire knowledge of how forward contracts, futures contracts, swaps and options work, how they are used and how they are priced.

Security Analysis and Portfolio Management

Course Title: Security Analysis and Portfolio Management
Semester: Four
Code: 20P4COMT20EL

Course Outcomes

C01: understand different investment avenues, and making better decisions in investment

C02: Ability to analyse Securities and Portfolios ie, Risk and Return and Different models of Risk Return analysis

C03: Understanding the types of risk in security market and methods to reduce risk

C04: Using various tools and enable to take investment decisions after understanding market efficiency How to select revise and evaluate portfolios and also to apply various tools for the valuation of bonds

C05: Study of modern portfolio techniques helps to construct efficient portfolios Revising constructed portfolios as per risk and return association by using different strategies.

C06: Advanced Problems solving in Technical Analysis, Share valuation, Bond Valuation, Portfolio construction Revision and Evaluation.

M.A. Cinema and Television

Programme Specific Outcomes (PSOs)

At the end of the programme a student should be able to:

PSO1

Understand the history of Cinema and Television.

PSO2

Understand the various processes involved in content creation, distribution and exhibition of cinema and television.

PSO3

Practice content creation in cinema and television.

PSO4

Understand the best practices and ethical values in all professions related to cinema and television.

Introduction to Communication

Course Title: Introduction to Communication
Semester: One
Code: 20P1CTVT01

Course Outcomes

C01: Knowledge of the basic theories of human communication in non-mediated and mediated contexts

C02: Ability to critically apply the various theoretical approaches of media and audience theories

C03: Ability to successfully apply the above knowledge in actual situations of day-to-day communication and in their future professional areas

C04: Develop critical understanding about the cultural, geographical, ideological influences on mass communication – the media organizations, the senders and the audience

C05: Acquire analytical skills to understand the global, national and regional scenario of functioning of mass media

C06: Demonstrate the skills and knowledge in real life communications and areas of production

Cinema and Television as An Art Form

Course Title: Cinema and Television as An Art Form
Semester: One
Code: 20P1CTVT02

Course Outcomes

- C01:** Understanding about the growth of Cinema and Television
- C02:** Capacity for analyzing and creating the cinema and television programmers without the lose artistic value
- C03:** Capacity to express content through cinema and television
- C04:** Understanding the importance of cinema and television as communication medium
- C05:** Creating a sense for frame and shots
- C06:** Brilliance in application of technology in cinema and television
- C07:** Understanding the interactive capacity of cinema and television
- C08:** Capacity to show the current and socially relevant subjects through the cinema and television

Short Films and Documentaries

Course Title: Short Films and Documentaries
Semester: One
Code: 20P1CTVT03

Course Outcomes

C01: Understanding International and national history of documentary film movement to critically analyse, evaluate and create content

C02: Study TV News content and presentation styles and generate content in video format

C03: Understand history and working of TV Channels (NGC, Discovery, History, BBC, CNN, Doordarshan) to review, analyse and create content

C04: Study classification of documentaries and short films into genres

C05: Understand the process of Electronic News Gathering (ENG) to apply the same in TV News reporting

C06: Study Investigative Journalism to analyse, evaluate and create content

Techniques of cinema and tv: audio aspect

Course Title: Techniques of cinema and tv: audio aspect
Semester: One
Code: 20P1CTVP02

Course Outcomes

C01: Education of students for recognizable and defined professions related to the production in the field of sound and picture.

C02: Providing competencies for working on the tasks of production and post production of the sound and picture

C03: Availability of skills and knowledge in at least three related professions (audio and video technology, IT, arts, management) and tendencies towards team work

Techniques of cinema and tv: visual aspect

Course Title: Techniques of cinema and tv: visual aspect
Semester: One
Code: 20P1CTVP01

Course Outcomes

C01: Students will demonstrate that the critical study of cinema inform their filmmaking and that the study and practice of film production enhance their work as film scholars and analysts.

C02: Develop critical thinking and self-awareness by evaluating a variety of theories and approaches to film analysis.

C03: Edit digital media at an intermediate level using industry standard non-linear editing software.

C04: Evaluate digital video projects, identify items for improvement, and implement changes.

C05: Students will demonstrate that they understand the pre-production, production, and postproduction filmmaking process

C06: Develop an understanding of the industry as a whole by executing all components of development, pre-production, production and post-production planning

Shaping the content

Course Title: Shaping the content
Semester: Two
Code: 20P2CTVT04

Course Outcomes

C01: Capability to evaluate a content in cinema

C02: Capacity for shape an idea

C03: Capacity for make a good script

C04: Capacity to make a shooting script

C05: Capacity for writing dialogue for film

C06: Good knowledge in making screenplay for short-fiction and TV serials

Techniques of cinema and television: Editing aspect

Course Title:	Techniques of cinema and television: Editing aspect
Semester:	Two
Code:	20P2CTVP03

Course Outcomes

C01: To provide a well-rounded and comprehensive training on video editing through lectures, exercises and applications

C02: To set a contextual backdrop for aiding ease of understanding, the theoretical background pertaining to video editing would be covered as well.

C03: To emphasize skill proficiency so that trainees can practically contribute and provide support to the relevant industry.

C04: To maximize the production of high-quality videos, films, documentaries and other related formats.

C05: To professionally edit videos of different genres i.e. documentaries, drams, short films, interviews, commercials etc.

C06: To proficiently use different video editing software applications including Adobe Premiere and Final Cut Pro.

C07: To acquire a theoretical and practical knowledge of video editing and its related constructs including filmmaking.

Aesthetics of cinema and television

Course Title: Aesthetics of cinema and television
Semester: Two
Code: 20P2CTVT05

Course Outcomes

C01: Identify types of movie genres and various editing styles.

C02: Recognize types of films/T.V shows on society and their roles in our lives

C03: Identify ways sound contributes to movies.

C04: Recognize, identify, and define the main elements through which film is analyzed including light, colour, space, time, motion and sound.

C05: Learn to analyze how these elements individually and collectively contribute to the perception and appreciation of cinema.

C06: Recall the concepts behind storytelling, Mise en Scène, and cinematography

Methods of shooting

Course Title: Methods of shooting
Semester: Two
Code: 20P2CTVP04

Course Outcomes

- C01:** Students can understand Technology of film and video.
- C02:** Understanding about the lighting
- C03:** Understanding about the indoor lighting
- C04:** Understanding about outdoor lighting and usage of natural lighting
- C05:** Understanding about the different format
- C06:** Understanding about the scripting and implementing

Advertising

Course Title: Advertising
Semester: Two
Code: 20P2CTVXC1

Course Outcomes

- C01:** Demonstrate an understanding of the overall role advertising plays in the business world.
- C02:** Demonstrate an understanding of advertising strategies and budgets
- C03:** Identify and understand the various advertising media.
- C04:** Demonstrate an understanding of how an advertising agency operates.
- C05:** Understanding about the creative sides of advertising
- C06:** Capacity for creating an advertising

Media ethics and education

Course Title: Media ethics and education
Semester: Two
Code: 20P2CTVT06

Course Outcomes

C01: Understand how Indian media laws and regulations compare with those of other nations

C02: Understand how media policies and regulations enable or constrain effective media environments

C03: Understand the obligations and rights of media practitioners in the execution of their duties

C04: Understand some of the problems and limitations of applying old media laws in new media environments

C05: Be able to appreciate the complex issues associated with media regulation

C06: Understand changing media landscapes and their possible legal implications

Internship

Course Title: Internship
Semester: Three
Code: 20P3CTVIN1

Course Outcomes

C01: Efficiently work on live projects in the industry.

C02: Interactive effectively with media industry professionals and collaborate with other individuals and as members of a team

C03: Facing challenges in the industry with confidence

C04: Analyze and create visual media as an effective communication

Shooting within TV studio

Course Title: Shooting within TV studio
Semester: Three
Code: 20P3CTVP05

Course Outcomes

C01: Apply effective and collaborative team communication and management skills to complete the video process

C02: Understand the digital video terms and apply the technique or concept using a digital video camera

C03: Demonstrate knowledge of the three phase production processes

C04: Demonstrate ability to properly use and operate the studio

C05: Setup & control the appropriate lighting on location in a safe manner

C06: Identify, select and use appropriate audio (microphone) techniques

C07: Understand the online editing software

C08: Select and execute the proper framing of a video shot; demonstrate ability to create different compositions

Shaping the form

Course Title: Shaping the form
Semester: Three
Code: 20P3CTVP06

Course Outcomes

- C01:** Understanding the role of Sound in cinema
- C02:** Create a capacity for understand, apply and create good dialogues
- C03:** To analyses and evaluate an actor
- C04:** Create a capacity for internalize the character in actor's mind
- C05:** Creating and applying song sequences and BGM in cinema
- C06:** Remembering and understanding the technology of sound mixing, camera

Television shorts and serials

Course Title: Television shorts and serials
Semester: Three
Code: 20P3CTVP07

Course Outcomes

C01: Analyse, evaluate and apply critical thinking and knowledge to articulate creative concepts and solve problems in the field of serials and Television shorts.

C02: Apply cognitive and technical skills to demonstrate a broad understanding of theoretical concepts in Film and Television

C03: Understanding of film production, research and scholarship in the production of cinema, broadcast and media content

C04: apply research principles and methods to exercise critical thinking and judgement to develop new understandings of shorts and serial

C05: Demonstrate communication skills and the ability to work collaboratively in the development, production and management of Film and Television project work

C06: Exercise critical thinking in adhering to the principles of sustainability and respectful production principles and knowledge to new and diverse contexts in Film and Television production

Research Methodologies

Course Title: Research Methodologies
Semester: Three
Code: 20P3CTVPJ1

Course Outcomes

- C01:** Develop an understanding of design research.
- C02:** Understand and apply quantitative and qualitative research techniques
- C03:** Have adequate knowledge of measurement & scaling techniques as well as the quantitative data analysis
- C04:** Have a basic awareness of data analysis and hypothesis testing procedures
- C05:** Demonstrate knowledge of research processes (reading, evaluating, and developing
- C06:** Perform literature reviews using print and online databases
- C07:** Perform literature reviews using print and online databases
- C08:** Identify, explain, compare, and prepare the key elements of a research proposal/report.
- C09:** Understand and apply Research Methodology for various design research needs

Audio Visual Film/ TV/ Web Project Management (Practical)

Course Title:	Audio Visual Film/ TV/ Web Project Management (Practical)
Semester:	Three
Code:	20P3CTVT07

Course Outcomes

C01: Capacity to conceive and implement audio visual projects in various platforms

C02: Understanding of concept and characteristics of projects

C03: Understanding of best practices for production

C04: Understanding about the roles- Production Management

C05: Reviewing capacity of footage and final product

C06: Conceiving and implementing capacity of idea

Film analysis

Course Title: Film analysis
Semester: Four
Code: 20P4CTVP08

Course Outcomes

C01: Knowledge about the film theories

C02: Capacity for implementation of this theories

C03: Understanding about the psychological impact of movies

C04: Analyzing capacity of classic movies

C05: Understanding about the social cultural context of films and subjects

C06: Understanding about the deconstructive analyze of films.

Synthesis of cinema and TV techniques

Course Title: Synthesis of cinema and TV techniques
Semester: Four
Code: 20P4CTVP09

Course Outcomes

- C01:** Understanding about the editing
- C02:** Knowledge about the grading and release print
- C03:** Understanding about the mixing
- C04:** Understanding about special effects in films and commercials
- C05:** Understanding about the creation of action sequences
- C06:** Understanding about the emotional graphs of cinema

Internship

Course Title: Internship
Semester: Four
Code: 20P4CTVIN2

Course Outcomes

C01: Efficiently work on live projects in the industry.

C02: Interactive effectively with media industry professionals and collaborate with other individuals and as members of a team

C03: 3.Facing challenges in the industry with confidence

C04: Analyze and create visual media as an effective communication.

Graduation film

Course Title: Graduation film
Semester: Four
Code: 20P4CTVPJ2

Course Outcomes

C01: Understand, apply, analyse and create: Preproduction: Creating Concept with Story, research, Script and Development

C02: Understand, apply, analyse and create: Preproduction: Developing Storyboard and location hunting, casting, setting, etc

C03: Demonstrate and create: Production: implementation of script

C04: Understand, apply, analyse and create: Postproduction – editing, dubbing, grading, mixing etc.

Master of Communication and Journalism

Programme Specific Outcomes (PSOs)

At the end of the programme a student should be able to:

PSO1

Demonstrate knowledge and understanding of the media industry along with practical and theoretical concepts of Journalism & Mass Communication.

PSO2

Gather information and use digital literacy in capturing data from various sources and develop an aptitude for innovative communication.

PSO3

Think critically and creatively, developing an interest in discovering new horizons in Journalism & Mass Communication.

PSO4

Evaluate the opportunities available within the creative environment of Journalism and Mass Communication to identify careers or develop their own ventures.

PSO5

Create a continuous learning environment for engaging themselves and to remain up to date with new knowledge in Journalism and Mass Communication.

Introduction to Communication

Course Title: Introduction to Communication
Semester: One
Code: 20P1MCJT01

Course Outcomes

C01: Demonstrate knowledge and understanding of media industry along with practical and theoretical concepts of journalism & mass communication

C02: Explore information and use digital literacy in capturing data from various sources and develop innovative communication aptitude

C03: Think critically, creatively, and demonstrate curiosity to discover new horizons in journalism & mass communication

C04: Evaluate the opportunities available from the creative environment of communication to identify career or develop their own ventures

C05: Create continuous learning environment for engaging themselves to update with new knowledge in Journalism and Mass Communication

C06: Demonstrate a general sense of how communication theory relates to the practice of communication

History and Development of Journalism

Course Title: History and Development of Journalism
Semester: One
Code: 20P1MCJT02

Course Outcomes

- C01:** To know about the Origin and Growth of Journalism at global level.
- C02:** To understand the evolution of the Press in India
- C03:** To know about the pioneers who shaped modern journalism
- C04:** To understand the Characteristics and growth of Malayalam Journalism
- C05:** To know about the History of Indian Broadcasting
- C06:** To enhance student's knowledge of media history

News Reporting

Course Title: News Reporting
Semester: One
Code: 20P1MCJT03

Course Outcomes

C01: Recognize and articulate good new story

C02: Understand and analyze the sources and types of information that provide the basis for news stories

C03: Understand the importance of diversity in reporting stories and selecting sources

C04: Research and write publishable work for news organizations with multiple distribution platforms

C05: Understand and respect the value of multiculturalism and diversity in media writing, and research and write for increasingly multi-cultural audiences

C06: Understand ethical and legal constraints affecting newsgathering and publication

Advertisement Practice

Course Title: Advertisement Practice
Semester: One
Code: 20P1MCJT04

Course Outcomes

C01: Demonstrate an understanding of the overall role advertising plays in the business world

C02: Introduce the ethical perspective of advertising

C03: Identify and understand the various advertising media

C04: Demonstrate an understanding of advertising strategies and budgets

C05: Understand the significance of Integrated Marketing Communication in today's context

C06: Demonstrate an understanding of how an advertising agency operates

Practical: News Reporting

Course Title: Practical: News Reporting
Semester: One
Code: 20P1MCJP01

Course Outcomes

C01: Be able to develop the reporting skills and news stories

C02: Be able to undertake different types of reporting activities; Press Conference, Cultural, Events, Interviews etc.

C03: The students will also become aware of the latest trends followed in reporting

C04: They are trained to package the information in various formats of news presentation

Heritage and Cultural Studies

Course Title: Heritage and Cultural Studies
Semester: One
Code: 20P1MCJX1

Course Outcomes

C01: Understand Indian Culture, Language and Literature

C02: Be able to discuss and present key texts in the field of Indian Culture

C03: Be able to understand Indian arts and architecture

C04: introduce, explore and critically evaluate emerging approaches, issues and trends in the theories and practices heritage policy

C05: Understand the Causes, Significance and Modes of Cultural Exchange

Media Ethics, Laws & Education

Course Title: Media Ethics, Laws & Education
Semester: One
Code: 20P2MCJT05

Course Outcomes

C01: Understand how Indian media laws and regulations compare with those of other nations

C02: Understand how media policies and regulations enable or constrain effective media environments

C03: Understand the obligations and rights of media practitioners in the execution of their duties

C04: Understand some of the problems and limitations of applying old media laws in new media environments

C05: Be able to appreciate the complex issues associated with media regulation

C06: Understand changing media landscapes and their possible legal implications

Magazine Journalism and Feature Writing

Course Title: Magazine Journalism and Feature Writing
Semester: Two
Code: 20P2MCJT06

Course Outcomes

- C01:** Understand the different classification of magazines and various writing styles
- C02:** Identify the contents of a magazine and the latest trends in magazines
- C03:** Able to learn the essential skills of design and layout of a magazine
- C04:** Able to discover the characteristics of magazines
- C05:** Understand the difference between a newspaper and a magazine
- C06:** Determine how to write magazine articles

Media Management

Course Title: Media Management
Semester: Two
Code: 20P2MCJT07

Course Outcomes

- C01:** Understanding the specificities of management & media management
- C02:** Develop a theoretical foundation in media economics, finance and business strategy
- C03:** Familiarize the appropriate management skills and an analytical perspective on the media industries
- C04:** Illustrate the evolution of the regulatory and policy environment in which media operate
- C05:** Provide ideas about the opportunities and challenges in media institutions
- C06:** Implementing specific tools, practices and media management strategies

New Media and Technical Writing

Course Title: New Media and Technical Writing
Semester: Two
Code: 20P2MCJT08

Course Outcomes

C01: Understand the concept of new media technologies with special emphasis on the web world with recent trends

C02: Student should be able to describe and explain the implication of new concepts, products and services within the area of Internet and new media

C03: Be able to describe, analyse and discuss the current development of Internet and new media and its consequences for the new media industry today

C04: Be able to describe, analyse and discuss the current development of Internet and new media and its consequences for individuals and groups of people

C05: Understand and know how to follow the stages of the writing process (prewriting/writing/rewriting) and apply them to technical and workplace writing tasks

C06: Understand the basic components of definitions, descriptions, process explanations, and other common forms of technical writing

Editing and Translation (Practical)

Course Title: Editing and Translation (Practical)
Semester: Two
Code: 20P2MCJP02

Course Outcomes

C01: Understand the basic elements of editing

C02: Understand the ethical foundations of the profession and its values

C03: Be able to handle news selection, processing, prioritizing and finally, designing the end product

C04: Develop coordinating skills and the ability to work to deadlines

C05: Evaluate the importance of letters to the editor, proof reading, symbols of proof reading and duties and responsibilities of proof readers

Public Relations & Corporate Communication

Course Title: Public Relations & Corporate Communication
Semester: Three
Code: 20P3MCJT09

Course Outcomes

- C01:** Understand the various concepts of public relation
- C02:** Determine how PR works as a discipline of management
- C03:** Determine how to plan public relations campaigns
- C04:** Determine how to formulate public relations strategies
- C05:** Understand the functions of PR agency
- C06:** Able to produce press releases and other PR tools

Radio and Television

Course Title: Radio and Television
Semester: Three
Code: 20P3MCJT10

Course Outcomes

- C01:** Emphasizes the visual aspects of Journalism
- C02:** To understand Electronic News Gathering, News Bulletins
- C03:** Practical knowledge on fiction and non- fiction Film making.
- C04:** Understanding the Radio through practical exercises on Radio Production
- C05:** Imparts theoretical Aspects of films
- C06:** To understand the history of world Cinema

Communication Research

Course Title: Communication Research
Semester: Three
Code: 20P3MCJT11

Course Outcomes

C01: Demonstrate knowledge of research literacy

C02: Demonstrate a sound knowledge of basic research methods

C03: Demonstrate an understanding of the significant risk and ethical issues raised by the conduct of media research

C04: Demonstrate a working knowledge of the theories and frameworks through which media are analyzed and understood

C05: Demonstrate familiarity with research into media audiences and users

C06: Develop an understanding of media industries and institutions, particularly the role that research plays within the knowledge economy and future career development

Film Studies

Course Title: Film Studies
Semester: Three
Code: 20P3MCJT12

Course Outcomes

C01: Undertake comprehensive analysis of various films

C02: Evaluate film as a social and cultural document

C03: Critically discuss a film and its context in an oral presentation

C04: Present ideas on film history and theory in a clear written format

C05: Understand the role of film within digital humanities

C06: To develop general conclusions by synthesizing specific cases and by utilizing film-studies methods

Video Production (Practical)

Course Title: Video Production (Practical)
Semester: Three
Code: 20P3MCJP03

Course Outcomes

C01: Be able to produce a new story

C02: Be able to record, edit and audio profile story using a digital recording device

C03:

C04: Evaluate video news stories, identify items for improvement, and implement changes

Sports Journalism

Course Title: Sports Journalism
Semester:
Code: 20P3MCJX2

Course Outcomes

- C01:** Be able to write sports stories, in short form and long form
- C02:** Be able to gather sports information, at games, practice, through social media, and interviews
- C03:** Be able to report sports stories, in all media forms: print, audio, visual, online, social media
- C04:** Be able to do personal branding and entrepreneurial sports journalism
- C05:** Evaluate the impact of societal issues on sports reporting

Business Journalism

Course Title: Business Journalism
Semester: Four
Code: 20P4MCJT13

Course Outcomes

- C01:** To Work in a variety of newsrooms and adequately cover business news stories.
- C02:** Understanding basic areas in business journalism and how to write about them with Intelligence and understanding
- C03:** Be able to explain key financial terms.
- C04:** Undertake basic analysis on a variety of companies from the listed to semi-states.
- C05:**
- C06:** Understand and write about wider economic issues, government budgets, industrial relations, how firms communicate

Communication for Development

Course Title: Communication for Development
Semester: Four
Code: 20P4MCJT14

Course Outcomes

C01: Get the concept of Development Communication

C02: Analyze different approaches and theories

C03: Provide ideas and models for communication in the modern society

C04: Understand the core areas of Development and Development Campaign

C05: Inculcate the idea of social responsibility and create awareness of state and central government welfare measures

C06: Train the students on various media programme formats of development communication

Health Communication

Course Title: Health Communication
Semester: Four
Code: 20P4MCJT15

Course Outcomes

C01: Understand the concept of Health and Disease

C02: Understand the important aspects of communicating health news and information to public

C03: Determine how communication processes, policies, and methodologies are deployed to improve quality of public health

C04: Able to convey health news and information in clear, meaningful, and understandable ways to readers, viewers, and listeners across various media platforms

C05: Understand the role of health journalist to deliver to the public health related news and information

C06: Understand the ethical concerns in and practices of communicating health news and information

Laboratory Journal and Internship

Course Title: Laboratory Journal and Internship
Semester: Four
Code: 20P4MCJIN

Course Outcomes

C01: Understand the selection of news stories (news value), writing style and page layout.

C02: Be able to make different layout for news stories using different software.

C03: Gain an understanding of how their in-class work and learning can be applied to real jobs in the working world

Dissertation

Course Title:	Dissertation
Semester:	Four
Code:	20P4MCJPJ

Course Outcomes

C01: Demonstrate their capacity to carry out a substantial piece of academic work on a selected topic in the field of Media Studies

C02: Define a topic for examination and articulate a coherent scheme for examining the topic.

C03: Gather the relevant information for the study and analyse and present this information in a way which satisfactorily assesses the topic

Comprehensive Viva Voce

Course Title: Comprehensive Viva Voce
Semester: Four
Code: 15P4MCJCV

Course Outcomes

C01: Enable the students to review and evaluate the overall work done by her/him in four Semesters of the Programme

MA Digital Animation

Programme Specific Outcomes (PSOs)

At the end of the programme a student should be able to:

PSO1

Understand the history of animation, the basics of animation, visual effects, film techniques, and develop software skills required to demonstrate competence in these fields.

PSO2

Understand all processes involved in pre-production, production and post-production in digital animation.

PSO3

Adapt to new ideas and technology and constantly upgrade their skills with a passion for independent and lifelong learning.

PSO4

Develop confidence for innovative entrepreneurship and display a positive attitude towards keeping oneself updated in specialized areas.

PSO5

Develop a conceptual understanding, critical awareness and the relevant skills for acquiring technical knowledge in diverse areas of digital animation, visual effects and film techniques and experience an environment conducive to cultivating the skills required for a successful career, entrepreneurship or higher studies.

History of Animation

Course Title: History of Animation
Semester: One
Code: 20P1DGAT01

Course Outcomes

C01: Integrate the concepts, principles and theories involved in the physics of animation in all aspects of drawing.

C02: To understand the different animation companies around the world and the styles of animation.

C03: To evaluate and understand the aesthetics of wide range of animation movies.

C04: Provides an overview of the evolution of animation, and how animation came into existence.

C05: The process of animation techniques developed with various equipment and how the process was performed.

C06: To understand the pioneers and the efforts that took place in the field of animation.

Concept, Layout & Storyboarding

Course Title: Concept, Layout & Storyboarding
Semester: One
Code: 20P1DGAP01

Course Outcomes

C01: Understanding animation Pre-production

C02: Creating concepts.

C03: Creating Script writing.

C04: Designing story characters.

C05: Creation of storyboard layouts.

C06: Creation of Animatics.

2D Design

Course Title: 2D Design
Semester: One
Code: 20P1DGAP02

Course Outcomes

C01: Develop the skill of quick drawing, Life Sketches with Line of Action

C02: Draw the dimensions for layout design

C03: Study of the Anatomy of Human Body

C04: Study of the Anatomy of Animals and Birds

C05: Analyse Characters according to the concept/story

C06: Creating Character Model sheet, Facial Expressions and Gestures

3D Design

Course Title: 3D Design
Semester: One
Code: 20P1DGAP03

Course Outcomes

C01: Understand the basic concepts and techniques of 3D modeling and texturing

C02: Evaluate and grasp the 3D design for form and animation

C03: Create surfaces and lighting set-ups that strengthen the overall design

C04: Analyse the use of 3D cameras in the layout designs

C05: Explore the basic rendering techniques

C06: Create a strengthened foundation on 3D design

Film Techniques

Course Title: Film Techniques
Semester: One
Code: 20P1DGAP04

Course Outcomes

C01: Use an understanding of film technique and photography as an art medium as tools to analyze the film.

C02: Use reflective visual reading, composition, framing and speaking skills to recognize, develop and articulate personal standards, predispositions, and theories regarding film and critical responses to the film.

C03: Evaluate digital video projects/photographs, identify items for improvement, and implement changes.

C04: Develop communication skills through presentation of film themes and aesthetics in essays and in class discussions.

C05: To develop students creativity and analytical skills by identifying the quality story in digital photography

C06: Develop an understanding of the industry as a whole by executing all components of development, pre-production, production and post-production planning

Media Ethics, Laws and Education

Course Title: Media Ethics, Laws and Education
Semester: Two
Code: 20P2DGAT02

Course Outcomes

C01: Understand how Indian media laws and regulations compare with those of other nations

C02: Understand how media policies and regulations enable or constrain effective media environments

C03: Understand the obligations and rights of media practitioners in the execution of their duties

C04: Understand some of the problems and limitations of applying old media laws in new media environments

C05: Be able to appreciate the complex issues associated with media regulation

C06: Understand changing media landscapes and their possible legal implications.

Object Animation & Pixilation

Course Title: Object Animation & Pixilation
Semester: Two
Code: 20P2DGAP05

Course Outcomes

- C01:** To make a basic foundation in animation through Stop motion techniques.
- C02:** Demonstrate an understanding of movements of real life objects through frames.
- C03:** Understand the vast classifications related to Animation and Digital Filmmaking
- C04:** Shall be familiar with Industry standard stop motion techniques.
- C05:** Familiar with foundation topics such as Anatomical and Figure Drawing, Film Techniques etc.
- C06:** Become a team person who can complete their expertise at the best possible way.

Traditional Animation

Course Title: Traditional Animation
Semester: Two
Code: 20P2DGAP06

Course Outcomes

C01: Develop the skill of quick drawing, Draw Life Sketches with Line of Action

C02: Basics of Animation Principles

C03: Planning of Animation

C04: Gesture in Character Animation, Weight, Mass and Momentum in Animation

C05: Analysis of Two Legged Animation

C06: Analysis of four Legged Animation

3D Advanced Studies

Course Title: 3D Advanced Studies
Semester: Two
Code: 20P2DGAP07

Course Outcomes

- C01:** Understand about inverse kinematics and forward kinematics
- C02:** Evaluate the role of constraints to control the bones
- C03:** Analyse the method of Advance unwrapping and texture creation in Photoshop
- C04:** Explore the possibilities of Character Modeling
- C05:** Application of Animation principles using biped
- C06:** Evaluate the basic concept and application of Dynamics

CG Foundation I

Course Title: CG Foundation I
Semester: Two
Code: 20P2DGAP08

Course Outcomes

- C01:** To set a foundation in computer generated imaging through Digital 2D graphical toolsets.
- C02:** Demonstrate an understanding of graphic design principles in applied practice.
- C03:** Understand the vast classifications related to Animation and Digital Filmmaking
- C04:** Shall be familiar with Industry standard graphic toolsets and plug-ins -Adobe Photoshop.
- C05:** Familiar with foundation topics such as Color Theory, Anatomical and Figure Drawing, Film Techniques etc.
- C06:** Become a team person who can complete their expertise at the best possible way.

Research Methodologies

Course Title: Research Methodologies
Semester: Three
Code: 20P4DGAPJ01

Course Outcomes

- C01:** Develop an understanding of design research.
- C02:** Understand and apply quantitative and qualitative research techniques
- C03:** Have adequate knowledge of measurement & scaling techniques as well as the quantitative data analysis.
- C04:** Have a basic awareness of data analysis and hypothesis testing procedures.
- C05:** Demonstrate knowledge of research processes (reading, evaluating, and developing)
- C06:** Perform literature reviews using print and online databases
- C07:** Identify, explain, compare and prepare the key elements of a research proposal/report.
- C08:** Understand and apply Research Methodology for various design research needs.

3D Animation

Course Title: 3D Animation
Semester: Three
Code: 20P3DGAP09

Course Outcomes

C01: Examine the role and developments of 3D arts in past and present cultures throughout the world.

C02: Better understanding on 3D art applications, aesthetic judgment, and to increase visualizing power and critical thinking skills.

C03: To strengthen the artistic background of a student to a cognizable level.

C04: Analyze the developments in the techniques of 3D Animation and its importance in Media and modern Architectural concept.

C05: Evaluate the impact of industrial revolution and its influence in the 3D graphics .

C06: Create new concepts and designs through advanced 3D Technology .

Compositing

Course Title: Compositing
Semester: Three
Code: 20P3DGAP10

Course Outcomes

C01: Students will be able to discover various Visual FX methods where they can perform their best.

C02: Build precision, control and fluency within VFX work environments.

C03: Demonstrate an understanding of compositing and color correction in applied practice.

C04: Shall be familiar with Industry Standard Compositing -VFX toolsets and plug-ins

C05: Shall be able to work and fulfill various visual effects requirements such as Rotoscope, Paint-Prep, Tracking etc.

C06: Become a team person who can complete their expertise at the best possible way

C07: Will be able to handle an entire VFX sequence of a project with 2D, 3D elements and real footages.

Editing

Course Title: Editing
Semester: Three
Code: 20P3DGAP11

Course Outcomes

- C01:** Understand video formats and principles.
- C02:** Better understand techniques editors use to construct stories.
- C03:** Apply professional style color correction.
- C04:** Evaluate and analyze working knowledge of non-linear editing software.
- C05:** Evaluate digital video projects, identify items for improvement, and implement changes.
- C06:** Edit and compress video for use in various delivery modes of digital media using standard digital video editing software.

Post Production

Course Title: Post Production
Semester: Three
Code: 20P3DGAP12

Course Outcomes

- C01:** Understand different post-production methods where they can perform their best.
- C02:** Create a project with a video output/portfolio showcasing various post-production expertise.
- C03:** Study and practice the foundations of filmmaking through various pre-production methods.
- C04:** Practice the filming with Cameras and different production requirements.
- C05:** Demonstrate an understanding of post-production principles in applied practice
- C06:** Create a portfolio of specializations under post-production.

3D Animation Project

Course Title: 3D Animation Project
Semester: Four
Code: 20P4DGAPJ02

Course Outcomes

C01: Preproduction : Creating Concept with Story, Script and Character Development.

C02: Preproduction : Developing Storyboard with Animatics

C03: Production : Character, Props, BG Modeling

C04: Production : Unwrapping and Texturing and Lighting

C05: Production : Rigging, Animation and Rendering.

C06: Post Production : Final Compositing Video with Audio

2D Digital Animation Project

Course Title: 2D Digital Animation Project
Semester: Four
Code: 20P4DGAPJ03

Course Outcomes

C01: Understanding the Digital Animation Software

C02: Creating Dialogue Animation

C03: Creating Human Character Animation

C04: Creating Animal Character Animation

C05: Creating Special Effects

C06: Creating Digital Animation Film

Portfolio

Course Title:	Portfolio
Semester:	Four
Code:	20P4DGAPJ04

Course Outcomes

C01: They get to showcase their ability as an artist in their discipline.

C02: Analyse and identify the current learning needs.

C03: Effective documentation of the planning, process and outcomes of a single course.

C04: Creation of a effective Blog or Site to reflect practice and professional development.

C05: Creation of Specialised Animation Styles, interactive elements and production techniques for a production oriented output.

Internship

Course Title:	Internship
Semester:	Four
Code:	20P4DGAIN

Course Outcomes

C01: Efficiently work on live projects in the industry.

C02: Interactive effectively with animation industry professionals and collaborate with other individuals and as members of a team

C03: Facing challenges in the industry with confidence

C04: Analyse and create animation designs for effective communication.

MA Graphic Design

Programme Specific Outcomes (PSOs)

At the end of the programme a student should be able to:

PSO1

Understand and apply the fundamental elements, principles and various theories of composition in visual design.

PSO2

Execute ideation, development and production of visual messages.

PSO3

Develop creativity and a critical eye for design concept building.

PSO4

Provide design solutions for communication problems.

PSO5

Create designs involving various skills such as photography, art, calligraphy and illustrations.

PSO6

Acquire professional practices of the industry such as time management, pre-plan and submission of job assignments within deadlines.

Elements of Visual Design

Course Title: Elements of Visual Design
Semester: One
Code: 20P1GRDT01

Course Outcomes

- C01:** Confidently produce design solutions for any communication design.
- C02:** Integrate the elements, principles and theories involved in the fundamental study of design.
- C03:** Inter-disciplinary understanding of the application of art and aesthetics.
- C04:** Understand terminologies and develop analytic and critical thinking skills.
- C05:** Nurture creativity in design production and out of the box thinking.
- C06:** Understand the psychology of the audience and bring out design solutions for effective communication.

History of Art And Design

Course Title: History of Art And Design
Semester: One
Code: 20P1GRDT02

Course Outcomes

C01: Examine the role and developments of visual arts in past and present cultures throughout the world.

C02: Better understanding on art application, aesthetic judgment, and to increase visual perception and critical thinking skills.

C03: To strengthen the artistic background of a student to a cognizable level.

C04: Analyse the developments in the techniques of printing and its importance in communication.

C05: Evaluate the impact of industrial revolution and its influence in the graphic design.

C06: Create new concepts and designs by evaluating different imaginative and ideological art movements.

Design Studio

Course Title: Design Studio
Semester: One
Code: 20P1GRDP01

Course Outcomes

C01: Understanding of software technology and applying it in designing brands and communication.

C02: Application of Visual design elements using principles and theories.

C03: Introduce best practices of design profession and apply them in a work environment.

C04: Utilize design processes and strategy from concept to delivery to solve communication problems.

Interaction Design

Course Title: Interaction Design
Semester: One
Code: 20P1GRDP02

Course Outcomes

- C01:** Learn the language of the web: HTML and CSS.
- C02:** Learn Programming skills on internet-based applications.
- C03:** Design dynamic and interactive web pages by embedding JavaScript code in HTML.
- C04:** Learn techniques of responsive web design, including media queries.
- C05:** Understand the various steps in designing a creative and dynamic website.
- C06:** Demonstrate the ability to effectively utilize the timeline and motion tween affects to produce animation.

Photo Communication

Course Title: Photo Communication
Semester: One
Code: 20P1GRDP03

Course Outcomes

- C01:** Understand the theories, basics of compositional elements of a photographic image.
- C02:** Apply the basic technical and aesthetic aspects of photography such as depth-of-field, composition, color theory and image content.
- C03:** Confidently produce photographic designs for publication, website, information design and branding.
- C04:** Update with photography trends and incorporate various skills of design creation such as composition, miniatures, moulding, calligraphy in photography medium.
- C05:** Familiarise with multiple schools of thoughts in art history/visual studies.

Media Ethics and Education

Course Title: Media Ethics and Education
Semester: Two
Code: 20P2GRDT03

Course Outcomes

C01: Understand how Indian media laws and regulations compare with those of other nations

C02: Understand how media policies and regulations enable or constrain effective media environments

C03: Understand the obligations and rights of media practitioners in the execution of their duties

C04: Understand some of the problems and limitations of applying old media laws in new media environments

C05: Be able to appreciate the complex issues associated with media regulation

C06: Understand changing media landscapes and their possible legal implications

Typography

Course Title: Typography
Semester: Two
Code: 20P2GRDP04

Course Outcomes

- C01:** Understand evolution of typography and industrial practices.
- C02:** Create original typographic designs using calligraphy techniques.
- C03:** Understand the terminologies, anatomy and theories of typography basics.
- C04:** Communicate content using typography as design, text and grid.
- C05:** Create designs for publication, online and branding materials.
- C06:** Experiment and explore typography as medium of art and communication

User Interface Design

Course Title: User Interface Design
Semester: Two
Code: 20P2GRDP05

Course Outcomes

C01: Understand the principles of creating an effective web page, including an in-depth consideration of information architecture.

C02: Become familiar with graphic design principles that relate to web design and learn how to implement theories into practice.

C03: Develop skills in digital imaging and analyzing the usability of a web site.

C04: Apply various information design layout techniques.

C05: Understand how to plan and conduct user research related to web usability.

Information Design

Course Title: Information Design
Semester: Two
Code: 20P2GRDP06

Course Outcomes

C01: Examine the use of color in communication design within particular global and historical contexts.

C02: Identify and describe strategies for effective visual communication in diverse contexts.

C03: Develop creative responses to communication design problems in the area of color and information design.

C04: Investigate and analyze complex information design projects.

C05: Design information design for print designs, way finding systems, websites and standalone multimedia applications.

C06: Research and condense massive, complex information content to simple and understandable visual communication.

Branding & Communication Design

Course Title: Branding & Communication Design
Semester: Two
Code: 20P2GRDP07

Course Outcomes

C01: Understand the message and create effective communication designs for different media.

C02: Brainstorming for campaign ideas and execute them into communicable designs.

C03: Create designs using different medium such as photography and fine arts.

C04: Visualise the content design by creating various layouts.

C05: Understand the form and function of package design and deliver the work within the deadlines.

C06: Awareness of design trends, printing materials and techniques in the industry.

Package Design

Course Title: Package Design
Semester: Three
Code: 20P3GRDP08

Course Outcomes

- C01:** Understand the relationship between form and function of packaging.
- C02:** Understand branding as a major key of packaging success.
- C03:** Apply the principles and theories of visual design.
- C04:** Keep abreast with the trends, printing techniques and technology in package design industry.
- C05:** Confidently create innovative branding package design solutions.

Publication Design

Course Title: Publication Design
Semester: Three
Code: 20P3GRDP09

Course Outcomes

C01: Knowledge & technical skill in tools required for print design.

C02: Ability to visualize multiple publications using design skill and art skills.

C03: Demonstrate and skill and creative thinking to develop a professional design for print.

C04: Apply creative problem solving and technical skills in the creation of effective design solutions for print.

Research Methodologies

Course Title: Research Methodologies
Semester: Three
Code: 20P3GRDP10

Course Outcomes

- C01:** Develop an understanding of design research.
- C02:** Understand and apply quantitative and qualitative research techniques
- C03:** Have adequate knowledge of measurement & scaling techniques as well as the quantitative data analysis.
- C04:** Have a basic awareness of data analysis and hypothesis testing procedures.
- C05:** Demonstrate knowledge of research processes (reading, evaluating, and developing)
- C06:** Perform literature reviews using print and online databases
- C07:** Identify, explain, compare and prepare the key elements of a research proposal/report.
- C08:** Understand and apply Research Methodology for various design research needs.

Programming For Designers

Course Title: Programming For Designers
Semester: Three
Code: 20P3GRDP11

Course Outcomes

C01: Create basic ActionScript coding.

C02: Applying knowledge of PHP scripting in digital platforms.

C03: Utilize several Flash tools and tactics learned throughout the course to produce an interactive

C04: Flash based website.

C05: Applying knowledge of database connectivity with PHP in website creations.

C06: Providing students to showcase their creative and innovative works in the multimedia world.

Motion Design

Course Title: Motion Design
Semester: Three
Code: 20P3GRDP12

Course Outcomes

C01: Discover the motion design techniques in applied practice using software. 2. Build fluency using various techniques for creating text, shape and logo animations.

C02: Develop a vocabulary and visual language for motion.

C03: Demonstrate an understanding of motion graphic design principles in applied practice.

C04: Shall be familiar with Industry standard motion graphic- visual effects toolsets and plug-ins

C05: Shall be able to work and fulfil various 2D VFX requirements in motion graphics platform.

C06: Become a team person who can complete their expertise at the best possible way

C07: Confidently handle a motion graphic project with requirement of 2D, 3D elements and real footages.

Internship

Course Title:	Internship
Semester:	Four
Code:	20P4GRDIN

Course Outcomes

C01: Exposure and work on live projects in the industry and create portfolios.

C02: Work with other industry professionals, collaborate with other individuals as members of a team and enhance communication skills.

C03: Confidently face challenges in the design industry.

C04: Analyze the communication challenges and provide effective design solutions.

Final Thesis Project

Course Title: Final Thesis Project
Semester: Four
Code: 20P4GRDPJ

Course Outcomes

C01: Understand the basic concepts & broad principles of Industrial projects

C02: Get capable of self-education and clearly understand the value of achieving perfection in project implementation & completion.

C03: Demonstrate professionalism with ethics; present effective communication skills and relate it to broader societal context.

Comprehensive Viva-Voce

Course Title: Comprehensive Viva-Voce
Semester: Four
Code: 20P4GRDCV

Course Outcomes

C01: Enable the students to review and evaluate the overall work done by her/him in four Semesters of the Programme

M.A. Economics

Programme Specific Outcomes (PSOs)

At the end of the programme a student should be able to:

PSO1

Access knowledge already created and published in journals, books, government reports and public documents with proper understanding of the sources available.

PSO2

Display knowledge and understanding in economic theory, facts and results of empirical investigation.

PSO3

Demonstrate proficiency in economic concepts and the ability to develop new ones wherever necessary.

PSO4

Critically evaluate economic theories, situations and explore alternative solutions to arrive at best possible solutions.

PSO5

Formulate research problems, methods of enquiry, collection and analysis of empirical data and develop the ability to interpret results.

PSO6

Prepare summary reports of a research and various controversies and discussions in economics with an analytical and critical mind.

PSO7

Display proper understanding of environmental, developmental, national and international economic issues.

PSO8

Display logical thinking, reasoning and problem-solving abilities.

PSO9

Create new knowledge by synthesizing existing knowledge and evaluate various socio-economic issues using economic reasoning.

PSO10

Attain proficiency in financial market operations and be familiar with financial market instruments.

PSO11

Make use of mathematical and common statistical tools and techniques in economic analysis.

Microeconomics I

Course Title: Microeconomics I
Semester: One
Code: 20P1ECOT01

Course Outcomes

C01: The knowledge of the consumer behaviour enables the students in taking rational buying decisions also helps the firm to design suitable market strategies

C02: To understand the recent advancements in the traditional theories of demand and to analyse the superiority of these theories over traditional theories

C03: The students get equipped with the knowledge and skill in effective decision making under uncertain market situations, and also understands the importance of time allocation and household management

C04: The understanding of economies of scope and learning curves and help in analysing the nature and functioning of modern multiproduct firms

C05: Develops the skill in analysing business phenomena in terms of transaction cost saving

C06: The students develop the understanding of the economic level of information search possible under different situations and the concept of bounded rationality

C07: Understands the traditional and modern theories of cost and analyse the superiority of modern theory of cost over traditional theory

C08: Understands the concept of asymmetric information and its implications

Macroeconomic Theory and Policy

Course Title: Macroeconomic Theory and Policy
Semester: One
Code: 20P1ECOT02

Course Outcomes

- C01:** Understands Keynesian Income Expenditure model up to four sectors
- C02:** Understands the IS-LM model up to four sectors
- C03:** Understands the concept of consumption and consumption functions
- C04:** Develops an understanding about various post Keynesian consumption theories
- C05:** Develops an understanding about the concept and types of investment
- C06:** Understands Keynesian and Post-Keynesian investment theories
- C07:** Develops basic knowledge about labor market searches and unemployment
- C08:** Understands the concept and theories of trade cycle
- C09:** Analyses global recession and its policy implications

Indian Economy: Issues And Policies I

Course Title: Indian Economy: Issues And Policies I
Semester: One
Code: 20P1ECOT03

Course Outcomes

C01: Understanding economic growth of the country and to analyse the contribution of each sectors to income output and employment of the country

C02: Learning the role and significance of NITI AAYOG in planning of the country and to identify its drawbacks and achievements

C03: Understanding the role of India in the globalised era and to critically analyse the recent policy initiatives

C04: Identifying the importance of agriculture sector and analysing its performance since independence. Also identifying the role of the agrarian sector in the international arena and its impact in terms of trade of the country

C05: Identifying the role of industries in accelerating economic growth and to analyse the trends in industrial productivity

C06: Understanding the new economic reforms and to assess its impact

C07: Understanding the role played by service sector in employment generation and economic development

C08: Understanding and analysing the overall impact of the the three sectors in nation building

Economics Of Development And Growth I

Course Title: Economics Of Development And Growth I
Semester: One
Code: 20P1ECOT04

Course Outcomes

C01: Develops conceptual clarity on the various dimensions of development

C02: Enables the student to evolve new strategies for achieving sustainable development and inclusive growth

C03: Equips the student community with the theoretical and empirical material for enhancing their capability to address the basic problems confronted by the society

C04: Understands and critically evaluates alternative theories of growth

C05: Understands of the recent literature, both empirical and analytical, on theories of underdevelopment and growth in developing countries

C06: Develops conceptual clarity on the various dimensions of development

C07: Understand the concept of population and various theories associated with its growth and development

C08: To identify the strategic factors in the development of the less developed countries

Quantitative Tools For Economic Analysis

Course Title: Quantitative Tools For Economic Analysis
Semester: One
Code: 20P1ECOT05

Course Outcomes

C01: Understand and remember matrix and their mathematical operations, Determinants, co-factors inverse and Rank of a matrix

C02: Evaluate solutions of simultaneous equations using inverse and Cramer's rule. Explore the applications of matrix in economic analysis

C03: Understand sets, series, Limits and derivative of a function, difference, differential equations and partial differentiations, Maxima and minima function

C04: Applications of differentiation in economic analysis, Euler's theorem and its applications in economics

C05: Understand rules of integration, Methods of integration- integration by substitution, integration by parts, and integration by partial fractions. Indefinite and definite integrals.

C06: Applications of integration- derivation of revenue and cost functions from marginal functions – consumer's and producer's surplus. Numerical integration - Trapezoidal rule, Simpson's One-third rule

C07: Understand Input –Output analysis. Linear Programming problems – formulation of LPP, Solution of LPP using graphical and simplex method. Duality in LPP

C08: Applications of LPP from Economics and Finance

Microeconomic Theory II

Course Title: Microeconomic Theory II
Semester: Two
Code: 20P2ECOT06

Course Outcomes

C01: Develops skill in formulating business strategy in the context of market imperfections

C02: Understands the basic theory of distribution and the source of income generation

C03: Understand the use of game theory of models in decision making

C04: To understand the different managerial theories of the firm

C05: To equip the students to analyse the impact of micro decisions on macro instability

C06: Develops skill in applying compensation principle under situations where a proposed change causes damage to someone but gains to others

C07: To understand the different welfare criteria

C08: To understand the concept of oligopoly market and different oligopoly models

Advanced Macro Economic Theory And Policy

Course Title: Advanced Macro Economic Theory And Policy
Semester: Two
Code: 20P2ECOT07

Course Outcomes

- C01:** Understands Classical Keynesian Approaches to Inflation
- C02:** Understands the Phillips Curve
- C03:** Understands the concept of Monetarism and Fiscalism
- C04:** Develops an understanding about Rational Expectations Hypothesis
- C05:** Develops an understanding about the concept Real Business Cycle Theory
- C06:** Understands Neo Keynesian and Disequilibrium Models
- C07:** Develops basic knowledge about Post Keynesian Theories
- C08:** Understands the concept and theories of New Keynesian Macro Economics
- C09:** Analyses Insider Outsider Models

Indian Economy: Issues And Policies II

Course Title: Indian Economy: Issues And Policies II
Semester: Two
Code: 20P2ECOT08

Course Outcomes

C01: Understand the basic characteristics of Indian economy, its problems and prospects

C02: Understand the nature of demographic profile, the causes and the effect of population growth and its distribution in India

C03: Gain knowledge about the labour market trend and the employment scenario in the country

C04: Be aware of the magnitude of poverty and inequality in India and understand the poverty alleviation measures in the country.

C05: Comprehend the significance of fiscal reforms in India post 1991.

C06: Understand the structure of Indian financial system and the role of banking and insurance sectors.

C07: Gain knowledge about the structure and direction of India's foreign trade.

C08: Understand the structural changes, characteristics, emerging trends and issues of Kerala Economy.

Economics Of Development And Growth II

Course Title: Economics Of Development And Growth II
Semester: Two
Code: 20P2ECOT09

Course Outcomes

- C01:** Critically evaluates some of the results in the literature, particularly those related to development issues
- C02:** Provides an advanced treatment of the main issues, concepts and techniques in modern growth theory
- C03:** Develops conceptual clarity on the various dimensions of development and to identify the strategic factors in the development of the less developed countries
- C04:** Familiarizes with the conceptual routes, theoretical dynamics and practical strategies of growth and development
- C05:** Enables the student to evolve new strategies for achieving sustainable development and inclusive growth
- C06:** Understands of the recent literature, both empirical and analytical, on theories of underdevelopment and growth in developing countries

Statistical Tools For Economic Analysis

Course Title: Statistical Tools For Economic Analysis
Semester: Two
Code: 20P2ECOT10

Course Outcomes

C01: Understand the concepts of Probability, Random variables- Discrete and continuous types, probability distribution functions and its properties

C02: Understand Mathematical Expectation, moments. Standard distributions –binomial, Poisson, normal and lognormal distributions

C03: Understand and apply Central limit theorem

C04: Understand Population and Sampling, Determination of sample size, Sampling distributions - Statistic, sampling distributions of sample mean

C05: Applications of Sampling distributions –Chi square, t and F distributions

C06: Understands Estimation - point and interval estimation. Method of Estimation, Maximum Likelihood Estimation and Method of moments. Confidence interval for the mean of a population using small and large samples.

C07: Understand the concept of hypothesis and applications of different methods of testing hypothesis.

C08: Applications of parametric and non-parametric tests

International Trade Theory And Policy

Course Title: International Trade Theory And Policy
Semester: Three
Code: 20P3ECOT11

Course Outcomes

- C01:** Critically evaluates the course of development of trade theories
- C02:** Identifies different techniques and methods used in the empirical testing of theories and develops interest in research
- C03:** Identifies the effect of trade on factor rewards, consequences of factor growth on product mix and cases where growth can be immiserizing
- C04:** Evaluates the application of micro economic theory in the field of international trade to develop new trade theories
- C05:** Understands how technological superiority and continuous innovation places a country at a higher realm of competitive advantage and gets motivated for innovation
- C06:** Understands how nations and industries have gained international competitiveness
- C07:** Identifies the effects of tariff and situations where a tariff or restriction of trade is advisable
- C08:** Critically evaluates the Neo- protectionist measures adopted by nations
- C09:** Evaluates the costs and benefits of economic integration and international institutional framework regulating trade policy

Public Economics I

Course Title: Public Economics I
Semester: Three
Code: 20P3ECOT12

Course Outcomes

- C01:** Examines the role of government in an organized society
- C02:** Understanding the concept of government failure
- C03:** Develops an understanding about the nature and theories of Public Goods
- C04:** Develops an understanding of the role of fiscal policy in economic stabilization
- C05:** Understands the social goals of fiscal policy in a developing economy
- C06:** Makes the students aware of recent trends in taxation including GST, DTC etc
- C07:** Develops an understanding of different theories of taxation and tax incidence
- C08:** Analyses the issues of black money in India and measures to mitigate the same

Research Methods In Economics

Course Title: Research Methods In Economics
Semester: Three
Code: 20P3ECOT13

Course Outcomes

C01: Comprehend the basic concepts and principles of economic research

C02: Search for, select and critically evaluate research articles and papers

C03: Understand interdisciplinary approach in social science research

C04: Prepare a literature review and formulate research questions

C05: Formulate a research design with valid hypothesis

C06: Gain experience in the collection of data and its analysis

C07: Understand technology-enabled data processing in research

C08: Develop skills in writing a research proposal or a project plan

Basic Econometrics

Course Title: Basic Econometrics
Semester: Three
Code: 20P3ECOT14

Course Outcomes

C01: Understands how to apply regression techniques to statistical data and the basic assumptions of regression techniques

C02: Learning more about the estimation and testing process and to identify how good a model is by understanding a general linear regression model

C03: To analyse various issues related to regression techniques and evaluates its consequences and remedial steps

C04: Acquires the skills to interpret models involving qualitative information and to deal with equations involving simultaneity

C05: Learning to introduce dynamicity to the econometric models and to effectively estimate

C06: Understanding the application of econometrics to basic economic concepts and evaluating its mathematical and economic impacts

C07: Learning the basics of time series econometrics and to attain conceptual clarity

C08: Learning econometrics through software programmes like Gretl and SPSS and to learn its interpretation for economic analysis

International Financial System And Economic Policy

Course Title:	International Financial System And Economic Policy
Semester:	Four
Code:	20P4ECOT16

Course Outcomes

- C01:** Evaluates the evolution of different international monetary arrangements
- C02:** Understands the functioning of foreign exchange market and its global nature
- C03:** Critically evaluates the benefits and costs of financial globalization
- C04:** Examines the equilibration process in foreign exchange markets and exchange rate overshooting
- C05:** Explores the possibilities and dangers of crypto currencies and other inventions
- C06:** Understands the process of Balance of Payment adjustment
- C07:** Explores the problems of internal and external balance and policy effectiveness under different exchange rate regimes
- C08:** Identifies the driving force behind and the effect of international factor movements on the source and host countries
- C09:** Examines the causes behind international financial crises and explores solutions

Public Economics II

Course Title: Public Economics II
Semester: Four
Code: 20P4ECOT17

Course Outcomes

- C01:** Develops an understanding of various theories of Public Expenditure
- C02:** Understands emerging trends in India's public expenditure
- C03:** Understands the concept of budget and various stages in its preparation
- C04:** Understands different theories of Public Debt
- C05:** Understands various methods in public debt management
- C06:** Evaluates the role of public sector enterprises in economic development including PPP
- C07:** Develops basic knowledge about pricing models of Public Sector Undertakings
- C08:** Develops an understanding of federal finance
- C09:** Develops understanding regarding the changing role of local self-government and local finance

Advanced Econometrics

Course Title: Advanced Econometrics
Semester: Three
Code: 20P3ECOEL1

Course Outcomes

- C01:** Understands how to apply Simultaneous regression models to statistical data
- C02:** Learning more about the estimation and testing of Indirect Least Squares, 2SLS, 3SLS
- C03:** Understands various issues related to regression techniques like Unit Root
- C04:** Acquires the skills to understand various ARIMA Models
- C05:** Understands Panel Data and estimation of panel data regression models
- C06:** Understanding the application of econometrics to basic economic concepts and evaluating its mathematical and economic impacts
- C07:** Learning the basic software packages like SPSS and STATA
- C08:** Understands Modelling Volatility and estimation of volatility using high frequency data

Environmental Economics

Course Title: Environmental Economics
Semester: Four
Code: 20P4ECOEL2

Course Outcomes

C01: To understand the basics of environmental economics and to know the linkage between economics and environment

C02: To gain a theoretical understanding about the foundations of environmental economics

C03: To apply the theoretical knowledge about the environmental economics into practical situations

C04: To understand and analyse the mathematical valuation of environmental values and various pricing methods to assess its impact

C05: To understand about the environmental accounting and its integration with the system of national accounts

C06: To analyse the contribution of environment to the GNP of the country and to know the importance of sustainable development as a goal for the better world

C07: To identify, evaluate and scrutinise the environmental policies and to analyse the recent trends

C08: To know about the Indian context and its specific policies for environment protection

Monetary Economics

Course Title: Monetary Economics
Semester: Four
Code: 20P4ECOEL3

Course Outcomes

C01: Develop understanding of the theories that relate to the existence of money, explaining why it is demanded by individuals

C02: Enables the students to understand basic concepts regarding money and the functioning of pecuniary economy

C03: Capacitates the students to have a thorough understanding of various theoretical approaches to the determinants and measures of money supply and its role in causing business cycles

C04: Gives the students an insights into the different schools of thought regarding the demand for money

C05: Provide students an insight into interest rate differentials

C06: Gives the students awareness of the monetary policy formulations, its targets and its objectives and to create an interest in the recent monetary reforms initiated in India

C07: Discuss the merits and disadvantages of different monetary policies used by Central Banks

C08: Describe and explain the main channels of the monetary transmission mechanism, through which monetary policy can have real effects on the economy

Capital Market (Elective)

Course Title: Capital Market (Elective)
Semester: Four
Code: 20P4ECOEL4

Course Outcomes

C01: Understand the basics of savings and investment, capital market instruments and major investment avenues

C02: Understand the origin and development of capital market and its influence on Indian economy

C03: Attain familiarity with concepts and terms used in the new issue market such as IPO, FPO, rights issue and book building.

C04: Understand the functioning of stock exchanges and the stock market indices in India.

C05: Gather better insight on the interrelationship between interest rate and investment

C06: Understand the pricing and hedging of options, futures and other contingent claims and their role in risk management.

C07: Understand the principles and functions of portfolio management.

C08: Gain knowledge about valuation of securities, earning ratios and financial statement analysis.

Economics Of Social Sector

Course Title: Economics Of Social Sector
Semester: Four
Code: 20P4ECOEL5

Course Outcomes

- C01:** Analyses the role of human resource in economic development
- C02:** Compares the role of physical and human capital in economic- development
- C03:** Evaluates the different types of cost and benefits of education
- C04:** Appraises the effects of unemployment and brain drain on the economy in the present and future
- C05:** Evaluates the role of health in the socio- economic development of a nation
- C06:** Compares education and health as consumption and investment goods view points
- C07:** Examines the causes and consequences of poverty and malnutrition
- C08:** Appraises the issues in the health care sector such as equity efficiency, pricing subsidies etc.

Industrial Economics

Course Title: Industrial Economics
Semester: Four
Code: 20P4ECOEL6

Course Outcomes

C01: Understand the concept and organisation of a firm

C02: Analyse the objectives and behaviour of the firm

C03: Recognise and explain the basic determinants of market structure

C04: Understand the theories of industrial location

C05: Acquire knowledge about the growth of firm and its profitability, productivity and efficiency

C06: Understand the constraints on growth of the firm.

C07: Helps to understand the concept of industrial finance and financial statement

C08: Analyse and understand Indian industrial growth , industrial policies and recent trends in industrial growth

Mathematical Economics

Course Title: Mathematical Economics
Semester: Four
Code: 20P4ECOEL7

Course Outcomes

C01: Helps understand the role of Mathematics in economic analysis

C02: Students will be able to identify, explain, and use Mathematical concepts, theories, functions in economic analysis.

C03: Students will acquire the knowledge of mathematics and Economics in a variety of contexts thereby providing the foundation for success in their studies and careers.

C04: Students will develop the skills to measure and analyze statistical data in order to draw conclusions about various economic problems.

C05: Students will develop the necessary investigative skills for conducting original economic research and participating effectively in project teams.

C06: Students will acquire the skills to deliver effective presentations in which they combine visual communication design with oral arguments and/or the written word.

Computer Applications In Economic Analysis

Course Title: Computer Applications In Economic Analysis
Semester: Four
Code: 20P4ECOEL8

Course Outcomes

C01: Introduces students to various statistical and econometrics softwares for data analysis

C02: Develops the skills to analyse data with the help of statistical softwares

C03: Enables the students to choose appropriate tools for data analysis.

C04: Enhances skillful presentation and interpretation of the analysed data with effective tools

C05: Formulates research hypotheses, to choose research methods and test hypotheses

C06: Able to apply methodology of economics to in complex real world situations and to make right choices for oneself and the society

Agricultural Economics

Course Title: Agricultural Economics
Semester: Three
Code: 20P4ECOEL9

Course Outcomes

- C01:** Explores interdependence between agriculture and industry and role of agriculture in economic development
- C02:** Evaluates the land reforms and cropping pattern in India
- C03:** Evaluates the agricultural credit and marketing arrangements in India
- C04:** Examines the problem of food security in India and the importance of PDS
- C05:** Examines the Agricultural price policy in India
- C06:** Evaluates the role of NABARD in agricultural finance
- C07:** Understands the principles and problems of farm management
- C08:** Examines the dynamic changes in agricultural sector

M.A. English Language and Literature

Programme Specific Outcomes (PSOs)

At the end of the programme a student should be able to:

PSO1

Demonstrate a comprehensive understanding of the socio-historical and literary background of English Literature and various other Literatures in English.

PSO2

Identify and describe the thematic and literary features of select works in English and align them with the socio-political and cultural milieu.

PSO3

Demonstrate an understanding of various critical theories and reading strategies and engage texts - literary, performance, visual etc. – from the point of view of the various critical approaches and to draw from them the dynamics relationship between nature and culture.

PSO4

Conduct research that engages with and responds to diverse audiences of scholars, students, and community members.

PSO5

Articulate his/her knowledge in oral, written or performative means, using appropriate style and register and demonstrate ethical standards and personal values in all activities.

Chaucer and the Early Literatures in English

Course Title: Chaucer and the Early Literatures in English
Course Code: 20P1ENGT01
Semester: One

Course Outcomes

C01: Locate the early literatures of English

C02: Describe the linguistic and literary features of the early literatures in English

C03: Demonstrate an understanding of the different literary genres of old and Middle English period

C04: Recognise the linguistic and thematic differences between the old and middle English literature

C05: Apply the appropriate 'critical apparatus' in reading early literatures of English

C06: Critique literary texts of old English and Middle English period

C07: Conduct original research into various forms of Old English and Middle English Literature

Writings of the Renaissance

Course Title: Writings of the Renaissance
Course Code: 20P1ENGT02
Semester: One

Course Outcomes

- C01:** Understand the theoretical models in Renaissance studies with special focus on NewHistoricism and Cultural Materialism
- C02:** Evaluate the individual genius of representative Renaissance writers.
- C03:** Apply theoretical formulas in the readings of select Renaissance works.
- C04:** Examine historical, cultural and ideological trends of the times
- C05:** Compare individual Renaissance writers to estimate their literary merits and their impactson subsequent literary history
- C06:** Appreciate the aesthetic dimensions of the literary produce of the time based on the closereadings of representative writers.
- C07:** Critique Renaissance literature to throw light on the ideological undercurrents that shapedthe literary sensibility of the times

Literatures of the English Revolution and Enlightenment

	Literatures of the English Revolution and
Course Title:	Enlightenment
Course Code:	20P1ENGT03
Semester:	One

Course Outcomes

C01: Understand the socio-historical and political background of 18th century literature.

C02: Understand the philosophical and scientific developments of 18th century and implication for the literary writings of the period.

C03: Analyse the literary and the non-literary texts of the 18th century in the light of their socio-political, philosophical and scientific background.

C04: Analyse different texts and relate them to different genres and subgenres.

C05: Evaluate the literary and non-literary texts in the light of their underlying philosophical implications

C06: Evaluate the contemporary significance of the 18th texts in the context of contemporary theories.

Literary Criticism: Theory and Practice

Course Title: Literary Criticism: Theory and Practice
Course Code: 20P1ENGT04
Semester: One

Course Outcomes

C01: Identify key concepts in literary criticism from the classical Greek period up to the late twentieth century.

C02: Apply insights from critical approaches and theories to the reading of texts.

C03: Demonstrate an understanding of key critical approaches such as neoclassical criticism, Romanticism, New Criticism, Modernism, Formalism, Marxist criticism, Reader Response theories

C04: Recognise the historical, political and aesthetic dimensions of the growth of literary criticism including issues such as canon formation, evolution of genres and methods of literary analysis

C05: Understand the conventions and formats of academic writing, enabling them to write publishable articles that comply with the latest style manuals.

C06: Critique the performance practices that can be observed in theatres, media and in public spaces

C07: Conduct original critical readings of contemporary texts informed by relevant critical schools of thoughts and also to evaluate similar critical works on literary works

Indian English Literature

Course Title: Indian English Literature
Course Code: 20P1ENGT05
Semester: One

Course Outcomes

- C01:** Get acquainted with the major Indian writers and their monumental works as an independent field of literature in English.
- C02:** Understand the evolution of Indian writing in English from the colonial phase till the present.
- C03:** Get a deeper understanding of the notion of 'Indianness' and Indian sensibility through the works in Indian English Literature.
- C04:** Demonstrate an understanding of the social, political, and cultural issues reflected in Indian English literature.
- C05:** Evaluate the literary, cultural, historical and political impact of works of Indian writers in English and their role in bringing about social awareness and transformation.
- C06:** Classify the major genres in Indian writing in English.
- C07:** Conduct original research in the field of Indian English Literature and bring out the findings in the form of dissertations/research papers.
- :

Literature of the 19th Century

Course Title: Literature of the 19th Century
Course Code: 20P2ENGT06
Semester: Two

Course Outcomes

C01: Identify and analyse the socio-economic-political contexts that inform the literature of the period.

C02: Demonstrate an understanding of the literary history of the 19th century texts that reflect a range of historical, cultural and aesthetic values

C03: Understand the conflict between self and society in different literary genres of the period

C04: Appreciate different aspects of the rise of the novel to the expansion of Colonialism and Capitalism.

C05: Understand the transition from Romantic to Victorian in literature and culture.

C06: Link the Victorian temper to political contexts in English colonies.

Modernism in Context

Course Title: Modernism in Context
Course Code: 20P2ENGT07
Semester: Two

Course Outcomes

C01: Understand the broad cultural and historical contexts behind the various modern literary and artistic movements

C02: Understand the literary circumstances that shaped the processes of literary production from 20 th century to present.

C03: Identify and analyse the use of modernist techniques in different genres.

C04: Locate the modernist discourses in the background of imperial expansion, urbanization, industrialization, world war, rise of communism, Nazism, fascism etc

C05: Engage with the idea of modernism and the rise of modernist aesthetics

C06: Analyse and interpret literary texts in their contexts and locate them

The Postmodern and Beyond

Course Title: The Postmodern and Beyond
Course Code: 20P2ENGT08
Semester: Two

Course Outcomes

C01: Distinguish between different postmodern literary genres and recognise the interconnection between different postmodern genres and texts.

C02: Demonstrate an understanding of the socio-political, cultural and technological milieu of the postmodern texts

C03: Recognise various literary techniques used in the postmodern texts and associate them with the discursive practices aligned to it

C04: Apply the appropriate 'critical apparatus' in the reading of different postmodern texts

C05: Critique the ideology of postmodernism seen in the prescribed text

C06: Conduct original research into various genres and texts of Postmodernism, both in the mainstream and in the alternative literatures, and bring out the findings in the form of dissertations/research papers

Language and Linguistics

Course Title: Language and Linguistics
Course Code: 20P2ENGT09
Semester: Two

Course Outcomes

C01: Identify the key branches of linguistics and their scope of study as detailed in the syllabus.

C02: Distinguish between the different processes of word formation in English, providing examples of each.

C03: Demonstrate an understanding of the evolution of the English language, tracing its history from its roots in the Indo-European language family through Old, Middle and Modern English

C04: Recognise the various stages of language acquisition in children

C05: Use the phonetic script to accurately transcribe words and to read transcribed text.

C06: Apply the principles of componential analysis to study the structure of sentences in accordance with the systems of PS grammar and TG grammar.

C07: Follow emergent areas of research in linguistics and form viable research questions based on their interest in language studies

Theories of Knowledge

Course Title: Theories of Knowledge
Course Code: 20P2ENGT10
Semester: Two

Course Outcomes

C01: Understand the differences between literary criticism and literary theory and the philosophical background of literary theories

C02: Understand the linguistic principles of literary theory

C03: Understand the assumptions and principles of various contemporary literary theories

C04: Apply various literary theories to various texts and cultural practices to expose their ideological implications

C05: Evaluate the social, cultural and literary texts and practices in the light of contemporary theories

C06: Develop innovative ways of looking at the socio-cultural and political life of the contemporary society

American Literature

Course Title: American Literature
Course Code: 20P3ENGT11
Semester: Three

Course Outcomes

C01: Identify the complexity of origin, development and reception of American Literature.

C02: Understand the depth and diversity of American Literature from the colonial period to the contemporary era.

C03: Explore the meaning of religion, democracy and romanticism through the various prescribed American works.

C04: Compare and contrast the issues, conflicts, preoccupations, and themes of the various literatures of America

C05: Critically engage with the complex nature of American society, given its journey from specific religious obligations and their literary transformations to the non-Christian sensibilities

C06: Describe the major conventions, tropes, and themes of Puritan and early American literature; identify and discuss those features with regard to individual works.

C07: Critically appreciate the diversity of American literature in the light of regional variations in climate, cultural traits, economic priorities

Cultural Studies

Course Title: Cultural Studies
Course Code: 20P3ENGT12
Semester: Three

Course Outcomes

- C01:** Identify key concepts in literary theory with special focus on Cultural Studies
- C02:** Understand analytical techniques and interpretive strategies employed in Cultural Studies.
- C03:** Estimate the intellectual contributions of individual theoreticians
- C04:** Apply interdisciplinary approaches to the praxis of Cultural Studies.
- C05:** Evaluate value judgements in cultural practices with special focus on literary representations.
- C06:** Conduct original critical readings of cultural practices, texts, ethnographic literary trends
- C07:** Critique select cultural practices and the ideological undercurrents present in them.

Gender Studies

Course Title: Gender Studies
Course Code: 20P3ENGT13
Semester: Three

Course Outcomes

C01: Achieve a knowledge base about the history of Gender Studies as an academic discipline with an understanding of its growth in relation to other fields of study

C02: Get a deeper understanding of the impact of gender denominations on one's identity and individual history

C03: Identify the interactions and intersections of identities and assess the ways in which they contribute to instances of privilege and power dynamics across cultures, space and time.

C04: Analyse historical and contemporary systems of privilege and oppression related to gender, race, sexuality, ethnicity etc.

C05: Evaluate the current social issues pertaining to gender effectively and suggest solutions for the same.

C06: Examine and critique the ideological assumptions underpinning the social institutions and systems of representation regarding gender.

C07: Apply the central concepts and theories from Gender Studies in evaluating his/her experiences and the events that happen around.

Modes of Fiction

Course Title: Modes of Fiction
Course Code: 20P3ENGT14
Semester: Three

Course Outcomes

C01: Understand many genres of fictions including short stories and novels across cultures.

C02: Distinguish between different variants of fictions and recognise how writers across the world deal with this literary genre.

C03: Demonstrate an understanding of the socio-political, cultural and technological milieu of the representative texts

C04: Recognise various literary techniques used in the fictions and associate them with the discursive practices aligned to it.

C05: Apply the appropriate 'critical apparatus' in the reading of different literary texts

C06: Critique the ideology of fictions in the prescribed text.

C07: Conduct original research into various genres and texts of short stories and novels, both in the mainstream and in the alternative literatures, and bring out the findings in the form of dissertations/research papers.

Texts and Performance

Course Title: Texts and Performance
Course Code: 20P3ENGT15
Semester: Three

Course Outcomes

C01: Identify the elements of drama and performance

C02: Distinguish between dramatic texts and performance texts and recognise the interconnection between the two.

C03: Demonstrate an understanding of the socio-political, cultural and technological milieu of the dramatic texts and the innovation of the performance languages consequent upon the changing times.

C04: Recognise various dramatic methods, and associate them with the discursive practices aligned to it

C05: Apply the appropriate 'critical apparatus' in the reading of both dramatic and performance texts.

C06: Critique the performance practices that can be observed in theatres, media and in public spaces.

C07: Conduct original research into various performance practices, both in the mainstream performance spaces and in alternative spaces, and bring out the findings in the form of dissertations/research papers

Literature and the Empire

Course Title: Literature and the Empire
Course Code: 20P4ENGT16
Semester: Four

Course Outcomes

C01: Identify the key issues and themes in Post colonial Literature and their scope of study as detailed in the syllabus.

C02: Analyse the basic tenets of postcolonial theory and literature

C03: Evaluate the awareness of the historical contexts of literary production and reception.

C04: Explain how race, gender, history and identity are presented and problematised in the select postcolonial texts prescribed for study.

C05: Critically evaluate the arguments and assumptions of postcolonial texts and its various modes of interpretation.

C06: Critique the colonial, neo-colonial and postcolonial phases of history portrayed in the prescribed texts and how the various strategies adopted by the bourgeoisie class leaders for attaining the same.

C07: Follow emergent areas of research in postcolonial studies and form viable research questions based on their interest in cultural studies

Modern European Drama

Course Title: Modern European Drama
Course Code: 20P4ENGT17EL
Semester: Four

Course Outcomes

- C01:** Identify the social and historical contexts which inform the modern European Drama
- C02:** Discern the relationship between realism and social revolution, anti-realism and modernist sensibility, war and post war theatre
- C03:** Demonstrate an understanding of the rise of modernism in theatre, and the rise of the director and stage designer
- C04:** Recognise various dramatic styles such as epic theatre, absurd theatre, theatre of cruelty, postmodernist theatre and poor theatre and associate them with the modernist world view.
- C05:** Apply the appropriate 'apparatus criticus' in the reading of the modernist dramatic works
- C06:** Critique the contemporary dramatic works in the light of the understanding of the history and tradition of modernist theatre.
- C07:** Conduct original research into the thematic, literary and performance aspects of Modern European drama as well as drama from the rest of the world.

Shakespeare across Cultures

Course Title: Shakespeare across Cultures
Course Code: 20P4ENGT18EL
Semester: Four

Course Outcomes

C01: Understand and situate the timeless genius of Shakespeare across cultures, literatures and authors.

C02: Analyse the rereading of Shakespeare's plays down the history.

C03: Assess the impact of Shakespeare at the theoretical and textual level

C04: Critically evaluate the culture industry behind the legacy of Shakespeare.

C05: Critique the history through the many adaptations of Shakespeare's plays.

C06: Pursue the emergent areas of research in Cultural Studies by posing viable research questions in terms of Shakespeare's continuing legacy.

Malayalam Literature in Translations: Aspects and Contexts

Course Title:	Malayalam Literature in Translations: Aspects and Contexts
Course Code:	20P4ENGT19EL
Semester:	Four

Course Outcomes

- C01:** Attain an understanding of the rich repository of works written in Malayalam
- C02:** Get familiarised with the writers of repute from the regional language.
- C03:** Investigate how the socio-political and cultural movements that shaped the identity of Kerala get a representation in the works written in Malayalam
- C04:** Examine and critique the ways in which the regional writers in Malayalam represent the native soil in their works by situating the works in the local socio-cultural milieu.
- C05:** Evaluate the limitations pertaining to translation by comparing and contrasting the source language and the target language.
- C06:** Attempt translating a regional text into English applying the theories and conventions of translation

Ecology and Literature

Course Title: Ecology and Literature
Course Code: 20P4ENGT20EL
Semester: Four

Course Outcomes

- C01:** Identify the key concepts of ecocriticism as a methodology and critical practice.
- C02:** Demonstrate awareness of ecological issues and matters of concern such as environmental pollution, anthropogenic climate change, loss of biodiversity etc
- C03:** Demonstrate an understanding of the critical strategies deployed in understanding depictions of nature in literature.
- C04:** Appreciate nature and literature in tandem through readings that are aware of the ecological significance and eco-aesthetic content of texts.
- C05:** Trace the link between nature and culture and allied notions such as tradition and progress, urban and rural life, ecology and industry etc.
- C06:** Engage with secondary and additional reading material on ecocriticism and allied fields, including emergent areas of research.
- C07:** Develop critically informed opinions and/or research questions relating literature, art and the natural world.

Understanding Cinema: Film Theory

Course Title: Understanding Cinema: Film Theory
Course Code: 20P4ENGT21EL
Semester: Four

Course Outcomes

C01: Understand what is cinema and many 'theoretical' definitions of it.

C02: Distinguish between different genres in cinema and recognise the interconnection between different film genres.

C03: Demonstrate an understanding of the socio-political, cultural and technological milieu in which cinema as an art form came into being.

C04: Recognise various cinematic techniques used in films and associate them with the discursive practices aligned to it.

C05: Apply the appropriate 'critical apparatus' in the reading of different films

C06: Critique many ideologies cinema consciously or unconsciously propagate in the context of the prescribed texts.

C07: Conduct original research into various genres and texts of films, both in popular and in the alternative spaces, and bring out the findings in the form of dissertations/research papers.

Health humanities and trauma narratives

Course Title: Health humanities and trauma narratives
Course Code: 20P4ENGT22EL
Semester: Four

Course Outcomes

- C01:** Understand the interface between medicine, narrative, trauma and memory
- C02:** Understand the psychological and theoretical foundations of medical humanities
- C03:** Analyse the various theories and texts which deal with trauma, memory and the role of narratives in dealing with them.
- C04:** Analyse graphic novels in the light of medical humanities/health humanities
- C05:** Apply the appropriate critical strategies of medical humanities/health humanities to texts.
- C06:** Evaluate the role of graphic novels in health humanities

The Public Sphere and its Contemporary Context

Course Title:	The Public Sphere and its Contemporary Context
Course Code:	20P4ENGT23EL
Semester:	Four

Course Outcomes

C01: Understand the concept of public sphere

C02: Understand the conceptual variations and limits of Habermasian notion of public sphere

C03: Apply the concept of public sphere to the understanding of censorship, borders, surveillance, market economy and neoliberal tendencies

C04: Apply the concept of public sphere to the understanding of contemporary world of globalization and its varied manifestations

C05: Apply the concept of public sphere to the understanding of literary texts

C06: Evaluate the contemporary society and its societal practices in the light of the concept of public sphere

Modern European Fiction

Course Title: Modern European Fiction
Course Code: 20P4ENGT24EL
Semester: Four

Course Outcomes

C01: Understand and appreciate the concept of modernity

C02: Understand the way literature shaped the public memory of holocaust, world war and other tragic events.

C03: Appreciate the development of the novel and its qualities during the period of European modernism

C04: Engage with the major philosophical developments and artistic movements like realism, naturalism, surrealism, expressionism, cubism, Dadaism etc.

C05: Deliberate on the cultural objects and practices that define modernity and the modern identity.

C06: Engage in close textual analysis.

Literature of Self-reflexivity

Course Title: Literature of Self-reflexivity
Course Code: 20P4ENGT25EL
Semester: Four

Course Outcomes

C01: Recognize self reflexive elements in narrative forms

C02: Identify self- reflexive texts in literary history

C03: Demonstrate an understanding of the theoretical background of self- reflexivity in literature

C04: Recognise various forms of self reflexivity in various genres of literature

C05: Apply the appropriate 'critical apparatus' in reading literatures of self- reflexivity

C06: Critique literary texts having self reflexive elements

C07: Conduct original research into various forms contemporary self reflexive literary texts and art forms.

M.Sc. Environmental Science (Self Financing)

Programme Specific Outcomes (PSOs)

At the end of the programme a student should be able to:

PSO1

Understand the need for environmental protection and conservation and be motivated to become the future guardians of nature.

PSO2

Use various tools and techniques for the study of environment.

PSO3

Understand, think and evolve strategies for management and conservation of the environment.

PSO4

Acquire training in understanding environmental disasters and develop strategies to mitigate them.

Fundamentals of Environmental Science

Course Title: Fundamentals of Environmental Science
Course Code: 16P1EVST01
Semester: One

Course Outcomes

C01: Understand core concepts and methods from ecological sciences and their application in environmental problem-solving.

C02: Understand the transnational character of environmental problems and ways of addressing them.

C03: Understand the primary environmental problems (e.g., invasive species, climate change, small populations, pollution) and the science behind those problems.

C04: Acquire specific skills necessary to achieve understanding of and solutions to environmental problems, including those necessary for assessment of environmental impact of human activity, and for monitoring of the health of environmental systems.

C05: Knowledge and skills needed to effectively manage human resources

C06: Learn skills required to research and analyze environmental issues scientifically and learn how to use those skills in situations that may involve environmental problems and/or issues.

Research Methodology I

Course Title: Research Methodology I
Course Code: 16P1EVST02
Semester: One

Course Outcomes

C01: How to calculate and apply measures of Central Tendency and measures of dispersion -- grouped and ungrouped data

C02: Compute and interpret the results of Regression and Correlation Analysis, for forecasting

C03: How to apply discrete and continuous probability distributions to various problems

C04: Perform Test of Hypothesis

Research Methodology II

Course Title: Research Methodology II
Course Code: 16P1EVST03
Semester: One

Course Outcomes

- C01:** understand some basic concepts of research and its methodologies
- C02:** identify appropriate research topics
- C03:** select and define appropriate research problem and parameters
- C04:** prepare a project proposal (to undertake a project)
- C05:** organize and conduct research (advanced project) in a more appropriate manner
- C06:** write a research report and thesis
- C07:** write a research proposal (grants)

Techniques in Research

Course Title: Techniques in Research
Course Code: 16P1EVST04
Semester: One

Course Outcomes

C01: Understand some basic concepts of research and its methodologies

C02: identify appropriate research topics

C03: select and define appropriate research problem and parameters

C04: prepare a project proposal (to undertake a project)

C05:organize and conduct research (advanced project) in a more appropriate manner

C06:write a research report and thesis

C07:write a research proposal (grants)

Field Study

Course Title: Field Study
Course Code: 16EVSP02
Semester: One

Course Outcomes

C01: Study of fresh water ecosystem

Earth and Atmosphere

Course Title: Earth and Atmosphere
Course Code: 162EVST05
Semester: Two

Course Outcomes

- C01:** Explain the composition and structure of the atmosphere.
- C02:** Explain the hydrologic cycle and theory of plate tectonics as related to natural hazards and earth resources
- C03:** Learn more on geologic time scale and its relevance
- C04:** Acquire knowledge on climatic regime shifts
- C05:** Develop a knowledge on how to effectively manage the various water resources
- C06:** Get knowledge to be involved in various measures on coastal protection activities

Disaster Management

Course Title: Disaster Management
Course Code: 16P2EVST06
Semester: Two

Course Outcomes

C01: Learning disaster management, its components and structure

C02: Incorporating disaster management into public policy and planning based on the vulnerability of places and communities

C03: Learn to develop emergency operations plan (EOP); Understanding the significance of the Community-Based Approach to education and public awareness in tackling disasters

C04: Emergency Management Systems (EMS); and how the EMS assists in hazardous material management, emergency medical services, and response and recovery operations

C05: the role of Global Information Systems (GIS), Global Positioning Systems (GPS) and Information and Communication Technology (ICT) technology in all phases of the disaster management cycle

C06: Identifying main communicable diseases common in disaster situations; the risk factors that increase the likelihood of an outbreak and ways of preventing/minimising such outbreaks

C07: Explain the importance of water sources and the minimum standards for water quality and quantity

C08: Studying the impacts of a disaster on society; Assess the impacts of disaster on people's income, earning capacity and overall social welfare

C09: Identifying the stages of disaster recovery and associated problems; vulnerable groups in disaster and post-disaster times

Remote Sensing And GIS

Course Title: Remote Sensing And GIS
Course Code: 16P2EVST07
Semester: Two

Course Outcomes

C01: Students will be able to recognize and explain at a basic level fundamental physical principle of remote sensing

C02: Know about main Remote Sensing Systems and programs (sensors, platforms, etc.) and assess its potential to spatial analysis

C03: Able to decide which remote sensing techniques suite your specific needs.

C04: Students will be able to recognize and explain basic computational properties of remote sensing data acquisition, storage, and processing.

C05:Demonstrate competency with the ArcMap software to enhance and interpret data

C06:Apply GIS analysis to address geospatial problems and/or research questions.

C07:Develop a strategy to implement an effective GIS

C08:Develop critical thinking skills in solving geospatial problems

Environmental Impact Assessment

Course Title: Environmental Impact Assessment
Course Code: 16P2EVST08
Semester: Two

Course Outcomes

C01: The students would have understood about the importance of EIA in a development project.

C02: The students will be able to analyse a developing project for their impacts on various environmental matrices by employing various methods.

C03: The students would have understood the importance of public participation in EIA process, thereby will be able to provide suggestions for mitigation of impacts.

C04: The students will be able to participate in EIA report preparation.

C05: Basic knowledge and skills to practice a number of selected methods used in Environmental impact assessments.

C06: Become familiar in making an EIA Report (Environmental Impact Statement, Environmental Statement)

C07: Evaluate the applications of environmental assessment through critical reflection and dialogue of case material and readings.

C08: Discuss the potential of environmental audit as a tool for Impact Assessment to identify, assess and address environmental concerns; conduct/co-ordinate an environmental audit and critically evaluate its outcomes.

C09: Through case studies, students will learn to present and explain the components and decision making processes involved in environmental assessment

Field Study

Course Title: Field Study
Course Code: 16P2EVSP04
Semester: Two

Course Outcomes

C01: Study of marine ecosystem

Environmental Pollution and Toxicology

Course Title: Environmental Pollution and Toxicology
Course Code: 16P3EVST09
Semester: Three

Course Outcomes

C01: Identify the sources of pollution

C02: Understand the concepts involved in control technologies

C03: Know about the environmental toxicants and their effects.

C04: Able to understand how minimize pollution due solid waste and how to reclaim waste land.

Environmental Monitoring and Management

Course Title: Environmental Monitoring and Management
Course Code: 16P3EVST10
Semester: Three

Course Outcomes

C01: Understand the environmental, social and economic framework in which environmental management decisions are made.

C02: Anticipate, recognize, evaluate, and control environmental issues in a variety of sectors and industries.

C03: Utilize quantitative knowledge and skills and modern tools and technologies to assess, analyze, plan, and implement environmental management systems.

C04: Identify, analyze, and develop environment management systems and formulate solutions that are technically sound, economically feasible, and socially acceptable.

C05: Prepare, review, and update environmental monitoring and assessment reports and Monitor progress of environmental improvement programs.

C06: Find professional level employment or pursue higher studies and pursue research for contributing to the betterment of humanity and in shaping a sustainable society.

Biodiversity, Conservation and Social Issues

Course Title: Biodiversity, Conservation and Social Issues
Course Code: 16P3EVST11
Semester: Three

Course Outcomes

C01: Students will acquire knowledge regarding biodiversity at local, national and global levels.

C02: Students develop a sense of conservation attitude towards environment.

C03: The students are equipped to deal with various social issues related to environment and to study them in a scientific manner.

C04: To become a part of legislation and policy building team related to biodiversity conservation.

Field Study

Course Title: Field Study
Course Code: 16P3EVSTP07
Semester: Three

Course Outcomes

C01: Study of wetland and mangroves ecosystem.

M.Sc. Mathematics

Programme Specific Outcomes (PSOs)

At the end of the programme a student should be able to:

PSO1

Assimilate and analyse advanced concepts in Mathematics.

PSO2

Develop problem-solving skills and apply them independently to solve problems in pure and applied mathematics.

PSO3

Develop skills to mathematically model real-time problems and apply mathematical tools to solve them.

PSO4

Inculcate an aptitude for research.

Linear Algebra

Course Title: Linear Algebra
20P1MATT01

Course Outcomes

C01: Recalling vector spaces, subspaces, basis and dimension and understanding coordinates and summary of row equivalence.

C02: Understanding linear transformations their algebra and representation of transformations by matrices.

C03: Assimilate ideas of canonical forms, characteristic values and annihilating polynomials.

C04: Developing ideas of simultaneous triangulation and diagonalisation and direct sum decomposition.

Algebra

Course Title: Algebra

20P1MATT02

Course Outcomes

C01: Developing ideas of finitely generated abelian groups, Sylow theorems and applications

C02: Understanding the concept of rings of polynomials, factorization of polynomials and ideal structure.

C03: Assimilating the idea of extension fields, algebraic extensions and geometric constructions.

C04: Developing ideas of automorphisms of fields, isomorphism extension theorem and Galois theory.

Real Analysis

Course Title: Real Analysis
20P1MATT03

Course Outcomes

C01: Studying functions of bounded variations, rectifiable curves, paths and equivalence of paths.

C02: Developing the ideas of Riemann-Stieljes integral and studying integration and differentiation.

C03: Assimilating the ideas of uniform convergence and continuity, uniform convergence and integration, uniform convergence and differentiation.

C04: Analyzing power series, exponential and trigonometric functions.

Ordinary Differential Equations

Course Title: Ordinary Differential Equations
20P1MATT04

Course Outcomes

C01: Understanding the method of successive approximation and learning Lipschitz condition and uniqueness theorem.

C02: Analyzing the system of linear differential equations and studying the matrix method for homogenous linear system.

C03: Appreciate Sturm Liouville Problems, the expansion of a function in a series of orthonormal functions.

C04: Perceive nonlinear differential equations, critical points and paths of linear system and nonlinear system

Optimization Techniques

Course Title: Optimization Techniques
20P1MATT05

Course Outcomes

C01: Understand the concept of Linear Programming problem, Duality and their solution.

C02: Evaluate the optimal solution of Integer programming problem by using cutting plane method and branch and bound method.

C03: Apply algorithm to find the solution of Goal programming problem, minimum path problem and maximum flow problem.

C04: Understand the concept of Non – linear programming problem and different algorithm to solve them.

Basic Topology

Course Title: Basic Topology
20P2MATT06

Course Outcomes

C01: Assimilate the concept of Topological spaces, base and subbase.

C02: Understand the concept of continuity and quotient spaces.

C03: Understand the concept of local connectedness, path connected and local connectedness.

C04: Assimilate the idea of separation axioms.

Measure Theory and Integration

Course Title: Measure Theory and Integration
 20P2MATT10

Course Outcomes

C01: Understanding the concept of Lebesgue measure, measurable and non-measurable sets and measurable functions.

C02: Determine Lebesgue integral and integral of bounded function over a set of finite measures, the integral of a non-negative function, the general Lebesgue integral

C03: Analyze measure spaces measurable functions, general convergence theorems and extension theorems.

C04: Understand measurability in a product space, the product measure and Fubini's theorem.

Number Theory

Course Title: Number Theory
20P2MATT09

Course Outcomes

C01: Got introduced to Symmetric polynomials, Modules, Free abelian groups, Algebraic Numbers, Conjugates and Discriminants, Algebraic Integers, Integral Bases, Norms and Traces, Rings of Integers, Quadratic Fields, Cyclotomic Fields.

C02: Analyze Trivial Factorizations, Factorization into Irreducibles, particular examples, prime factorization and Euclidean Domains and quadratic fields.

C03: Understand Prime Factorization of Ideals, the Norm of an Ideal, Nonunique Factorization of Cyclotomic Fields. Lattices, The Quotient Torus, Minkowski theorem, The Two-squares theorem.

C04: Perceive Fermat theorem, Polynomial congruence modulo, Lagrange's theorem and its applications, simultaneous linear congruence, the Chinese remainder theorem.

Graph Theory

Course Title: Graph Theory
20P2MATT08

Course Outcomes

C01: Understand basic concepts, sub graphs, degrees of vertices. Paths and connectedness, automorphism of a simple graph, line graphs, basic concepts and tournaments.

C02: Comprehend connectivity vertex cuts and edge cuts. Connectivity and edge connectivity, blocks.

Certain definitions and simple properties, counting the number of spanning trees and Cayley's formula.

C03: Analyze vertex and edge independent Sets, Eulerian Graphs, Hamiltonian Graphs, Vertex Coloring and certain definitions.

C04: Understand edge coloring and planarity: certain definitions and properties, dual of a plane graph. The four color theorem and the Heawood five color theorem

Complex Analysis

Course Title: Complex Analysis
20P2MATT07

Course Outcomes

C01: Analyze analytic functions, Power series and Mobius Transformations.

C02: Determine power series for analytic functions and its zeros. The index of a closed curve, Cauchy's theorem and Cauchy's integral formula, The Homotopic version of Cauchy's theorem and simple connectivity.

C03: Interpret counting zeros, the open mapping theorem, Goursat's Theorem, classification of singularities, residues and the Argument Principle.

C04: Understand Maximum Modulus theorem, maximum principle, Schwarz's lemma, convex functions and Hadmard's Three Circles Theorem.

Advanced Topology

Course Title: Advanced Topology
 20P3MATT13

Course Outcomes

C01: Understand Urysohn Characterization of Normality ,Tietze Characterization of

C02: Normality, Products and co-products.

C03: Analyze embedding and Metrisation, Evaluation Functions in to Products,embedding Lemma and Tychonoff Embedding, The Urysohn Metrisation Theorem.

C04: Assimilate convergence and related properties of nets and filters.

C05: Understand compactness, variations of compactness.

Advanced Complex Analysis

Course Title: Advanced Complex Analysis
 20P3MATT14

Course Outcomes

C01: Understand the space of functions, Riemann mapping theorem and Weierstrass factorization theorem.

C02: Analyze Runge's Theorem, Simple connectedness, Mittag Leffler's theorem, Analytic continuation and Riemann surfaces, Schwartz Reflection Principle, Analytic continuation along a path, Mondromy theorem.

C03: Interpret Harmonic functions, Basic properties of harmonic functions and Harmonic functions on the disk.

C04: Perceive entire functions, Jensen's formula, the genus and order of an entire function, Hadamard Factorization theorem.

Functional Analysis

Course Title: Functional Analysis
20P3MATT12

Course Outcomes

C01: Understand Normed Linear Spaces , Continuity of Linear Maps ,Linear Homeomorphism , Equivalent Norms ,Hahn-Banach lemma ,Bounded Linear Maps and Bounded Linear Functionals , Dual space– Examples , Hahn-Banach Theorem , Hahn-Banach separation theorem , Hahn-Banach

C02: Analyze Completeness of a norm, Banach space, convergence and absolute convergence in a normed linear space, Schauder basis, Uniform boundedness principle, Banach-Steinhaus theorem, Closed graph theorem, Projections on closed subspaces.

C03: Comprehend Open mapping theorem, spectrum of a bounded operator, Eigen value and Eigen vector, Eigen spectrum, Gelfand-Mazur theorem, Spectral radius formula.

C04: Studying Space of Bounded linear functionals, Dual of normed linear space.

Partial differential Equations

Course Title: Partial differential Equations
20P3MATT11

Course Outcomes

C01: Understand orthogonal trajectories of a system of curves on a surface. Pfaffian differential forms and equations. Solution of Pfaffian differential equations in three variables.

C02: Analyze nonlinear partial differential equation of the first order, Compatible systems of first order equations. Charpits Method. Special types of first order equations, Jacobi's method.

C03: Comprehend linear partial differential equations with constant coefficients. Equations with variable coefficients, Reduction to Canonical form, Cauchy's problem of second order pde, Characteristic curves of second order equations.

C04: Studying the solution of linear Hyperbolic equations, Monge's method. Separation of variables, Elementary solutions of Laplace equation, Dirichlet problem for a rectangle, The Neumann problem for a rectangle.

Multivariate calculus and integral transforms

Course Title: Multivariate calculus and integral transforms
20P3MATT15

Course Outcomes

C01: Understand the Weirstrass theorem, other forms of Fourier series, the Fourier integral theorem, the exponential form of the Fourier integral theorem, integral transforms and convolutions, the convolution theorem for Fourier transforms.

C02: Analyze Multivariable Differential Calculus The directional derivative, directional derivatives and continuity, the total derivative, the total derivative expressed in terms of partial derivatives, An application of complex-valued functions, the matrix $\mathbf{D}$

C03: Interpret Implicit functions and extremum problems, the mean value theorem for differentiable functions, a sufficient condition for differentiability.

C04: Studying Integration of Differential Forms, primitive mappings, partitions of unity, change of variables, differential forms, Stokes theorem.

Advanced Functional Analysis

Course Title: Advanced Functional Analysis
20P4MATT16EL

Course Outcomes

C01: Understanding Weak and Weak-*convergence, Reflexive space, Hell's theorem, Eberlein's theorem, James's theorem, Compact Linear maps, Examples, Spectrum of a Compact operator.

C02: Analyze Inner product spaces , Examples , Schwarz's Inequality, Properties, Pythagoras theorem , Gram Schmidt Orthonormalization , Bessel inequality, Orthonormal basis

C03: Assimilate Projection Theorem, Riesz representation Theorem , Unique Hahn – Banach extension theorem, Bounded Operators on a Hilbert space, SesquiLinear Functional, Adjoint of a Bounded operator on a Hilbert Space , Properties.

C04: Developing ideas of Normal, Unitary and Self Adjoint Operators, Spectral Analysis of Self adjoint Operators, Finite Dimensional Spectral Theorem, Spectral theorem for Compact Self Adjoint Operators.

Differential Geometry

Course Title: Differential Geometry
20P4MATT17EL

Course Outcomes

C01: Perceive ideas of Graphs and level sets, vector fields, the tangent space, surfaces, vector fields on surfaces, orientation

C02: Understand the fundamentals of The Gauss map, geodesics, Parallel transport

C03: Assimilate the ideas of the Weingarten map, curvature of plane curves, Arc length and line integrals

C04: Developing skills related to Curvature of surfaces

Numerical Analysis with Python

Course Title: Numerical Analysis with Python
20P4MATT19EL

Course Outcomes

C01: Analyze Defining Symbols and Symbolic Operations, Working with Expressions, Solving Equations and Plotting Using SymPy, problems on factor finder, summing a series and solving single variable inequalities

C02: Understand the relevance of finding the limit and derivative of functions. The continuity of a function at a point, curve length and area between two curves.

C03: Comprehend interpolation and Curve Fitting, Lagrange's Method, Newton's Method. Determine roots of equations by bisection method and Newton-Raphson method.

C04: Perceive Gauss Elimination Method, Doolittle's Decomposition method, Numerical Integration, Newton-Cotes Formulas, Trapezoidal rule, Simpson's rule and Simpson's 3/8 rule.

Theory of Wavelets

Course Title: Theory of Wavelets
20P4MATT20EL

Course Outcomes

C01: Comprehend the basics of wavelet theory.

C02: Discover the areas in which theory of wavelets is applicable.

C03: Assimilate the role of linear algebra in wavelet theory complete orthonormal sets in Hilbert Spaces.

C04: Developing basic ideas of Haar Wavelets, Shannon Wavelets and Daubechies's D6 Wavelets.

Abstract Harmonic Analysis

Course Title: Abstract Harmonic Analysis
20P4MATT23EL

Course Outcomes

C01: Understand topological and locally compact groups, Haar measure. Modular function, convolutions, homogenous spaces, unitary representations, Gelfand-Raikov theorem.

C02: Perceive Unitary Representations, Representations of a group and its group algebra, functions of positive type.

C03: Assimilate Dual Group, the Fourier Transform, The Pontrjagin Duality Theorem, Representations of Locally Compact Abelian Groups, Closed Ideals in $L^1(G)$, Spectral Synthesis, The Bohr Compactification.

C04: Analyze the representations of Compact Groups, The Peter-Weyl Theorem, Fourier Analysis on Compact Groups.

Probability Theory

Course Title: Probability Theory
20P4MATT18EL

Course Outcomes

C01: Assimilate the idea of Algebra of sets, Fields, Sigma fields, Inverse function, Measurable functions, Random variables, Induced sigma fields, Limits of random variables.

C02: Understand the concept of Probability Space,
Extension of Probability measure and Other measures.

C03: Perceive different named theorems

C04: Understand the concept of Convergence of sequence of random variables – Convergence in law, Convergence in probability and certain named theorem.

Algebraic Topology

Course Title: Algebraic Topology
20P4MATT21EL

Course Outcomes

C01: Understand Geometric Complexes , Polyhedra and Simplicial Homology Groups

C02: Perceive the idea of Pseudomanifolds , the homology groups of S_n and Simplicial Approximation

C03: Assimilate Fundamental Group.

C04: Understand the concept of covering space.

Introduction to Chaotic Dynamical System

Course Title: Introduction to Chaotic Dynamical System
20P4MATT22EL

Course Outcomes

C01: Understand Orbits, Fixed ,Periodic points, Doubling function.

C02: Perceive the idea of Bifurcation and Quadratic family.

C03: Assimilate Symbolic Dynamics and Chaotic System.

C04: Comprehend Fractal

M.A. Sociology

Programme Specific Outcomes (PSOs)

At the end of the programme a student should be able to:

PSO1

Understand the functional and theoretical concepts of the Sociological world and incorporate them to real life situations.

PSO2

Internalize the subject pedagogy and its multidimensional interface in theoretical and practical situations.

PSO3

Understand the implications of learning Sociology and its interdisciplinary link with various disciplines.

PSO4

Conduct field work, gain exposure to programmes and to engage in outreach and internships.

PSO5

Synthesize the scientific character of observation, experimentation and analysis and impart training on the same.

Basics Of Sociology

Course Title: Basics Of Sociology

Course Code: 20P1SOCT01

Semester: One

Course Outcomes

C01: To equip the learners with an introductory understanding of the basics of the discipline of Sociology for a thorough internalization of its subject matter.

C02: Intends to provide the students a preliminary knowledge on such topics as 'Sociology as a Science of Society',

C03: Provide the 'Nature of this discipline' and a Conceptual revelation on some 'Basic Processes

C04: To learn the Institutionalized Patterns of Behavior in human Society'

C05: Equipment of Social learning and inculcation of a training to impart it to the segments of societal compartments people in various

Classical Sociological Thought

Course Title: Classical Sociological Thought

Course Code: 20P1SOCT02

Semester: One

Course Outcomes

C01: Understand the world of Sociology and to enquire into sociological wisdom and facts

C02: Understand the conceptual orientation of Sociology as its foundation

C03: Demonstrate the relevance of Sociology as a social science and its contemporary theoretical orientations

C04: Acquire basic sociological skills and familiarizing with major perspectives and dimensions and to implement its scope in various walks of life

Indiansociety – Structure And Transformation

Course Title: Indiansociety – Structure And Transformation

Course Code: 20P1SOCT03

Semester: One

Course Outcomes

C01: Understand various sociological concepts on Indian society

C02: Gain knowledge about various approaches to Indian Sociology

C03:Developing an understanding of the contemporary Structural changes experienced by Indian Society on account of various socio, economic and political forces

C04: Society Familiarizing students with the Historical, Colonial and Post-Colonial dimensions of Indian Society

C05:Assess the Sociological implications of changes in the Neo-Liberal Era

:

Social Research Methods And Statistics

Course Title: Social Research Methods And Statistics

Course Code: 20P1SOCT04

Semester: One

Course Outcomes

C01: Impart knowledge for enabling students to develop data analytics skills and meaningful interpretation to the data sets so as to solve the business/Research problem

C02: Explain theories of research and integrates diverse approaches to in-depth understanding of social problem

C03: Recognize and explain scientific research methods and their applicability

C04: Display interest in developing research projects that are crucial in social expansion.

Gender And Society

Course Title: Gender And Society

Course Code: 20P1SOCT05

Semester: One

Course Outcomes

C01: The primary goal of this course is to familiarize the students with the key issues, questions and debates in Gender Studies.

C02: An exposure on the implication of gender in society, major issues relating to gender categories

C03: To develop gender-view as a major characteristic of evolving survival strategies in the era of technological development.

C04: To cultivate gender-view as a key characteristic of adaptive mechanisms in the context of globalisation and development

C05: To develop the ability to debate and disclose the important indicators of gender conceptions

Modern Theoretical Approaches In Sociology

Course Title: Modern Theoretical Approaches In Sociology

Course Code: 20P2SOCT06

Semester: Two

Course Outcomes

C01: Familiarizing with the distinction between Modern and conventional domains of Sociological theory and with the emerging currents of Social theory

C02: Developing an understanding on structural functional and conflict perspectives in sociological theory

C03: Familiarizing the need of approaches, paradigms and perspectives in understanding the societal functioning

C04: Trace down the historical development of Sociological approaches and of the discipline

C05: To familiarize with the Interpretative approaches in sociology and neo Marxian theories

Sociology Of Communication And Media

Course Title: Sociology Of Communication And Media

Course Code: 20P2SOCT07

Semester: Two

Course Outcomes

C01: Know about all the basic aspects of Media

C02: Understands the fundamentals used in media education

C03: Know the social, ethical issues and contemporary challenges in the field of media

C04: Demonstrate various approaches, methodology and perspectives to the study of media

C05: Inculcating media consciousness, media literacy and digital/ technological know-how

Crime And Society

Course Title: Crime And Society

Course Code: 20P3SOCT15

Semester: Three

Course Outcomes

C01: Introduce the Basic concepts of Sociology of crime

C02: Demonstrate the pathological problems faced by vulnerable sections and various approaches to study the criminal behaviour

C03: Understand the need to study and understand the impact of substance abuse ,terrorism, organized crime

C04: Developing a balanced and apathetic approach to social issues and to understand the nature, types and prevention of crime

C05: Understand the basis of need to study criminality as a social stigma

Sociology Of Urban Society

Course Title: Sociology Of Urban Society

Course Code: 20P2SOCT09

Semester: Two

Course Outcomes

C01: To study Urban sociology as a major branch of Sociology

C02: Identify the different life setting between urban and rural areas and various approaches to study urban living

C03: Assess implications of urbanisation

C04: Briefly understand the concept of urban problems and urban development

C05: Study major urban problems and social disorganisation

Social Anthropology

Course Title: Social Anthropology

Course Code: 20P2SOCT10

Semester: Two

Course Outcomes

C01: Understand and appreciate human diversity, develop a critical perspective on their own society, and examine their role as citizens in a complex, global community

C02: Explain theories of anthropology and society that integrates diverse approaches to understand social system.

C03: Recognize and explain the impact of globalisation that eradicates ethnic and prized culture

C04: Display interest in developing awareness about the preservation of cultural heritage as a part of self-identity.

Post Modern And Post Structural Theories

Course Title: Post Modern And Post Structural Theories

Course Code: 20P3SOCT11

Semester: Three

Course Outcomes

C01: Familiarize the learners with the recent advancements in theoretical conceptions related with the dynamics of human social world,

C02: To equip them with the multiple theorizing process part of the destinies of a changing socio cultural scenario

C03: To facilitate awareness of the applicability of social theories in contemporary social questions.

C04: To expedite alertness of the scope of social theories in current social questions.

C05: To understand the latest progressions in theoretical conceptions related with the diminutions of human social world,

Social Change And Development

Course Title: Social Change And Development

Course Code: 20P3SOCT12

Semester: Three

Course Outcomes

C01: Describe the key concepts,facts,problems,trends,

C02: process ,hypotheses and pattern of development.

C03:Explain theories of development and society that integrates diverse approaches to sustainable social system.

C04: Recognize and explain unconstructive phase of industrialisation and capitalism

C05:Display interest in developing awareness about Alternate Development models

Environmental Sociology

Course Title: Environmental Sociology

Course Code: 20P3SOCT13

Semester: Three

Course Outcomes

C01: Describe the key concepts, facts, problems, trends,

C02: process, hypotheses and pattern.

C03: Explain theories of Environment and society, that integrates diverse approaches to environment sustainability.

C04: Recognize and explain the disaster and mitigation strategies

C05: Demonstrate interest in developing awareness and protecting our planet.

Sociology Of Technological Change And Globalization

Course Title: Sociology Of Technological Change And Globalization

Course Code: 20P3SOCT14

Semester: Three

Course Outcomes

C01: Students will be introduced to Globalization and all the concepts related to it. They will be encouraged to read more and get an understanding of international agencies.

C02: Students will be urged to understand the modern theorists who still teach in different Universities around the globe and learn their theoretical outputs. They can then relate these theories to the situations around them

C03: Students will understand how Science & Technology is now an institution by itself. They can also learn the social impact of technology on society.

C04: Students will be encouraged to comprehend how the world has shrunk due to the advancement of science & technology, trade, communication and transportation. Also how globalization has influenced marriage, family and religion.

Personality And Society

Course Title: Personality And Society

Course Code: 20P2SOCT08

Semester: Two

Course Outcomes

C01: Understand the concepts, terms and approaches in psychology

C02: Demonstrate the factors and attributes responsible for the development of human personality

C03: Identify the undercurrents of human behaviour

C04: Enable to understand the difference between individual behaviour and crowd behaviour

C05: To develop a healthy personality and to understand various dispositions

Social Demography

Course Title: Social Demography

Course Code: 20P4SOCT16

Semester: Four

Course Outcomes

C01: To provide students a basic knowledge on population realities, the dynamics of population and population transitions with due importance to its socio political implications.

C02: Explain theories of population and society, that integrates diverse approaches to population sustainability.

C03: Recognize and explain the disaster and mitigation strategies

C04: Demonstrate interest in developing awareness and population control.

Sociology Of Labour And Industry

Course Title: Sociology Of Labour And Industry

Course Code: 20P4SOCT17

Semester: Four

Course Outcomes

C01: Understand the basic terms, theories and emerging themes in Industry and work

C02: Knowing all major approaches in studying Industry and work

C03: Acquire a grasp of Symbolic Interactionism and Exchange perspectives in Sociology

C04: Understand the emerging trends in Sociological theories

Human Resource Management

Course Title: Human Resource Management

Course Code: 20P4SOCT18

Semester: Four

Course Outcomes

C01: To understand an overview on human resource management

C02: To explore the scope of manpower planning

C03: To understand various process like recruitment, selection and placement

C04: To understand various factors affecting performance appraisal

C05: Developing Communication Skills and self -management skills on a continuous and sustained basis

Sociology Of Health And Medicine

Course Title: Sociology Of Health And Medicine

Course Code: 20P4SOCT19

Semester: Four

Course Outcomes

C01: To impart the students with a broad overview of the sociology of health, illness and social well being.

C02: For familiarizing them with different theoretical perspectives in Sociology of Health

C03: To understand social inequalities involved in health care

C04: To get brief ideas on medical ethics, legal provisions and health policy of Government of India

C05: To have an idea on Health Care System and Health Policy

:

Sociology Of Kerala Society

Course Title: Sociology Of Kerala Society

Course Code: 20P4SOCT20

Semester: Four

Course Outcomes

C01: Students will be familiarized with the historical, colonial and post colonial dimensions of Kerala society. They will be introduced to the major religious & linguistic groups and also to the different traditions, beliefs & practices that existed in Kerala

C02: Students will be encouraged to develop an understanding of the structural changes experienced by Kerala society on account of various social, economic and political forces. They will learn about the famous Kerala Model of Development.

C03: Students will get an understanding of why Kerala is called a consumerist State and the trade union culture of Kerala. They will also learn how diasporic Keralites contributed to the economy of the State.

C04: Students will comprehend how migrant laborers contribute to the Kerala economy, the social distress evident among the young generation and changes happening in marriage, family and inheritance.

C05: To understand structural changes happening in Kerala and its socio-cultural importance

M.Sc. Applied Chemistry (Pharmaceutical)

Programme Specific Outcomes (PSOs)

At the end of the programme a student should be able to:

PSO1

Demonstrate an in-depth knowledge and understanding of the principles of Inorganic, Organic, Physical Theoretical and Pharmaceutical Chemistry.

PSO2

Demonstrate an awareness of the relevance of chemistry in a wider multi-disciplinary context.

PSO3

Apply their understanding in Chemistry to design solutions to unfamiliar problems in Chemistry and those involving other related disciplines.

PSO4

Use their knowledge and understanding to conceptualize appropriate models and representations.

PSO5

Design and conduct analytical, modelling and experimental investigations in Inorganic, Organic, Physical Theoretical and Pharmaceutical Chemistry.

PSO6

Identify, design and conduct appropriate experiments, interpret data obtained, draw pertinent conclusions and communicate all these effectively.

Inorganic Chemistry-I

Course Title: Inorganic Chemistry-I
Semester: One
Code: 20P1CPHT01

Course Outcomes

C01: Describe the key concepts of inorganic and organometallic chemistry including those related to synthesis, reaction chemistry, and structure and bonding.

C02: Explain stability of organometallic compounds and clusters, and their application as industrial catalysts.

C03: Recognize and explain the interaction of different metal ions with biological ligands.

C04: Demonstrate a systematic understanding of the key aspects of nuclear chemistry and their analytical applications.

Basic Organic Chemistry

Course Title: Basic Organic Chemistry
Semester: One
Code: 20P1CPHT02

Course Outcomes

C01: Explain the basic concepts of organic chemistry.

C02: Illustrate the principles of physical organic chemistry.

C03: Recognize the importance of organic photochemical reactions.

C04: Demonstrate the reactivity and stability of organic molecules based on structure, including conformation and stereochemistry.

Physical Chemistry - I

Course Title: Physical Chemistry - I
Semester: One
Code: 20P1CPHT03

Course Outcomes

C01: Application of mathematical tools to calculate thermodynamic and kinetic properties.

C02: Explain the relationship between microscopic properties of molecules with macroscopic thermodynamic observables.

C03: Explain the kinetic behaviour of gases and their transport properties.

Quantum Chemistry and Group Theory

Course Title: Quantum Chemistry and Group Theory
Semester: One
Code: 20P1CPHT04

Course Outcomes

- C01:** Explain the fundamentals of group theory.
- C02:** Apply the principles of group theory in chemical bonding.
- C03:** Understand the foundation and postulates of quantum mechanics.
- C04:** Describe the use of simple models for predictive understanding of different molecular systems and phenomena.
- C05:** Illustrate the concept of atomic orbitals by quantum mechanics.

Inorganic Chemistry-II

Course Title: Inorganic Chemistry-II
Semester: Two
Code: 20P2CPHT05

Course Outcomes

- C01:** Understand the structural and bonding aspects of co-ordination compounds.
- C02:** Explain the spectral and magnetic properties of metal complexes.
- C03:** Explain the thermodynamic and kinetic aspects of reactions of metal complexes.
- C04:** Understand the stereochemistry of co-ordination compounds.
- C05:** Describe the co-ordination chemistry of lanthanoids and actinoids

Organic Reaction Mechanism

Course Title: Organic Reaction Mechanism
Semester: Two
Code: 20P2CPHT06

Course Outcomes

C01: Describe the mechanisms of different types organic reactions.

C02: Explain the chemistry of carbanions, carbocations, carbenes, carbenoids, nitrenes and arynes.

C03: Understand the chemistry of radical reactions and its applications.

C04: Explain the basics and applications of concerted reactions

Physical Chemistry - II

Course Title: Physical Chemistry - II
Semester: Two
Code: 20P2CPHT07

Course Outcomes

C01: Analyze atomic, molecular and spin resonance spectroscopy.

C02: Define aspects of specific spectroscopic techniques, applications of molecular symmetry in spectroscopy.

C03: Understand the fundamental concepts of light-matter interaction, lasers and laser systems, detectors and other relevant aspects of instrumentation necessary for spectroscopy and imaging.

C04: Ability to understand theory and application to mass spectrometry, ultraviolet and visible spectroscopy, infrared spectroscopy, Raman, fluorescence, nuclear magnetic resonance spectroscopy.

Theoretical and Computational Chemistry

Course Title: Theoretical and Computational Chemistry
Semester: Two
Code: 20P2CPHT08

Course Outcomes

C01: Apply the principles of group theory in spectroscopy and hybridization.

C02: Explain the approximation methods in quantum mechanics.

C03: Describe the quantum mechanical explanation of chemical bonding.

C04: Explain the methods of computational quantum chemistry.

Inorganic Chemistry Practicals – I

Course Title: Inorganic Chemistry Practicals – I
Semester: Two
Code: 20P2CPHP01

Course Outcomes

C01: Illustrate the separation and identification of mixture of cations.

C02: Perform colorimetric estimations.

C03: Prepare and characterize coordination compounds.

Organic Chemistry Practicals – I

Course Title: Organic Chemistry Practicals – I
Semester: Two
Code: 20P2CPHP02

Course Outcomes

C01: Carry out different methods of separation and purification of organic compounds.

C02: Apply the methods of separation and purification to organic binary mixtures.

C03: Construct the organic structures and reaction schemes using ChemSketch.

Physical Chemistry Practicals – I

Course Title: Physical Chemistry Practicals – I
Semester: Two
Code: 20P2CPHP03

Course Outcomes

C01: Illustrate experiments related to adsorption, phase diagrams, distribution law and surface tension.

C02: Apply the methods of computational chemistry to solve different problems of chemistry.

Pharmaceutical Chemistry-I

Course Title: Pharmaceutical Chemistry-I
Semester: Three
Code: 20P3CPH09

Course Outcomes

C01: Explain the fundamental principles of pharmacology.

C02: Describe the concepts of toxicology and biotransformations.

C03: Illustrate the structure, mechanism of action and SAR studies of anti-infective agents, chemotherapeutic agents, drugs acting on CVS, Analgesics, Antipyretic & Anti-inflammatory drugs.

C04: Describe the synthetic studies of different classes of drugs.

Organic Syntheses

Course Title: Organic Syntheses
Semester: Three
Code: 20P3CPHT10

Course Outcomes

C01: Describe the applications of oxidation and reduction techniques in organic syntheses.

C02: Illustrate modern synthetic methods and applications of reagents.

C03: Explain different methods for the construction of carbocyclic and heterocyclic ring systems.

C04: Understand the principles and applications of protecting groups in chemistry.

C05: Apply retrosynthetic analysis to design the synthesis of a target molecule.

Physical Chemistry - III

Course Title: Physical Chemistry - III
Semester: Three
Code: 20P3CPHT11

Course Outcomes

- C01:** Apply the principles of chemical kinetics in different types of reactions.
- C02:** Describe the chemistry of surfaces and its applications in colloids and macromolecules.
- C03:** Explain the chemistry of crystalline solids

Spectroscopic Methods in Chemistry

Course Title: Spectroscopic Methods in Chemistry
Semester: Three
Code: 20P3CPHT12

Course Outcomes

C01: Describe the principles of UV-visible, Chiro-optical, IR, NMR and Mass spectroscopic techniques.

C02: Illustrate various spectroscopic techniques using simple problems.

C03: Elucidate the structure of an unknown organic compound using data from various spectroscopic techniques.

Biochemistry and Bacteriology

Course Title: Biochemistry and Bacteriology
Semester: Four
Code: 20P4CPHT13EL

Course Outcomes

C01: Describe the structure and functions of biomolecules, amino acids, proteins, enzymes, nucleic acids and hormones.

C02: Explain the chemical processes involved in the biological oxidation and metabolism.

C03: Illustrate the application of buffer systems in pharmaceutical chemistry.

C04: Describe the principles of microbiology and immunology

Advances in Pharmaceutical Operations

Course Title: Advances in Pharmaceutical Operations
Semester: Four
Code: 20P4CPHT14EL

Course Outcomes

- C01:** Describe the drug delivery systems and pharmaceutical dosage forms.
- C02:** Explain preformulation studies and stability testing of drugs.
- C03:** Illustrate the application of colloids and chromatography in pharmaceutical chemistry.
- C04:** Describe the principles of forensic pharmacy.
- C05:** Explain different methods of extraction and application of radiopharmaceuticals.

Drug Design and Medicinal Chemistry

Course Title: Drug Design and Medicinal Chemistry
Semester: Four
Code: 20P4CPHT15EL

Course Outcomes

C01: Explain the principles of drug design and development, QSAR, CADD and combinatorial chemistry.

C02: Illustrate the structure and mechanism of actions of antineoplastic drugs, drugs acting on ANS and drug acting on CNS.

C03: Explain the synthetic studies of different classes of drugs.

Pharmaceutical Analysis Practical

Course Title: Pharmaceutical Analysis Practical
Semester: Four
Code: 20P4CPHP04

Course Outcomes

C01: Prepare different classes of drugs.

C02: Analyse drugs using common analytical techniques.

C03: Determine pKa values of drugs

Drug Synthesis Practical

Course Title: Drug Synthesis Practical
Semester: Four
Code: 20P4CPHP05

Course Outcomes

C01: Synthesize typical organic medical compounds.

C02: Perform extraction and TLC analysis of plant extracts.

C03: Isolate natural products from their sources.

Biochemistry and Bacteriology Practical

Course Title: Biochemistry and Bacteriology Practical
Semester: Four
Code: 20P4CPHP06

Course Outcomes

- C01:** Analyse blood and urine samples.
- C02:** Estimate the amino acids by titration methods.
- C03:** Identify amino acids and peptides by PC and TLC
- C04:** Separate serum proteins by paper electrophoresis

M.Sc. Chemistry

Programme Specific Outcomes (PSOs)

At the end of the programme a student should be able to:

PSO1

Demonstrate an in-depth knowledge and understanding of the principles of Inorganic, Organic, Physical and Theoretical Chemistry.

PSO2

Demonstrate an awareness of the relevance of chemistry in a wider multi-disciplinary context.

PSO3

Apply their understanding in Chemistry to design solutions to unfamiliar problems in Chemistry and those involving other related disciplines.

PSO4

Use their knowledge and understanding to conceptualize appropriate models and representations.

PSO5

Design and conduct analytical, modelling and experimental investigations in Inorganic, Organic, Physical and Theoretical Chemistry.

PSO6

Identify, design and conduct appropriate experiments, interpret data obtained, draw pertinent conclusions and communicate all these effectively.

Inorganic Chemistry-I

Course Title: Inorganic Chemistry-I
Semester: One
Code: 20P1CHET01

Course Outcomes

C01: Describe the key concepts of inorganic and organometallic chemistry including those related to synthesis, reaction chemistry, and structure and bonding.

C02: Explain stability of organometallic compounds and clusters, and their application as industrial catalysts.

C03: Recognize and explain the interaction of different metal ions with biological ligands.

C04: Demonstrate a systematic understanding of the key aspects of nuclear chemistry and their analytical applications.

Basic Organic Chemistry

Course Title: Basic Organic Chemistry
Semester: One
Code: 20P1CHET02

Course Outcomes

C01: Explain the basic concepts of organic chemistry.

C02: Illustrate the principles of physical organic chemistry.

C03: Recognize the importance of organic photochemical reactions.

C04: Demonstrate the reactivity and stability of organic molecules based on structure, including conformation and stereochemistry.

Physical Chemistry - I

Course Title: Physical Chemistry - I
Semester: One
Code: 20P1CHET03

Course Outcomes

C01: Application of mathematical tools to calculate thermodynamic and kinetic properties.

C02: Explain the relationship between microscopic properties of molecules with macroscopic thermodynamic observables.

C03: Explain the kinetic behaviour of gases and their transport properties.

Quantum Chemistry And Group Theory

Course Title: Quantum Chemistry And Group Theory
Semester: One
Code: 20P1CHET04

Course Outcomes

- C01:** Explain the fundamentals of group theory.
- C02:** Apply the principles of group theory in chemical bonding.
- C03:** Understand the foundation and postulates of quantum mechanics.
- C04:** Describe the use of simple models for predictive understanding of different molecular systems and phenomena.
- C05:** Illustrate the concept of atomic orbitals by quantum mechanics.

Inorganic Chemistry-II

Course Title: Inorganic Chemistry-II
Semester: Two
Code: 20P2CHET05

Course Outcomes

- C01:** Understand the structural and bonding aspects of co-ordination compounds.
- C02:** Explain the spectral and magnetic properties of metal complexes.
- C03:** Explain the thermodynamic and kinetic aspects of reactions of metal complexes.
- C04:** Understand the stereochemistry of co-ordination compounds.
- C05:** Describe the co-ordination chemistry of lanthanoids and actinoids

Organic Reaction Mechanism

Course Title: Organic Reaction Mechanism
Semester: Two
Code: 20P2CHET06

Course Outcomes

C01: Describe the mechanisms of different types organic reactions.

C02: Explain the chemistry of carbanions, carbocations, carbenes, carbenoids, nitrenes and arynes.

C03: Understand the chemistry of radical reactions and its applications.

C04: Explain the basics and applications of concerted reactions

Physical Chemistry – II

Course Title: Physical Chemistry – II
Semester: Two
Code: 20P2CHET07

Course Outcomes

C01: Analyze atomic, molecular and spin resonance spectroscopy.

C02: Define aspects of specific spectroscopic techniques, applications of molecular symmetry in spectroscopy.

C03: Understand the fundamental concepts of light-matter interaction, lasers and laser systems, detectors and other relevant aspects of instrumentation necessary for spectroscopy and imaging.

C04: Ability to understand theory and application to mass spectrometry, ultraviolet and visible spectroscopy, infrared spectroscopy, Raman, fluorescence, nuclear magnetic resonance spectroscopy.

Theoretical And Computational Chemistry

Course Title: Theoretical And Computational Chemistry
Semester: Two
Code: 20P2CHET08

Course Outcomes

C01: Apply the principles of group theory in spectroscopy and hybridization.

C02: Explain the approximation methods in quantum mechanics.

C03: Describe the quantum mechanical explanation of chemical bonding.

C04: Explain the methods of computational quantum chemistry.

Inorganic Chemistry Practicals – II

Course Title: Inorganic Chemistry Practicals – II
Semester: Two
Code: 20P2CHEP01

Course Outcomes

C01: Illustrate the separation and identification of mixture of cations.

C02: Perform colorimetric estimations.

C03: Prepare and characterize coordination compounds.

Organic Chemistry Practicals – I

Course Title: Organic Chemistry Practicals – I
Semester: Two
Code: 20P2CHEP02

Course Outcomes

C01: Carry out different methods of separation and purification of organic compounds.

C02: Apply the methods of separation and purification to organic binary mixtures.

C03: Construct the organic structures and reaction schemes using ChemSketch.

Physical Chemistry Practicals – I

Course Title: Physical Chemistry Practicals – I
Semester: Two
Code: 20P2CHEP03

Course Outcomes

C01: Illustrate experiments related to adsorption, phase diagrams, distribution law and surface tension.

C02: Apply the methods of computational chemistry to solve different problems of chemistry.

Inorganic Chemistry-III

Course Title: Inorganic Chemistry-III
Semester: Three
Code: 20P3CHET09

Course Outcomes

C01: Describe the structure, reactions and phase transitions of solid state

C02: Explain the electrical, magnetic and optical properties of solids.

C03: Explain the structure and applications of inorganic chains, rings, cages and clusters, and organometallic polymers.

C04: Describe the synthesis of solids and applications of magnetonano particles.

Organic Syntheses

Course Title: Organic Syntheses
Semester: Three
Code: 20P3CHET10

Course Outcomes

C01: Describe the applications of oxidation and reduction techniques in organic syntheses.

C02: Illustrate modern synthetic methods and applications of reagents.

C03: Explain different methods for the construction of carbocyclic and heterocyclic ring systems.

C04: Understand the principles and applications of protecting groups in chemistry.

C05: Apply retrosynthetic analysis to design the synthesis of a target molecule.

Physical Chemistry - III

Course Title: Physical Chemistry - III
Semester: Three
Code: 20P3CHET11

Course Outcomes

- C01:** Apply the principles of chemical kinetics in different types of reactions.
- C02:** Describe the chemistry of surfaces and its applications in colloids and macromolecules.
- C03:** Explain the chemistry of crystalline solids

Spectroscopic Methods In Chemistry

Course Title: Spectroscopic Methods In Chemistry
Semester: Three
Code: 20P3CHET12

Course Outcomes

C01: Describe the principles of UV-visible, Chiro-optical, IR, NMR and Mass spectroscopic techniques.

C02: Illustrate various spectroscopic techniques using simple problems.

C03: Elucidate the structure of an unknown organic compound using data from various spectroscopic techniques.

Advanced Inorganic Chemistry

Course Title: Advanced Inorganic Chemistry
Semester: Four
Code: 20P4CHET13

Course Outcomes

C01: Apply the principles of group theory in co-ordination complexes.

C02: Identify the structure of an inorganic solid using IR, Raman, Mossbauer and EPR spectroscopic techniques.

C03: Explain the concepts of inorganic photochemistry.

C04: Describe the structure and properties of nanomaterials.

C05: Explain the chemistry of acids, bases, non-aqueous solvents and metal-organic frameworks.

C06: Explain the chemistry of fullerenes and metallo-supramolecular structures.

Advanced Organic Chemistry

Course Title: Advanced Organic Chemistry
Semester: Four
Code: 20P4CHET14

Course Outcomes

C01: Illustrate the principles of biosynthesis, biomimetic synthesis, green synthesis and stereoselective transformations.

C02: Explain the chemistry of advanced polymeric materials.

C03: Describe the structure and applications of natural products and biomolecules.

C04: Explain the mechanism of drug action and drug designing.

C05: Apply the methodology of research.

Advanced Physical Chemistry

Course Title: Advanced Physical Chemistry
Semester: Four
Code: 20P4CHET15

Course Outcomes

C01: Describe the physical principles of photochemistry.

C02: Explain the methods of fluorescence spectroscopy, electron diffraction and atomic spectroscopic techniques.

C03: Describe the principles of electrochemistry and applications of electromotive force.

C04: Apply various electro-analytical techniques in qualitative and quantitative analysis.

C05: Explain the principles of irreversible thermodynamics and bioenergetics.

Inorganic Chemistry Practicals – II

Course Title: Inorganic Chemistry Practicals – II
Semester: Four
Code: 20P4CHEP04

Course Outcomes

C01: Estimate binary mixtures of metallic ions in solution.

C02: Synthesize and characterize nanomaterials.

Organic Chemistry Practicals – II

Course Title: Organic Chemistry Practicals – II
Semester: Four
Code: 20P4CHEP05

Course Outcomes

- C01:** Carry out multi-step organic synthesis
- C02:** Purify the synthesized organic compounds
- C03:** Synthesize organic compounds using green alternative methods.
- C04:** Record and interpret IR spectrum of a compound
- C05:** Explain the method of molecular docking studies.

Physical Chemistry Practicals – II

Course Title: Physical Chemistry Practicals – II
Semester: Four
Code: 20P4CHEP06

Course Outcomes

C01: Carry out experiments related to chemical kinetics, viscometry, Polarimetry, Refractometry, Conductometry and Potentiometry.

M.Sc Zoology

Programme Specific Outcomes (PSOs)

At the end of the programme a student should be able to:

PSO1

Understand the advanced concepts of life at different levels of biological organization, from gene to genome, cell, tissue, organ, organ-systems and whole organisms; and drawing upon this knowledge, understand physiological adaptations, development, reproduction, behaviour and evolution of different forms of life.

PSO2

Understand the ecological interconnectedness of life on Earth; to relate the physical features of the environment to the structure of populations, communities and ecosystems; and analyse the various environmental issues for providing scientifically sound and socially acceptable solutions.

PSO3

Demonstrate proficiency in experimental techniques and methods of analysis appropriate for different branches of biology with scientific temperament and problem-solving attitude.

PSO4

Develop aptitude and skills in research in different branches of Zoology and in careers related to teaching in Zoology; as well as in having innovative ideas and necessary training to initiate unique start-ups and entrepreneurship in the realm of life sciences.

Practical 1:
Biosystematics And Animal Diversity,
Evolutionary Biology And Ethology, Biophysics,
Instrumentation And Biological Techniques,
Biostatistics, Computer Application And
Research Methodology

Course Title: Practical 1: Biosystematics And Animal
Diversity, Evolutionary Biology And Ethology,
Biophysics, Instrumentation And Biological
Techniques, Biostatistics, Computer
Application And Research Methodology

Course Code: 20P1ZOOP01

Semester: 1

Course Outcomes

C01: Analyse museum specimens, larval forms and to prepare dichotomous keys using software or online tools and to prepare cladogram.

C02: Analyse and study the behaviour of two organisms to understand ethology.

C03: Application of knowledge of camera Lucida, micrometry, TLC, microscopes and gel electrophoresis

C04: Analyse and understand problems of biostatistics

C05: Analyse and understand the basic editing tools in software

Biosystematics And Animal Diversity

Course Title: Biosystematics And Animal Diversity

Course Code: 20P1ZOOT01

Semester: 1

Course Outcomes

C01: Understand the basic concepts of systematics and taxonomy

C02: Understand the procedures in taxonomy and ethics in publications

C03: Appreciates the contributions made by scientists and organisations towards conservation of animal diversity

C04: Understand the present status of Indian fauna and the role played by ZSI for conservation of Indian fauna

C05: Appreciates the diversity of Palaeofauna

C06: Understands the animal architecture

C07: Differentiates the invertebrate fauna by their characteristics

C08: Differentiates the vertebrate animals by their characteristics

Evolutionary Biology And Ethology

Course Title: Evolutionary Biology And Ethology

Course Code: 20P1ZOOT02

Semester: 1

Course Outcomes

C01: Understand the concepts of organic evolution

C02: Understand and analyse the evidences of biological evolution

C03: Understand the process of animal evolution through studying the population genetics and ontogeny

C04: Understand the theories regarding human evolution and analyse the molecular evidences of our phylogeny

C05: Understand the significance of studying Ethology

C06: Understand the causal factors of behaviour and different types of behaviour

C07: Understand the Neurophysiological aspects of behaviour

C08: Understand the processes underlying the expression of behaviour patterns by animals

Biophysics, Instrumentation And Biological Techniques

Course Title: Biophysics, Instrumentation And Biological Techniques

Course Code: 20P1ZOOT03

Semester: 1

Course Outcomes

C01: Understand the biophysical principles that govern the functioning of life processes.

C02: Understand the interactions of electromagnetic radiations with matter.

C03: Understand the techniques for studying live cells and preserved cells under the microscope.

C04: Understand the principles of chromatographic and electrophoretic separation and characterisation of biomolecules.

C05: Understand the technique of centrifugation and its multiple uses in studying cells and biomolecules.

C06: Understand the physics behind radioactivity measurement for medical as well as environmental dosimetry.

C07: Understand the basic principles of bionanotechnology and its potential in biomedical applications

C08: Understand the principles of colorimetric, spectroscopic, and biochemical assay techniques for monitoring physico-chemical perturbations of life processes.

Biostatistics, Computer Application And Research Methodology

Course Title: Biostatistics, Computer Application And Research Methodology

Course Code: 20P1ZOOT04

Semester: 1

Course Outcomes

C01: Understand basics of statistics and measures of central tendency and dispersion

C02: Understand correlation and regression analysis

C03: Understand probability, hypothesis testing and vital statistics

C04: Understand the basics of computer application and software

C05: Understand the application of SPSS

C06: Understand the basic concepts of research

C07: Understand research formulation and design

C08: Understand information, documentation and communication

Ecology, Genetics And Bioinformatics, **Biochemistry, Developmental Biology**

Course Title: Ecology, Genetics And Bioinformatics,
Biochemistry, Developmental Biology

Course Code: 20P2ZOOP02

Semester: 2

Course Outcomes

C01: Analyse and study different types ecosystem, food web, food chain, bio geo chemical cycles, qualitative and quantitative estimation of planktons.

C02: Analyse and study conductivity, ph. ,Applications of instruments, field study report

C03:Analyse and study mutants, sexing and culture of Drosophila, phylogenetic tree, gene prediction.

C04:Analyse and study quantitative and qualitative estimations in Biochemistry

C05:Analyse and study basic techniques in developmental biology and studies on embryos.

Ecology: Principles And Practices

Course Title: Ecology: Principles And Practices

Course Code: 20P2ZOOT05

Semester: 2

Course Outcomes

C01: Understand the fundamentals of ecology and environment – Physical environment, concept of homeostasis

C02:

C03: Understand the cybernetic nature of ecosystem - stability through feedback control and through redundancy of components; resistance and resilience stability, Gaia hypothesis.

C04: Understand structure and function of Ecosystem – Ecological energetics, Animals and nutrient acquisition Biomass and productivity measurement, Biogeochemical cycles

C05: Understand the concepts of population ecology – Population group properties, growth forms, life history strategies, population structure,

C06: Understand the concepts of population interactions and the concept of metapopulation

C07: Understand the concepts of community - community structure and attributes, ecotone and edge effect. Development and evolution of the ecosystem, guild

C08:

C09: Differentiate the different kinds of natural resources: Soil, mineral resources, forest resources, aquatic resources, depletion of resources and impacts on quality of life.

Genetics And Bio Informatics

Course Title: Genetics And Bio Informatics

Course Code: 20P2ZOOT06

Semester: 2

Course Outcomes

C01: Understand the principles of Genetic Transmission

C02: Understand the Molecular Organization of Chromosomes and Fine structure of Genes

C03: Understand Genetic Linkage, Recombination and Chromosome mapping

C04: Understand DNA replication and Gene Mutation

C05: Understand the concepts of Human Genetics, Extra-chromosomal Inheritance, Epigenetics, Quantitative and Population Genetics

C06: Understand various Bioinformatics databases and their functional areas

C07: Understand the idea of sequence similarity search and sequence analysis methodology

C08: Understand the basic idea of Genomics, Proteomics, systems biology and metabolomics

Developmental Biology

Course Title: Developmental Biology

Course Code: 20P2ZOOT07

Semester: 2

Course Outcomes

C01: Understand gametogenesis and the process of formation of embryos, and molecular mechanisms that regulate embryo formation

C02: Understand the process of fertilization and molecular mechanisms working for keeping the identity of species

C03: Understand the critical nature of axis and structure formation during early embryonic life

C04: Remember the factors and molecules that have critical roles in normal formation of embryos

C05: Understand the process of post embryonic development and regeneration

C06: Understand the different perturbations during embryo formation

C07: Understand the applied aspects of embryogenesis for treatment of infertility in human beings

C08: Understand the potential of stem cells and scope of therapeutic cloning

Biochemistry

Course Title: Biochemistry

Course Code: 20P2ZOOT08

Semester: 2

Course Outcomes

C01: Understand structure and classification of different biomolecules – protein, lipid, carbohydrate and nucleic acid.

C02: Understand the metabolic pathways of different biomolecules

C03: Understand the disorders of the biomolecules

C04: Understand the different enzymes and its kinetics

C05: Understand the biological roles of biomolecules

C06: Understand synthesis and derivatives of biomolecules

Practical - 3: Cell And Molecular Biology,

Microbiology And Biotechnology

Course Title: Practical - 3: Cell And Molecular Biology,
Microbiology And Biotechnology

Course Code: 20P3ZOOP03

Semester: 3

Course Outcomes

C01: Analyse different meiotic stages in Grass hopper testis

C02: Analyse the salivary gland chromosomes in *Drosophila* / *Chironomus* larva.

C03: Determine the mitotic index in the squash preparation of onion root tip

C04: Analyse the effect of drugs on cell division

C05: Analyse the tissue sample for carbohydrates, Protein , lipids and DNA using histochemical staining

C06: Analyse the cell fractions, genomic and plasmid DNA using various techniques

C07: Analyse the role of different types of bacteriological media and techniques used

C08: Analyse the environmental and food sample for microbial load and faecal contamination

Practical - 4: Animal Physiology And Immunology

Course Title: Practical - 4: Animal Physiology And Immunology

Course Code: 20P3ZOOP04

Semester: 3

Course Outcomes

C01: Analyse rate of salivary amylase activity on starch; effect of different pH on salivary amylase activity ; influence of temperature on salivary amylase activity – Calculation of Q 10

C02:

C03:Analyse the effect of drugs on the heartbeat of cockroach & oxygen consumption in fish (normal and stressed).

C04:Demonstrate the working principle and applications of kymograph; analyse muscle physiology by virtual Practicals.

C05:Analyse differential count of Human WBC; haematocrit and ESR of Human blood

C06:

C07: Analyse feeding activity of paramecium

C08:Analyse effect of different concentration of NaCl solution on the diameter of RBCs & determination of the concentration

C09:Separation of lymphocytes from whole blood; Separation of T and B lymphocytes; Blood Typing in Man.

Animal Physiology

Course Title: Animal Physiology

Course Code: 20P3ZOOT09

Semester: 3

Course Outcomes

C01: Understand and compare the functioning of organ systems across the animal world

C02: Understand the mechanism of regulating food intake in human beings as well as problems related with overeating and resultant obesity

C03: Understand the different types of hearts, and functioning of respiratory and circulatory systems of human beings together with their diseases

C04: Understand the osmoregulatory and excretory systems of our body and the factors regulating these processes

C05: Understand the functioning of neurons, nerves and muscles

C06: Understand the sense organs and the transduction processes which convert changes in physical/chemical environment into nerve signals

C07: Understand the mechanism of thermoregulation in human body

C08: Understand the chemical coordination system of animal body and reproductive physiology in relation to endocrinology of mammals

Cell And Molecular Biology

Course Title: Cell And Molecular Biology

Course Code: 20P3ZOOT10

Semester: 3

Course Outcomes

C01: Understand the structure of a living cell and its associations at molecular level

C02: Appreciates the role played by various cell organelles and cytoskeleton

C03: Understands and differentiates the role played by cell signalling pathways

C04: Understands the process involved in cell cycle and molecules involved

C05: Differentiates a cancerous cell from non-cancerous one

C06: Understands the concept of gene expression

C07: Appreciates the role played by various molecules at different levels of gene regulation

Microbiology And Biotechnology

Course Title: Microbiology And Biotechnology

Course Code: 20P3ZOOT11

Semester: 3

Course Outcomes

C01: Understand the basic concepts of microbiology – Methods, classification, functional anatomy of prokaryotic cells

C02: Understand the advanced concepts of microbial metabolism, nutrition, growth, interactions and ecology

C03: Understand the advanced concepts of virology

C04: Understand the concepts of applied microbiology – Bacteriology of air, water and soil; food microbiology, medical microbiology, bioweapons and bioterrorism

C05: Understand the basic definitions and scope of biotechnology, intellectual property rights, biosafety and bioethics

C06: Differentiate the various tools and techniques in Recombinant DNA Technology

C07: Differentiate the various tools and techniques in Animal Biotechnology

C08: Understand the advanced concepts of the applications of biotechnology in healthcare, industry, agriculture and environmental biotechnology

Immunology

Course Title: Immunology

Course Code: 20P3ZOOT12

Semester: 3

Course Outcomes

C01: Understand the overview of immune system

C02: Understand antigens and antibodies and their interactions

C03: Understand the complement system

C04: Understand the Immune effector mechanisms

C05: Understand about allergy and hypersensitivity

C06: Understand about the Major Histocompatibility Complex (MHC)

C07: Understand the mechanism of immune reactions behind health problems and diseases

C08: Understand the basics of immunological techniques

Environmental Science Practical – 1

Course Title: Environmental Science Practical – 1

Course Code: 20P4ZOOP05

Semester: 4

Course Outcomes

C01: Determine the size of soil particles and group them into different types

C02: Determine the moisture content and pH of the soil samples

C03: Determine pH of the soil samples

C04: Analyse the water samples for its Chloride, Calcium, Magnesium, Potassium and Phosphorous content

C05: Determine the Calcium Carbonate content in the Egg shell and compare it with the standard

C06: Analyse water for its primary productivity

C07: Analyse the trophic levels from gut analysis (Fish or insect)

C08: Analyse diversity indices using Primer software

Environmental Science Practical - 2

Course Title: Environmental Science Practical - 2

Course Code: 20P4ZOOP06

Semester: 4

Course Outcomes

C01: Analyse air quality

C02: Analyse pollutants in ambient and polluted air

C03: Determine pH, Electrical conductivity, Alkalinity, Salinity, Hardness, Nitrate, Phosphate and Silica in water

C04: Determine total dissolved salts (TDS) in water

C05: Analyse water for toxicity

C06: Determine LC50

C07: Differentiate histopathological changes in animal tissues

C08: Perform field study

Environmental Science: Concepts And Approaches

Course Title: Environmental Science: Concepts And Approaches

Course Code: 20P4ZOOT13

Semester: 4

Course Outcomes

C01: Understand the concepts of physical environment – Lithosphere, atmosphere and hydrosphere

C02: Understand the fundamental and advanced concepts of weather and climate

C03: Understand the climate of India

C04: Understand the concepts of Landscape ecology

C05: Understand the concepts of Biodiversity and Conservation

C06: Understands the major environmental/conservation laws and rules and biogeography of India

C07: Understand the concepts of biological invasions

Environmental Pollution And Toxicology

Course Title: Environmental Pollution And Toxicology

Course Code: 20P4ZOOT14

Semester: 4

Course Outcomes

C01: Understand the concepts of pollution

C02: Understand air and water pollution

C03: Understand the sources and the factors affected by soil pollution

C04: Understand the management of solid waste, the various rules in place regarding hazardous waste, biomedical and plastic waste

C05: Understand the concepts of noise, thermal and oil pollution

C06: Understand the concepts of Radiation pollution

C07: Understand the definition, doses and toxic chemicals in the environment

C08: Understand occupational toxicology, toxicity testing and biomonitoring of toxic chemicals

Environmental Management And Development

Course Title: Environmental Management And
Development

Course Code: 20P4ZOOT15

Semester: 4

Course Outcomes

C01: Understand the principles of environmental management, modelling and auditing

C02: Understand the fundamental and advanced concepts of environmental management concepts

C03: Understand environmental planning, Eco remediation and restoration

C04: Understand the concepts and objectives of EIA and its processes like Baseline data collection, Impact assessment, Impact prediction, EMP

C05: Understand the concepts EIA documentation, types of impact assessment, SEA, CIA, SIA

C06: Understand the concepts and principles of remote sensing and GIS and their applications to environmental studies

C07: Understand Environment and Development, land use pattern, participatory environmental management strategies

C08: Understand the concepts of sustainable development

M.Sc Physics

Programme Specific Outcomes (PSOs)

At the end of the programme a student should be able to:

PSO1

Develop the skills of critical analysis and problem-solving required in the application of principles of Physics.

PSO2

Acquire a working knowledge of experimental/computational techniques and instrumentation required to work independently in research or industrial environments.

PSO3

Demonstrate a strong capability in organizing and presenting acquired knowledge both in oral and written platforms.

PSO4

Compete for current employment opportunities successfully.

Mathematical Methods In Mathematical Methods **In Physics – I**

	Mathematical Methods In Mathematical
Course Title:	Methods In Physics – I
Course Code:	20P1PHYT01
Semester:	One

Course Outcomes

C01: Understand the basic theory of Vector and tensor analysis

C02: Understand the Functions of complex variables, Elements of distribution theory and Fourier Series Successfully

C03: Analyze and expand functions in Taylor's Series, Fourier Series

Classical Mechanics

Course Title: Classical Mechanics
Course Code: 20P1PHYT02
Semester: One

Course Outcomes

C01: understand the fundamental concepts of the Lagrangian and the Hamiltonian methods and will be able to apply them to various problems

C02: understand the physics of small oscillations and the concepts of canonical transformations and Poisson brackets

C03: understand the basic ideas of central forces and rigid body dynamics

C04: understand the Hamilton-Jacobi method and the concept of action-angle variables

Electrodynamics

Course Title: Electrodynamics
Course Code: 20P1PHYT03
Semester: One

Course Outcomes

C01: To understand the concepts of electrodynamics and Maxwell equations

C02: Apply Maxwell's Equations in Various situations

Electronics

Course Title: Electronics
Course Code: 20P1PHYT04
Semester: One

Course Outcomes

C01: Understand the theoretical understanding of OP-amps

C02: Apply the circuit for various practical applications

General Physics Practicals

Course Title: General Physics Practicals
Course Code: 20P1PHYP01
Semester: One

Course Outcomes

Mathematical Methods In Physics – II

Course Title: Mathematical Methods In Physics – II
Course Code: 20P2PHYT05
Semester: Two

Course Outcomes

C01: Understand the concepts of Laplace and Fourier transforms.

C02: Apply Fourier series to solutions of partial differential equations.

C03: Apply methods of functions of complex variables for calculations of integrals

Quantum Mechanics-I

Course Title: Quantum Mechanics-I
Course Code: 20P2PHYT06
Semester: Two

Course Outcomes

C01: understand the fundamental concepts of the Dirac formalism

C02: understand how quantum systems evolve in time;

C03: understand the basics of the quantum theory of angular momentum.

Condensed Matter Physics

Course Title: Condensed Matter Physics
Course Code: 20P2PHYT07
Semester: Two

Course Outcomes

C01: Apply the concept of X-ray diffraction to interpret crystalline structure.

C02: Compare different solids using band theory.

C03: Distinguish magnetic materials

Statistical Mechanics

Course Title: Statistical Mechanics
Course Code: 20P2PHYT08:
Semester: Two

Course Outcomes

C01: Understand the concepts of probability.

C02: Apply to the problems related to classical mechanics & thermodynamics using statistical mechanics

Electronics Practical

Course Title: Electronics Practical
Course Code: 20P2PHYP02
Semester: Two

Course Outcomes

C01: To understand the concepts in electronics associated with Op-amps and their circuits, in a comprehensive manner.

C02: Apply the basic ideas of electronics so that students can achieve skills in developing sophisticated modern electronic equipments.

Quantum Mechanics II

Course Title: Quantum Mechanics II
Course Code: 20P3PHYT09
Semester: Three

Course Outcomes

C01: understand the different stationary state approximation methods and be able to apply them to various quantum systems

C02: understand the basics of time-dependent perturbation theory and its application to semi-classical theory of atom-radiation interaction

C03: understand the theory of identical particles and its application to helium

C04: understand the idea of Born approximation and the method of partial waves and the basic concepts of relativistic quantum mechanics

Computational Physics

Course Title: Computational Physics
Course Code: 20P3PHYT10
Semester: Three

Course Outcomes

C01: To understand the basic idea about the techniques used in physics

C02: Apply to problems with the help of computers when they cannot be solved analytically with pencil and paper since the underlying physical system is very complex

C03: Help students to evaluate and develop their own Algorithms of every method described in the syllabus

Microelectronics And Semiconductor Devices

Course Title: Microelectronics And Semiconductor Devices
Course Code: 20P3PHYT11
Semester: Three

Course Outcomes

C01: Understand the architecture and instruction set of basic microprocessors

C02: Apply the knowledge of semiconductor fabrication processes to work in industry in the area of semiconductor devices

Digital Signal Processing

Course Title: Digital Signal Processing
Course Code: 20P3PHYT12
Semester: Three

Course Outcomes

C01: To understand the discrete time systems and to learn about FFT algorithms

C02: To understand the design techniques for FIR and IIR digital filters

C03: Apply techniques such as FFT for industry/research related problems

Computational Physics Practicals

Course Title: Computational Physics Practicals
Course Code: 20P3PHYP03
Semester: Three

Course Outcomes

C01: Apply the basic concepts in computational physics so that students can solve complex problems in scientific research.

C02: Evaluate many complex problems in Computational Physics using various methods.

Atomic And Molecular Physics

Course Title: Atomic And Molecular Physics
Course Code: 20P4PHYT13
Semester: Four

Course Outcomes

C01: To understand atomic structure and spectra of typical one- electron and two-electron systems

C02: To understand the theory of microwave and infra-red spectroscopies as well as the electronic spectroscopy of molecules

C03: To understand the basics of Raman spectroscopy and the nonlinear Raman effects

C04: To understand the spin resonance spectroscopies such as NMR and ESR.

Nuclear And Particle Physics

Course Title: Nuclear And Particle Physics
Course Code: 20P4PHYT14
Semester: Four

Course Outcomes

- C01:** Understand the basic properties of the nucleus and the nuclear forces.
- C02:** Understand Major models of the nucleus and the theory behind the nuclear decay process
- C03:** Understand the physics of nuclear reactions
- C04:** Understand the interaction between elementary particles and the conservation

Communication Systems

Course Title: Communication Systems
Course Code: 20P4PHYT15
Semester: Four

Course Outcomes

C01: To understand the basic concepts of different communication systems.

C02: To understand the basic principles underlying radar and their applications

Advanced Electronics Practicals

Course Title: Advanced Electronics Practicals
Course Code: 20P4PHYP04
Semester: Four

Course Outcomes

C01: Understand the programming of Microprocessors and Micro Controllers.

C02: Apply the basic concepts of Physics in Communication electronics, Optoelectronics and Instrumentation electronics.

