

**St. Joseph's College (Autonomous)
Tiruchirappalli-2**

AQAR 2018-2019

Programme Outcomes,

Programme Specific Out comes

Course out Comes

M. Phil Programmes

M. Phil. BOTANY

Programme Outcomes (POs)

1. Scholars are to be adopted with a new paradigm of self-learning in the form of review of earlier knowledge acquired.
2. Scholars are brought to light from the previous investigation completed to the newer
3. thrusts of knowledge and implementation in research.
4. Scholars are trained to design, implement and evaluate secured information (hard and soft) systems with assured quality and efficiency.
5. Scholars are to be oriented towards becoming globally competent.

Programme Specific Outcomes (PSOs)

1. Post Graduates will acquire basic knowledge on statistics and learn its application in biological studies.
2. Post Graduates will acquire knowledge on the production of GMOs which play a significant role in field of agriculture and medicine.
3. Post Graduates will learn the principle and methodology of thesis writing and research publications.
4. Post Graduates will acquire knowledge on bioinformatics and nanotechnology.
5. Post Graduates will learn the popular tools in bioinformatics for sequence analysis and molecular visualization.

Course Outcomes (COs)

18MBO10 PROFESSIONAL SKILLS FOR TEACHING-LEARNING

Course Outcomes

1. To empower scholars with soft skills.
2. To introduce the teaching and dynamics of teaching – learning
3. To facilitate e- learning/ e-teaching with the ICT tools
4. To acquire practical skills (in subject) aiming at gaining confidence to handle practical classes.
5. To develop teaching skills and gain confidence in teaching.
6. To acquire knowledge on the preparation of teaching aids

18MBO102 RESEARCH METHODOLOGY

Course Outcomes

1. To initiate the students into research activities.
2. To handle various instruments, principles and applications
3. To acquire knowledge on different types of microscope
4. To learn the principle and methodology of chromatography

5. To learn the principle and methodology of tracer technique
6. To acquire knowledge on statistics and its application in research.

18MBO103

**BIOTECHNOLOGY
(Open Online Course)**

Course Outcomes

1. To study the techniques used in Genetic Engineering
2. To explore the possible applications and future potentiality of Biotechnology.
3. To understand cloning strategies
4. To learn the techniques in tissue culture
5. To acquire knowledge in gene transfer methodology
6. To develop a protocol for plant antibodies production

18MBO104

A SOIL MICROBIOLOGY

Course Outcomes:

1. To learn the diversity of microbes in soils
2. To understand the various biochemical transformation occur in soil
3. To understand the factors affecting decomposition of organic matter
4. To acquire knowledge on Bio geo chemical cycling
5. To understand the mechanism of phosphate solubilisation by microbes
6. To get knowledge on soil as a habitat for microbes

18MBT104B

MOLECULAR SYSTEMATICS

Course Outcomes

1. To get a new outlook on plant systematics
2. To understand the structure of chloroplast DNA
3. To acquire knowledge on plant genome mapping
4. To acquire knowledge on Principles of Taxometrics
5. To learn the phylogenetic methods in systematics
6. To acquire knowledge on chemosystematics

18MBT104C

ADVANCED BRYOLOGY

Course Outcomes

1. To acquire knowledge and characteristics to identify the Bryoflora.
2. To be familiar with the ecology and distribution pattern of bryophytes in India and other regions of the world.
3. To inculcate the techniques of antimicrobial, photochemical and nano synthesis in Bryoflora.
4. To learn the Evolutionary Trends in gametophyte and Sporophyte diversity

5. To acquire knowledge on Antimicrobial studies of bryophytes
6. To study the nanoparticles and Tissue culture techniques in bryophytes

18MBT104D PLANT PEST CONTROL STRATEGIES

Course Outcomes

1. To understand the nature of pest damage and their control.
2. To understand the interactions between the insects and plants.
3. To understand the Allelochemical interaction among plants
4. To study the influence allelochemical on the host/pest selection
5. To understand the methodology for the production of pest resistant plants
6. To understand the role of plant disease control

18MBT104E MYCORRHIZAL SYMBIOSIS

Course Outcomes

1. To study the diversity of mycorrhiza and their associations
2. To learn the types of host - mycorrhizal association
3. To study the structural diversity of mycorrhizae
4. To acquire knowledge on Orchid mycorrhizae
5. To understand the functions of mycorrhizae
6. To understand the role of VAM in agriculture and horticulture

18MBT104F ANGIOSPERMS TAXONOMY

Course Outcomes

1. To study the classical taxonomy with reference to different parameters.
2. To understand the relevance of techniques in plant systematics.
3. To study the comprehensive view of various approaches to plant classification
4. To study the various evidences in taxonomy
5. To study the application of PCR, RFLP, RAPD in plant systematics
6. To understand secondary metabolites as sources of taxonomic evidence

M. Phil. BIOTECHNOLOGY

Programme outcomes (POs)

1. Scholars are to be adopted with a new paradigm of self-learning in the form of review of earlier knowledge acquired.
2. Scholars are brought to light from the previous investigation completed to the newer thrusts of knowledge and implementation in research.
3. Scholars are trained to design, implement and evaluate secured information (hard and soft) systems with assured quality and efficiency.
4. Scholars are to be oriented towards becoming globally competent.

Programme Specific Outcomes (PSOs)

1. Scholars will produce as Biotechnology professionals with leadership quality in technology, creativity, innovation and entrepreneurship.
2. Scholars are provided with state of the art outcome-based teaching/ learning practices
3. Scholars will be developed as a research-based education model in Biotechnology
4. Scholars will have an ability to demonstrate an advanced technical knowledge of biotechnology.
5. Scholars will have awareness of modern bioanalytical techniques and their limitations.
6. Scholars will be equipped to undertake a research project which requires an understanding of techniques and published literature, originality in the application of knowledge, and some degree of self-direction.
7. Scholars will be provided with advanced theoretical and practical training in Biotechnology with a particular specialization to produce high quality professionals.
8. Scholars will be trained to communicate by writing formal reports and by giving oral presentations.

18MBT101 PROFESSIONAL SKILLS FOR TEACHING-LEARNING

Course Outcomes

1. To empower scholars with soft skills
2. To introduce the techniques and dynamics of teaching
3. To facilitate e-learning/e-teaching with the ICT tools
4. To know the material resources for classroom teaching
5. To introduce soft skill for class room teaching
6. To enhance the scholars with practical skills.

18MBT102 RESEARCH METHODOLOGY

Course Outcomes

1. To develop understanding of the basic framework of research process.
2. To develop an understanding of various research designs and techniques.
3. To identify various sources of information for literature review and data collection.
4. To develop an understanding of the ethical dimensions of conducting applied research.

5. Appreciate the components of scholarly writing and evaluate its quality.
6. Understand the statistical concepts and applying them in data collection, analysis and interpretation

18MBT103

ADVANCES IN BIOTECHNOLOGY (Open Online Course)

Course Outcomes

1. To provide education that leads to comprehensive understanding of the principles and practices of biotechnology.
2. To empower students with the ability to think and solve problems in the field of biotechnology.
3. To ensure students are able to effectively communicate with biotech and other interdisciplinary professionals.
4. To produce responsible biotechnologists that can work within the interdisciplinary framework of biotechnology and related fields.
5. To ensure students to gain an insight into the concepts and techniques of Plant, Animal & Microbial biotechnology and its wide industrial & medicinal applications.
6. To ensure students to understand and follow the regulatory framework important for the product safety and benefit for the society.

18MBT104A

INTELLECTUAL PROPERTY RIGHTS

Course Outcomes

1. To understand the basics of the four primary forms of intellectual property rights.
2. Able to compare and contrast the different forms of intellectual property protection in terms of their key differences and similarities.
3. Students will be able to assess and critique some basic theoretical justifications for each form of intellectual property protection.
4. To understand the trade and its related protection.
5. Students will be able to analyze the effects of intellectual property rights related to international level.
6. To analyze and compare International trade and copy right

18MBT104B

FOOD BIOTECHNOLOGY

Course Outcomes

1. To understand the positive role and benefits of microorganisms and enzymes in food production, processing, and preservation.
2. To understand basic biological and chemical processes of living cells, enzymes, and microbial nutrition in relation to fermentation processes.
3. To know clearly about the food microbiology and food borne diseases.
4. To critique the ethical concerns associated with modern biotechnology processes.

5. To appraise the beneficial effects of microorganisms on foods with regards to nutritional and functional properties.
6. To understand the strategies of food industrial biotechnological industries.

18MBT104C

MICROBIAL BIOTECHNOLOGY

Course Outcomes

1. It covers basic principles of fermentation and technologies of fermented food products.
2. The course covers the microbial growth kinetics, fermentation types, selection of microorganisms used in industry and production of different types of fermented food products.
3. The processes include traditional fermentation procedures and also those involving organisms modified by recombinant DNA technology.
4. To study the avenues of exploiting microbes.
5. To study the structure and types of fermentor.
6. To understand Bioprocess control mechanisms

18MBT205

DISSERTATION

Course Outcomes

1. To prepare a project proposal (to undertake a project)
2. To organize and conduct research (advanced project) in a more appropriate manner
3. To write a research report and thesis

M. Phil. CHEMISTRY

Programme Outcomes (POs)

1. Scholars are to be adopted with a new paradigm of self-learning in the form of review of earlier knowledge acquired.
2. Scholars are brought to light from the previous investigation completed to the newer thrusts of knowledge and implementation in research.
3. Scholars are trained to design, implement and evaluate secured information (hard and soft) systems with assured quality and efficiency.
4. Scholars are to be oriented towards becoming globally competent.

Programme Specific Outcomes (PSOs)

1. Scholars learn the techniques of teaching and research in chemistry.
2. Scholars explore and expedite the recent avenues in chemistry research
3. Scholars experience the synthetic strategies and analytical instrumentation skills by doing active research.
4. Scholars become globally competent to publish their research articles.

18MCH101 PROFESSIONAL SKILLS FOR TEACHING-LEARNING

Course Outcomes

1. To empower scholars with soft skills.
2. To introduce the teaching and dynamics of teaching-learning
3. To facilitate e- learning / e-teaching with the ICT tools
4. To acquire practical skills (in subject) aiming at gaining confidence to handle practical classes.
5. To develop teaching skills and gain confidence in teaching.
6. To acquire knowledge on the preparation of teaching aids

18MCH102 RESEARCH METHODOLOGY

Course Outcomes

1. To know the information about research journals for publication and writing the thesis
2. To introduce the students to C-language and enable him to solve simple programs in C
3. To understand the methods to minimize errors and correlation analysis
4. To learn functional group inter conversion and stereochemical aspect
5. To apply the retrosynthetic analysis approach to synthesis new target molecules
6. To know the difference between separation and purification

18MCH103**ADVANCED TOPICS IN CHEMISTRY****(Open Online Course)****Course Outcomes**

1. The applications of UV-Visible, IR spectroscopy and Mossbauer spectroscopy in the study of coordination compounds are learned
2. Students learn the nuclear magnetic resonance techniques
3. Students understand the basic concepts of ultrasonic's techniques
4. Students learn microwave assisted reactions and chemistry of macrocyclic complexes.
5. Students understand the fundamentals of cheminformatics
6. Students understand the concepts of drug designing

18MCH104A**ADVANCED STUDIES OF MACROCYCLIC COMPLEXES****Course Outcomes**

1. To study the methods and characterization of macrocyclic complexes.
2. To know about the theories of coordination chemistry
3. To prepare and characterize different Macrocyclic ligands and their metal complexes.
4. To study the application of spectral techniques in studying coordination complexes
5. To know about the application of coordination complexes.

18MCH104B**SYNTHESIS AND CHARACTERIZATION COORDINATION COMPLEXES****Course Outcomes**

1. To study the methods of preparing different coordination complexes
2. To characterize coordination complexes based on spectral and instrumental techniques
3. To know about the theories of coordination chemistry
4. To study the application of spectral techniques in studying coordination complexes
5. To know about the application of coordination complexes.

18MCH104C**CORROSION INHIBITION ON METALS****Course Outcomes**

1. To understand the concept and types of corrosion
2. To understand the factors influencing corrosion
3. To study how to control corrosion
4. To know the theories of inhibiting corrosion

5. To use different types of inhibitors in preventing corrosion

18MCH104D

KINETICS AND CATALYSIS

Course Outcomes

1. To study rate of a reaction and influence of various factors on rate of a reaction
2. To understand types of kinetic reactions and their theories
3. To study and apply different types of kinetic reactions
4. To understand the concept and applications of surface reactions.

18MCH104E

NATURAL PRODUCTS CHEMISTRY

Course Outcomes

1. To understand how plants are classified and techniques of extraction process
2. To apply the instrumental concepts in separating plant extracts
3. To analyze plant extracts and characterizing them using UV, IR, and NMR spectral techniques.
4. To study the different separation and characterization methods for phenolic and terpenoid compounds
5. To understand the characterisation of nitrogen compounds and carbohydrates etc.

18MCH104F

ORGANOMETALLIC COMPOUNDS

Course Outcomes

1. To study about organo metallic compounds
2. To understand the reactions and mechanisms involving Organometallic reagents
3. To study the theory , instrumentation and applications of UV, IR and NMR spectra
4. To study the applications of different C-NMR spectra and thermal analysis
5. To study the applications of different spectral techniques in characterizing different organic compounds

18MCH104G

MODERN TRENDS IN COORDINATION CHEMISTRY

Course Outcomes

1. To study the methods of preparation of coordination complexes
2. To understand the concept of characterization of coordination complexes
3. To know about the theories of coordination chemistry
4. To study the application of spectral techniques in studying coordination complexes
5. To know about the application of coordination complexes.

18MCH104H RECENT ADVANCES IN COORDINATION CHEMISTRY

Course Outcomes

1. To Synthesis Novel Coordination Compounds
2. To study the Theories of Coordination Compounds and their Mechanisms
3. To study the Determination of Electronic Structure and Geometry of Coordination Compounds
4. To study the Magnetic Behaviour and Electroanalytical techniques involving coordination compounds
5. To understand Catalysis of Organometallic compounds and their Bioinorganics

18MCH104I THERMODYNAMICS OF LIQUID SOLUTIONS

Course Outcomes

1. To study the Chemistry of Solutions
2. To study the various Theories of Liquid Mixtures
3. To understand the Thermodynamic Properties of liquid mixtures
4. To understand the concept of Ultrasonic Studies in Liquid Mixtures
5. To study the Applications of Ultrasonic Sound Waves and ionic liquids

18MCH104J SUPRAMOLECULAR CHEMISTRY

Course Outcomes

1. To understand the concepts of Supramolecular Assemblies and Architectures.
2. To study the Synthesis of Supramolecular Assemblies and Templates
3. To study about Dendrimers and metallodendrimers.
4. To study Supramolecular Medicinal Chemistry.
5. To study about Nonlinear optical Materials.

18MCH104K ELECTROORGANIC SYNTHESIS

Course Outcomes

1. To understand the basic concepts of electro organic chemistry.
2. To study the concept of electrochemical oxidation and reduction of organic compounds
3. To understand the concept of aromatic substitution
4. To study separation techniques in organic chemistry
5. To study the application of spectral techniques in identifying organic Compounds

**18MCH104L PRINCIPLES AND APPLICATIONS OF COORDINATION
COMPLEXES**

Course Outcomes

1. To study the methods of preparation of coordination complexes
2. To study the concept of characterization of coordination complexes.
3. To know about the theories of coordination chemistry
4. To study the application of spectral techniques in studying coordination complexes
5. To study the application of coordination complexes.

18MCH104M PHYSICAL METHODS IN COORDINATION CHEMISTRY

Course Outcomes

1. To study the techniques of preparing coordination compounds
2. To understand the concepts of analyzing coordination compounds
3. To understand the theories of coordination chemistry
4. To study the spectral characterization techniques in coordination compounds
5. To study the kinetics and applications of coordination compounds.

18MCH104 N SURFACE CHEMISTRY

Course Outcomes

1. To understand the concept of adsorption on different surfaces
2. To study about the concept of surface phenomena
3. To study about emulsion and their applications
4. To study the nature and properties of interfaces between gases, liquids and solids
5. To understand the basic concepts of thermodynamics and its application in surface Phenomena

18MCH104O HETEROCYCLIC COMPOUNDS

Course Outcomes

1. To know about heteroatom and Aromaticity of heterocycles
2. To study the Synthesis of heterocycles
3. To understand the Properties of heterocycles
4. To study the applications of Heterocycles in medicine
5. To study the uses of penicillins and sulpha drugs in medicine

M. Phil. COMMERCE

Programme outcomes (POs)

1. Scholars are to be adopted with a new paradigm of self-learning in the form of review of earlier knowledge acquired.
2. Scholars are brought to light from the previous investigation completed to the newer thrusts of knowledge and implementation in research.
3. Scholars are trained to design, implement and evaluate secured information (hard and soft) systems with assured quality and efficiency.
4. Scholars are to be oriented towards becoming globally competent.

18MCO101 PROFESSIONAL SKILLS FOR TEACHING-LEARNING

Course Outcomes

1. Inherit soft skills essential for teaching and research.
2. Adopt suitable techniques of teaching.
3. Understand the changing scenario of Teaching and growing expectation from effective teachers.
4. Use ICT tools and e-resources for Teaching.
5. Know the latest trend in Commerce and Teaching technologies required in commerce education.
6. Apply different methods of evaluation in teaching –learning.

18MCO102 RESEARCH METHODOLOGY

Course Outcomes

1. Understand the basics of research
2. Decide the suitable sampling method and sample size for the research.
3. Formulate hypotheses for the research.
4. Frame Questionnaire and interview schedule to collect data
5. Apply different statistical tools for data analysis in research
6. Interpret the results of the research and write research report.

18MCO103 RESEARCH PERSPECTIVES IN FUNCTIONAL MANAGEMENT (E-LEARNING)

Course Outcomes

1. Understand the concepts and avenues of Human Resource Management.
2. Know the nuances of marketing research and marketing mix
3. Inherit various concepts and tools of Financial Management
4. Have the basic understanding of production and material management.
5. Familiarize with Management Information System, Enterprise Resource Planning and Ecommerce and Internet concepts.
6. Explore different topics for the research.

18MCO104A

CONSUMER BEHAVIOUR AND RESEARCH

Course Outcomes

1. Understand the basics of consumer behavior.
2. Know the various psychological factors that can influence the buying behavior.
3. Evaluate the process of making buying decisions.
4. Appreciate the cultural and social influences on buying behavior.
5. Analyse the outcomes and issues of consumer behavior.
6. Choose the topics, formulate the objectives and research design for doing research in Consumer behavior.

18MCO104B CUSTOMER RELATIONSHIP MANAGEMENT AND RESEARCH

Course Outcomes

1. Understand the basic nuances of CRM.
2. Realise the importance of Enterprise Marketing Automation.
3. Understand the concept of Call Centres
4. Comprehend customer satisfaction and develop a scale to measure customer satisfaction
5. Appreciate the role of employees in CRM.
6. Identify the topics of research in CRM and formulate research design diligently.

18MCO104C

ENTREPRENEURSHIP DEVELOPMENT AND RESEARCH

Course Outcomes

1. Understand the basic concepts and theories of entrepreneurship
2. Conceive business ideas and convert them into business projects
3. Learn the incentives and subsidies provided to budding entrepreneurs.
4. Become familiar with institutions offering various forms of assistances
5. Exemplify knowledge on Industrial estates, Foreign Direct Investment, SEZ etc and succeed as an entrepreneur.
6. Conduct research on the topics pertaining to Entrepreneurship Development

18MCO104D FINANCIAL MANAGEMENT AND RESEARCH

Course Outcomes

1. Understand the concept of Finance and its fundamentals.
2. Elucidate the concept of working capital and its management.
3. Identify different sources of finance and Calculate cost of capital for the different sources of funds.
4. Recognise the impact of capital structure on shareholder's wealth and nuances of dividend policy
5. Analyse and interpret information from Financial statements.
6. Explore and design research for various topics in Financial Management.

18MCO104E HUMAN RESOURCE MANAGEMENT AND RESEARCH

Course Outcomes

1. Appreciate the principles and practices of Human resource management
2. Understand various aspects of recruitment
3. Assimilate various dimensions of training and development
4. Know significant features of Job evaluation techniques and compensation policies and procedures
5. Be familiar with various factors influencing motivation and different mechanisms available for grievance handling.
6. Carryout research in HRM to identify the trends, developments and issues.

18MCO104F INVESTMENT MANAGEMENT AND RESEARCH

Course Outcomes

1. Decipher the meaning of investment and risks associated with it.
2. Identify and appreciate various investment avenues.
3. Understand underlying facts of portfolio construction.
4. Know the influences of Fundamental Analysis and technical analysis
5. Absorb the dynamics of various investment theories and evaluate investment proposals
6. Carryout research to identify the opportunities, challenges, expectations, trends etc pertaining to research.

18MCO104G MARKETING MANAGEMENT AND RESEARCH

Course Outcomes

1. Know the basic principles and practices of marketing.
2. Understand the Marketing Mix and its components in detail.
3. Evaluate the components of product mix
4. Articulate Sales Promotional techniques used in modern marketing.
5. Know the basic aspects of the channels of distribution and consumer behaviour.
6. Carryout research in various topics pertaining to Marketing Management.

18MCO104H ORGANISATIONAL BEHAVIOUR AND RESEARCH

Course Outcomes

1. Grasp the organizational theories that would enlighten the understanding of human behavior at work.
2. Familiarize with the need for behavior modifications in the changing work environment.
3. Understand team/group processes and to be able to address issues arising from individual and collective organizational behavior.
4. Know the importance of change in the competitive work environment.
5. Understand the Importance of the relationships among human beings and their effect in the organizational development.
6. Carry out research that can contribute to the evolving organizational behavior.

18MCO104 I PRODUCTION AND MATERIAL MANAGEMENT

Course Outcomes

1. Know the basics of Production and material Management.
2. Understand and evaluate various production methods and techniques.
3. Gain knowledge in various techniques and tools of inventory control.
4. Comprehend the nuances of framing a good production management and material management policies for the organization.
5. Converge the issues pertaining to production and inventory.
6. Carryout research in Production and Material Management to evaluate their functioning in an organization and offer suggestions for the improvement

18MCO104 J RETAIL MANAGEMENT AND RESEARCH

Course Outcomes

1. Know various forms of retailing business techniques in India.
2. Gain knowledge on the store location, practical analysis of site and trading.
3. Acquire in depth knowledge of inventory management.
4. Appreciate critical elements of retail stores operations.
5. Equip themselves with skills critical for Physical distribution and store keeping strategies.
6. Carry out research in contributing to the significant growth of Retail Management

18MCO104 K SUPPLY CHAIN MANAGEMENT AND RESEARCH

Course Outcomes

1. Explain basic theories, concepts, applications and techniques of supply chain Management.
2. Understand the effectiveness of application of logistics in SCM.
3. Analyze the significance of the various utilities associated with the inventory Models.
4. Learn how firms formulate, implement and evaluate corporate business strategies.
5. Examine various issues and problems associated with supply chain in a changing business environment.
6. Conduct research on various topics pertaining to SCM.

M. Phil. Computer Science

Programme outcomes (POs)

1. Scholars are to be adopted with a new paradigm of self-learning in the form of review of earlier knowledge acquired.
2. Scholars are brought to light from the previous investigation completed to the newer thrusts of knowledge and implementation in research.
3. Scholars are trained to design, implement and evaluate secured information (hard and soft) systems with assured quality and efficiency.
4. Scholars are to be oriented towards becoming globally competent.

Programme Specific Outcomes (PSOs)

1. Have extensive knowledge on core concepts in Computer Science.
2. Ability to have a complete understanding of techniques, and extensive knowledge of the literature, applicable to the selected research areas.
3. Capability to apply reasoning and problem solving using research tools.
4. Proficiency to identify the problems and create and interpret knowledge in their chosen area.
5. Capacity to have critical evaluation in current research techniques and methodologies.
6. Mastery over analytical skills which are based on mathematical and statistical knowledge acquired.
7. Gain research skills in recent areas to compete globally.
8. Possess social, moral and ethical values.

18MCS101

PROFESSIONAL SKILLS FOR TEACHING-LEARNING

Course Outcomes

1. Inherit soft skills essential for teaching and research.
2. Adopt suitable techniques of teaching.
3. Understand the changing scenario of Teaching and growing expectation from effective teachers.
4. Use ICT tools and e-resources for Teaching.
5. Familiarize and to create a document using Latex
6. Get familiar with analytical tools and R.

18MCS102**RESEARCH METHODOLOGY****Course Outcomes**

1. To acquire the knowledge about various Research types
2. To get a deep knowledge about analysis of Algorithms and NP
3. To regain the concepts in Formal Languages and Finite Automata
4. To attain mathematical knowledge to approach a research type
5. To provide the concept of probability and reliability and apply real life applications
6. To get exposure to Logics and Graphs.

18MCS103**ADVANCED CONCEPTS IN COMPUTER SCIENCE****Course Outcomes**

1. Gain deep knowledge in Distributed Database Systems
2. Get acquaintance over Distributed Architecture and SOA
3. Understand XML related techniques
4. Acquire familiarity with Distributed Operating Systems
5. Understand security architecture and design concepts for Web Services
6. Design new methodologies for Securing Web Services

18MCS104A**ARTIFICIAL INTELLIGENCE AND EXPERT SYSTEMS****Course Outcomes**

1. Gain basic knowledge about AI
2. Acquire knowledge about searching technique
3. Get acquaintance over Knowledge representation techniques
4. Familiarize with Natural Language Processing
5. Understand the concepts of learning
6. Understand concepts of Expert System

18MCS104B**SIMULATION AND MODELLING****Course Outcomes**

1. Understand the concepts of simulation
2. Gain knowledge on types of models
3. Apply statistical models in simulation
4. Gain fundamental knowledge on modeling random number generation
5. Design discrete systems
6. Understand data collection techniques

18MCS104C**DATA MINING****Course Outcomes**

1. Understand the basic techniques of data mining
2. Gain knowledge of data processing techniques
3. Learn and identify the features of concept description
4. Comprehend classification and prediction techniques
5. Acquire knowledge on Multidimensional analysis and descriptive mining of complex data Objects
6. Gain knowledge to check the correctness of classification and clustering

18MCS104D**DIGITAL IMAGE PROCESSING****Course Outcomes**

1. Understand the fundamental issues of Digital Image Processing
2. Gain knowledge of Image Enhancement techniques
3. Learn and identify the features of Image Restoration
4. Comprehend classification and prediction techniques
5. Acquire the basic concepts of Wavelets and Multi-resolution Processing
6. Handle the Image Segmentation techniques

18MCS104E**NEURAL COMPUTING****Course Outcomes**

1. Understand about neural computing in the form of network structure.
2. Gain knowledge of training algorithms in back propagation network.
3. Learn the uses of different simulation models and statistical methods.
4. Apply the concepts to problem solving, applications and research.
5. Acquire the basic concepts in Bi Directional Associative Memory.
6. Familiarize with Adaptive Resonance Theory concepts.

18MCS104F**SOFT COMPUTING****Course Outcomes**

1. Understand the basic concepts of the various components of soft computing
2. Gain basic knowledge on Artificial Neural Networks
3. Gain knowledge of Fuzzy Logic
4. Design and develop Fuzzy system
5. Apply the concepts of Neuro - Fuzzy Modeling.
6. Acquire the basic knowledge on Genetic algorithms

18MCS104G**NETWORK SECURITY****Course Outcomes**

1. Know the security Trends and Security Techniques
2. Gain knowledge of Data Encryption Standards
3. Learn the uses of Hash functions
4. Apply the concepts of Public Key Encryption.
5. Identify the various authentication mechanisms in applications
6. Understand system security breaches and principles

18MCS104H**INTERNET OF THINGS****Course Outcomes**

1. Posses knowledge on basic concepts of Internet of Things
2. Acquire knowledge on enabling technologies of IoT
3. Design machine to machine communication systems
4. Analyze the real life problems for providing technology based solutions
5. Identify the problems for providing technology based solutions
6. Have skills on the Design of IoT based Applications

18MCS104I**DATA STRUCTURES AND ALGORITHMS****Course Outcomes**

1. Know about the key transformation
2. Develop various types of algorithms
3. Understand the basic operations in Tree
4. Gain knowledge of Multi-way trees and hashing
5. Identify the uses of Greedy methods
6. Develop and design the applications using Dynamic programming.

18MCS104J**MOBILE AND PERVASIVE COMPUTING****Course Outcomes**

1. Posses knowledge on Wireless networks
2. Compute the web with WAP architecture
3. Acquire knowledge on Mobile computing environment
4. Understand handoff mechanisms in wireless mobile networks
5. Identify the principles and characteristics of pervasive computing

6. Develop and implement Mobile and pervasive computing applications

18MCS104K VIRTUALISATION AND CLOUD COMPUTING

Course Outcomes

1. Posses knowledge on Cloud Computing and its architecture
2. Acquire knowledge on Virtualization techniques
3. Understand cloud infrastructure services
4. Identify the parallel and distributed programming paradigms
5. Handle various cloud computing tools
6. Learn the Cloud security and security challenges

18MCS104L WEB SERVICES

Course Outcomes

1. Posses knowledge on Web Services
2. Identify and learn various Web Services Standards, Technologies and Concepts
3. Acquire knowledge on advanced technologies and standards of Web Services
4. Identify and apply the security mechanisms for Web Services
5. Familiarize with QoS concepts for Web Services
6. Understand new methodologies for building Enterprise Web Services and Applications

18MCS104M SECURITY IN COMPUTING

Course Outcomes

1. Have an idea about security problems in computing
2. Acquire knowledge on program security threads and its mechanisms
3. Design Trusted Operating System
4. Provide Database security
5. Identify the security policies in Computer Networks
6. Learn Legal and Privacy Issues in Computer Security.

18MCS104N BIG DATA TECHNIQUES AND APPLICATIONS

Course Outcomes

1. Have an idea about Big Data concepts
2. Acquire knowledge on Big Data Mining and its techniques

3. Deal with uncertainty data using mining techniques
4. Handle Big Data tools
5. Familiarize with database transactions
6. Identify the database applications

18MCS104O

SOFTWARE METRICS

Course Outcomes

1. Impart knowledge on software measurement principles and practices
2. Understand the scope of software measures
3. Get exposure in software data collection
4. Understand various traditional metrics
5. Familiar with Object-Oriented Concepts
6. Know various Object-Oriented metrics.

18MCS104P

GRID COMPUTING

Course Outcomes

1. Understand the genesis of grid computing
2. Know the application of grid computing
3. Understand the technology and tool kits to facilitate the grid computing
4. Learn and identify Grid computing technologies
5. Use various Grid Computing Tool Kits
6. Learn Grid Computing techniques to solve large scale scientific problems

18MCS104Q

BIG DATA ANALYSIS

Course Outcomes

1. Acquired knowledge on the basics of Big Data
2. Knowing the role and use of Big Data in various relevant industries
3. Having a clear idea on the various tools and techniques used with big data
4. Acquired the techniques of Big Data Analytics
5. Learnt to cutting edge tools and technologies to analyze Big Data.
6. Ability to appreciate the Big Data Storage concepts and technologies

18MCS104R

CLOUD SECURITY

Course Outcomes

1. Knowing the various basic concepts related to cloud security fundamentals
2. Describe the cloud security policies
3. Understanding and applying the data encryption techniques

4. Analyzing the need to incorporate security requirements for the cloud
5. Learn to build a private cloud
6. Acquiring the knowledge of authentication algorithms

M. Phil. ECONOMICS

Programme outcomes (POs)

1. Scholars are to be adopted with a new paradigm of self-learning in the form of review of earlier knowledge acquired.
2. Scholars are brought to light from the previous investigation completed to the newer thrusts of knowledge and implementation in research.
3. Scholars are trained to design, implement and evaluate secured information (hard and soft) systems with assured quality and efficiency.
4. Scholars are to be oriented towards becoming globally competent.

Programme Specific Outcomes (PSOs)

1. To appreciate the importance of the subject Economics.
2. To study the various terms and concepts in Economics.
3. To study various principles and theories in Economics.
4. To evaluate the programmes and policies of both Central and State the Governments.
5. To study various current economic issues and problems to identify solution.
6. To study the quantitative techniques and its applications in Economics.
7. To study research methodology in Economics to undertake research.
8. To study the global economic issues like Globalization, Privatization and Liberalization.

18MEC101 PROFESSIONAL SKILLS FOR TEACHING-LEARNING

Course Outcomes

1. To impart knowledge on different dimensions of soft skill and to empower scholars with soft skills.
2. To enhance the understanding of teaching and learning dynamics
3. To facilitate e-learning/ e-teaching with the ICT tools.
4. To impart skills on the preparation of teaching content.
5. To give an experience of teaching and evaluation in a classroom context.
6. To impart the knowledge on presentation and evaluation of teaching

18MEC102 RESEARCH METHODOLOGY (Open Online Course)

Course Outcomes

1. To provide comprehensive knowledge for pursuing research
2. To be able to develop review of related literature and research methodology based on the

- selected topic.
3. To understand the procedure for testing of hypotheses
 4. To know the sample design and to develop the skills for sampling and sampling techniques used to collect data
 5. To expose them to the application of various mathematical techniques in their research.
 6. To provide the mechanics and techniques of Report writing and Thesis writing.

18MEC103

NEW FRONTIERS IN ECONOMICS

Course Outcomes

1. To teach the students the recent developments in Utility Analysis and Information Economics.
2. To make them aware of the emerging theories in Economics
3. Make the students to understand the recent development in international relations
4. To provide knowledge on new measurements and means to achieve the development
5. To impart knowledge on Environmental impact on Economic Development
6. To enable the students to know the details of Environmental policies that promotes sustainable Economic Development.

18MEC104A

INDUSTRIAL ECONOMICS

Course Outcomes

1. To inculcate the concepts and theories.
2. To impart the techniques of Industrial management.
3. This will enable the students to understand the ramification of Management

18MEC104B

AGRICULTURAL ECONOMICS

Course Outcomes

1. The objective of this paper is to understand the structure of agriculture in India
2. To acquire the knowledge of various agronomic policies and practices prevailing in Indian farming.

18MEC104C DEVELOPMENT ECONOMICS

Course Outcomes

1. To make students know the social and institutional aspects of development;
2. To understand the significance of planning in an economy.

18MEC104D

ECONOMICS OF SOCIAL SECTORS

Course Outcomes

1. To teach basic concepts of social sector to the students

2. To introduce them to the analytical tools to study some social problems
3. To make them aware of certify social issues viz., Environment, Health & Education

18MEC104E

INTERNATIONAL ECONOMICS

Course Outcomes

1. To understand Theoretical aspects of International Trade
2. The development aspects of international Trade
3. Monetary theory of International Trade and
4. Policy of Protection and Institutions involved in the International Trade.

18MEC104F

ECONOMICS OF MARKETING

Course Outcomes

1. To understand the importance of marketing in corporate governance.
2. To understand the significance of advertising on sales.

M. Phil. ENGLISH

Programme Outcomes (POs)

1. Scholars are to be adopted with a new paradigm of self-learning in the form of review of earlier knowledge acquired.
2. Scholars are brought to light from the previous investigation completed to the newer thrusts of knowledge and implementation in research.
3. Scholars are trained to design, implement and evaluate secured information (hard and soft) systems with assured quality and efficiency.
4. Scholars are to be oriented towards becoming globally competent.

Programme Specific Outcomes (PSOs):

1. **Listening Skills:** Students will be able to acquire the ability to accurately receive and interpret messages in the communication process.
2. **Oral Communication Skills:** Students will demonstrate the skills needed to participate in a conversation that builds knowledge collaboratively: listening carefully and respectfully to others' viewpoints; articulating their own ideas and questions clearly; and situating their own ideas in relation to other voices and ideas. Students will be able to prepare, organize, and deliver an engaging oral presentation.
3. **Reading:** Students will become accomplished, active readers who appreciate ambiguity and complexity, and who can articulate their own interpretations with an awareness and curiosity for other perspectives.
4. **Writing Skills and Process:** Students will be able to write effectively for a variety of professional and social settings. They will practice writing as a process of motivated inquiry, engaging other writers' ideas as they explore and develop their own. They will demonstrate an ability to revise for content and edit for grammatical and stylistic clarity. And they will develop an awareness of and confidence in their own voice as a writer.
5. **Sense of Genre:** Students will develop an appreciation of how the formal elements of language and genre shape meaning. They will recognize how writers can transgress or subvert generic expectations, as well as fulfill them. And they will develop a facility at writing in appropriate genres for a variety of purposes and audiences.
6. **Culture and History:** Students will gain knowledge of the major traditions of literatures written in English, and an appreciation for the diversity of literary and social voices within—and sometimes marginalized by—those traditions. They will develop an ability to read texts in relation to their historical and cultural contexts, in order to gain a richer understanding of both text and context, and to become more aware of themselves as situated historically and culturally.
7. **Critical Approaches:** Students will develop the ability to read works of literary, rhetorical, and cultural criticism, and deploy ideas from these texts in their own

reading and writing. They will express their own ideas as informed opinions that are in dialogue with a larger community of interpreters, and understand how their own approach compares to the variety of critical and theoretical approaches.

8. **Research Skills:** Students will be able to identify topics and formulate questions for productive inquiry; they will identify appropriate methods and sources for research and evaluate critically the sources they find; and they will use their chosen sources effectively in their own writing, citing all sources appropriately.

18MEN101 Paper-I PROFESSIONAL SKILLS FOR TEACHING-LEARNING

Course Outcomes

1. To enable the students to present their ideas clearly
2. To empower the students to perform well in interviews
3. To train the students to lead a group effectively
4. To enable the students to build a team and help the team achieve its goals
5. To empower the students to teach language effectively
6. To train the students to teach literature effectively

18MEN102

Paper-II RESEARCH METHODOLOGY

Course Outcomes

1. To make the students understand the process of writing a research
2. dissertation
3. To enable the students to effectively use both library and computer for
4. their research work
5. To help the students write and structure their research dissertation in an
6. academic style
7. To enable the students to choose an appropriate method for their research
8. project
9. To assist the students to systematically carry out a research project either
10. in Literature or in English Language Teaching
11. To enable the students to document sources used in their research
12. dissertation and papers in accordance with MLA or APA style sheet

18MEN103

Paper-III LITERARY THEORIES

Course Outcomes

1. To make the students get acquainted with the recent theories of Literary Criticism.
2. To enable the students to comprehend the evolution of various literary theories.
3. To enable the students to learn the causes for the emergence of literary theories.
4. To train the students to apply these theories in their research work.
5. To enable the students to critically analyze the essence of the critical theories through the critical essays prescribed.

- 6.To enable students to learn the strategies for applying critical theories to teaching literature.
- 7.To empower the students to appreciate and analyze the different styles of writing different literary theories.
- 8.To enable the students to develop critical thinking through the prescribed critical essays.

18MEN104A Paper-IV ENGLISH LANGUAGE TEACHING (ELT)

Course Outcomes

1. To provide students with the fundamental aspects of ELT.
2. To introduce students to the various avenues of teaching and learning English.
3. To evaluate the practical effectiveness of various methods and approaches
4. To relate methodological choices in teaching language skills to ESL students
5. To introduce students to the important developments in language studies

18MEN104B Paper-IV ENGLISH LITERARY CRITICISM

Course Outcomes

1. To get students acquainted with literary criticism.
2. To enable the students to understand the literary critical thoughts that are embedded in English literature
3. To make the students learn the type of criticism that influenced the English writers and critics down the ages.
4. To introduce the students literary criticism from the beginning to the twentieth century.
5. To train students to relevantly apply literary criticism to their analysis of literary texts.
6. To enhance the students' appreciation of literature.

18MEN104C Paper-IV INTRODUCTION TO LITERARY THEORIES

Course Outcomes

1. To get students acquainted with the recent trends and theories of literary criticism.
2. To offer students knowledge on recent literary criticism.
3. To make the students understand critical theories.
4. To introduce students to important literary critics and their works.
5. To capture the essence of the critical theories through the works prescribed.
6. To enable the students learn strategies for applying critical theory to teaching literature.

18MEN104D Paper-IV TWENTIETH CENTURY BRITISH LITERATURE

Course Outcomes

1. To understand the historical context surrounding literary works including the political, social, religious, and artistic milieu in which the British authors wrote.
2. To paraphrase and understand unfamiliar and difficult language.
3. To identify elements of poetry such as basic rhythms, meters, and rhyme schemes; uses of metaphor; the conventions of the Elegy and other poetic forms.
4. To identify the elements of prose genres (fiction, drama, satire): plot, setting, character, theme, irony, and argument.
5. To make inferences about literature that rest on textual evidence and logiin classroom conversations.
6. To articulate a critical position or interpretation; gather and use textual or critical evidence to support a particular interpretation.

18MEN104E

Paper-IV INDIAN WRITING IN ENGLISH

Course Outcomes

1. To introduce students to major movements and figures of Indian Literature in English through the study of selected literary texts.
2. To learn about the origin of English in India and Indian writing in English.
3. To introduce students to all the genres of Indian Literature.
4. To expose students to the important Indian writers of the literary era.
5. To create literary sensibility and emotional response to the literary texts.
6. To implant a sense of appreciation of the literary text.

18MEN104F

Paper-IV DIASPORIC LITERATURE

Course Outcomes

1. To expose the Diasporic life and experience to the students
2. To enable the students to know the richness and variety of Indian Diasporic Literature
3. To make the learners understand the Indian Diasporic Writing and their Characteristic features
4. To provide the Historical Background of Diasporic writing and their characteristics
5. To enhance the learners understand and infer Diasporic Literature from the representative works
6. To make the learners understand the terms and nuances of Diasporic Literature

18MEN104G Paper-IV UNDERSTANDING SECOND-LANGUAGE TEACHING AND LEARNING

Course Outcomes

1. To help students understand current theories and their implications for teaching and learning
2. To help students critically evaluate beliefs about the current practices of teaching, learning, materials production and testing
3. To evaluate the practical effectiveness of various methods and approaches
4. To relate methodological choices in teaching language skills to ESL students

5. To apply different teaching techniques in challenging learning environments
6. To teach English for communication using language games

18MEN104H

Paper-IV GENDER STUDIES

Course Outcomes

1. To familiarize students' knowledge about the relation between gender, sexuality and nationalism in each of the selected readings
2. To make relevant links between women writers and their historical and cultural contexts without reducing their writing to autobiography
3. To understand the feminine literary tradition chronologically as well as geographically
4. To trace the development of women's writing from the internalization of and resistance to masculine norms to the creation of new forms of female identity that escape the shadow of men
5. To explain why and how women's writing is an act of defamiliarization, shocking us out of our complacency, making the world and self anew, and doing so through the power of language and genre
6. To write about women in a complex fashion, attending to race, class, sexuality, and culture, and without turning women into heroes or victims

18MEN104I

Paper-IV POSTCOLONIAL LITERATURE

Course Outcomes

- To provide students with the fundamental aspects of postcolonial literature.
- To help students plan and form a framework for their research project.
- To acquaint students with the Postcolonial thoughts and writings
- To enable the students to understand and appreciate postcolonial literary theory.
- To make students empathize with the Postcolonial stances.
- To make the students discuss, and analyze colonial and postcolonial texts.

18MEN104J

Paper-IV FEMINISM, ECO-FEMINISM AND ECO-CRITICISM

Course Outcomes

1. To provide students with the fundamental aspects of Feminism, Ecofeminism and Eco-criticism.
2. To enable the students to understand and appreciate women's writing.
3. To develop an ability to read, write and perform close reading of texts.
4. To help students comprehend the female literary tradition.
5. To explore woman's role, status, self-image, and history in literature written by women.
6. To familiarize the students with the notion of gender and its operation in society.

18MEN104K

Paper-IV COMPARATIVE LITERATURE

Course Outcomes

1. To make the students aware of the fact that Comparative Literature transports literary materials from one language to another.
2. To create bilingual interest, enhance their analytical ability, enrich the literary quality and promote translation activities.
3. To acquire the knowledge of comparative literature as a tool to understand and criticize regional literatures.
4. To apply Genre, Thematology, Genealogy, Literary influence and Reception studies into texts and non-literary texts.
5. To bring how writers and cultures are unique by comparing texts.
6. To use the scope of comparative literature in their studies.

18MEN104L

Paper-IV SUBALTERN LITERATURE

Course Outcomes

1. To introduce the students to the type of literature that has been sidelined down the ages
2. To acquaint them with the intricacies of caste as a social institution and practice
3. To acquaint them with the aesthetics of subaltern writing
4. To acquaint them with different sociocultural movements in the Indian context
5. To familiarize them with recent trends and concepts concerning subalternity and literature
6. To explore the relationships between society and literature

M. Phil. - HUMAN RESOURCES MANAGEMENT

Programme Outcomes (POs)

1. Scholars are to be adopted with a new paradigm of self-learning in the form of review of earlier knowledge acquired.
2. Scholars are brought to light from the previous investigation completed to the newer thrusts of knowledge and implementation in research.
3. Scholars are trained to design, implement and evaluate secured information (hard and soft) systems with assured quality and efficiency.
4. Scholars are to be oriented towards becoming globally competent.

Programme Specific Outcomes (PSOs)

1. Groomed with competency in knowledge, skills (Life, Communication and Managerial) and attitude (teaching Professional).
2. Expertise modern teaching techniques in the field of HR functions
3. Enhanced knowledge with teaching techniques to face Interviews and Competitive Examinations.
4. Sensitized in the changing scenario of social and industrial environment and being competent to start new ventures (Entrepreneurs)
5. Inclined to carry out research with assured quality and efficiency.
6. Proficient in heading and teaching teams with appropriate leadership qualities towards global competency.
7. Trained in research (hard and soft systems) in the practical area of HR functions
8. Efficient in sharing the equipped and enriched knowledge of HR through Teaching

18MHR101 Paper-I PROFESSIONAL SKILLS FOR TEACHING-LEARNING

Course Outcomes

1. Employability of the students by empowering them with soft skills.
2. Knowledge on theoretical background of educational psychology and its important concepts.
3. Application of theories of educational psychology in educational practices.
4. Understanding about the nature of class room teaching and material preparation
5. Understand and apply ICT techniques and approaches in teaching
6. Equipping oneself to move with the current students

18MHR102

Paper-II RESEARCH METHODOLOGY

Course Outcomes

1. Gaining good knowledge that supports for independent research
2. Expertise in the methodology of doing scientific research.
3. Familiar with the procedure involved in quantitative research on par with latest scientific updation.
4. Understanding the techniques involved in qualitative research
5. Enriched with teaching skills pertaining to research along with statistical application in research.
6. Understanding the latest updations in SPSS according to the need of data analysis.

18MHR103 Paper-III INTERNATIONAL HUMAN RESOURCE MANAGEMENT

Course Outcomes

1. Getting acquainted with doing courses online.
2. Being competent with knowledge and skill on International Human Resource Management.
3. Groomed with proficiency in the latest techniques related to planning and development of human resources at international level.
4. Nurtured with the recent strategic IHRM practices entitled to succeed in competitive examinations.
5. Potential enough to carry out research activities in the areas of
6. International Human Resource Management as per the need of the hour.
7. Sensitized in the changing scenario of International HR practices

18MHR104A Paper-IV HUMAN RESOURCE MANAGEMENT CORE FUNCTIONS

Course Outcomes

1. Being competent with knowledge and skill of human resource management.
2. Groomed with proficiency in the latest techniques related planning and development of human resources in an industry.
3. Nurtured with the recent strategic HRM practices entitled to succeed competitive examinations.
4. Potential enough to carry research activities in the areas of human resource management as per the need of the hour.
5. Sensitized in the changing scenario of HR practices and being competent to start new ventures (Entrepreneurs)
6. Proficient in carrying research activities as per the dynamics of human resource climate of the industry

18MHR104B Paper-IV INDUSTRIAL RELATIONS MANAGEMENT

Course Outcomes

1. Groomed with the theoretical and practical knowledge in industrial relations
2. Efficient enough to handle the disciplinary proceeding and grievance measures according to the changing scenario of social and industrial environment.

3. Proficient to share the gained and enriched knowledge, skill and attitude with the concerned people.
4. Competent to deal the trade unions by applying the latest labour legislations.
5. Trained to exhibit positive attitude for research activities in the dynamic areas of industrial relations.
6. Being catalyst to bring change in managerial attitude towards worker's participation in management.

18MHR104C

Paper-IV LABOUR LEGISLATIONS

Course Outcomes

1. Competent with updated knowledge in various spheres of Indian and TamilNadu Labour Legislation.
2. Proficient to carry research in the labour laws pertaining to industrial environment.
3. Enriched with practical applications of labour laws at various areas of Industrial culture.
4. Sensitized with the changes in the industrial and social environment and capable of applying the updated laws according to the need.
5. Efficient to share the enriched knowledge in labour laws with the concerned people.
6. Expert in integrating labour legislation with developments among human resources in industrial avenues

18MHR104D

Paper-IV WAGE AND SALARY ADMINISTRATION

Course Outcomes

1. Gained knowledge on the different types of wages and the importance of equity in wage and salary administration.
2. Have become aware of the issues related to compensation or rewarding human resources in various forms of organizations
3. Familiarized on the computation of wage and salary.
4. Learnt about the different machineries involved in wage fixation in our country.
5. Developed skills in designing, analyzing and restructuring reward management systems, policies and strategies.
6. Learnt the different incentive payment plans introduced by the management researchers.

18MHR104E

Paper-IV TRAINING AND DEVELOPMENT PROCESS

Course Outcomes

1. Understand the nature of various methods and techniques of training practiced in several organization
2. Know the importance of basic training need analysis and its steps to empower life skills
3. Become aware of the evaluation procedures pertaining to training and training strategies
4. Develop skills to carry out performance appraisal and to go with performance management in various organizations

M. Phil. HISTORY

Programme Outcomes (POs)

1. Scholars are to be adopted with a new paradigm of self-learning in the form of review of earlier knowledge acquired.
2. Scholars are brought to light from the previous investigation completed to the newer thrusts of knowledge and implementation in research.
3. Scholars are trained to design, implement and evaluate secured information (hard and soft) systems with assured quality and efficiency.
4. Scholars are to be oriented towards becoming globally competent.

Programme Specific Outcomes (PSOs)

1. The scholars will have acquired the techniques and skills in Teaching- Learning.
2. Scholars will follow the various methodologies in teaching and research.
3. Scholars will identify their specializations and areas for their research.
4. Scholars will be able to familiarize with the latest approaches in Historical writings to compete with international research.
5. Scholars will undertake micro level research to prove and disprove the existing theories set by Historians and bring them to light the history of the region.
6. Scholars will document and interpret the empirical statistical analysis with social issues.
5. Scholars will create a base for historical research in their own.
6. Scholars will be able to understand the problems and find the solutions in diverse situations.

18MHS101 Paper-I PROFESSIONAL SKILLS FOR TEACHING-LEARNING

Course Outcomes

1. To introduce the teaching and dynamics of teaching- learning
2. To facilitate e-learning /e-teaching with the ICT tools
3. To acquire expertise with methods of teaching of history
4. To enhance the teaching of history with modern ICT tools.
5. To empower scholars with soft skills
6. To acquire knowledge through observation, study and experimentation

18MHS102 Paper-II RESEARCH METHODOLOGY AND THESIS WRITING IN HISTORY

Course Outcomes

1. To know the meaning of research in general and research in History in particular

1. To impart knowledge of various approaches in Historical Writings
2. To acquire dexterity in methodology of research.
3. To apply documentation part effectively in Historical research.
4. To comprehend the Quantification tools in Historical research
5. To prepare structure of phases of Historical research

18MHS103 Paper-III HISTORY OF IDEAS

Course Outcomes

1. To familiarize with the evolution of ideas through the ages
2. To comprehend the process of Human consciousness through ideologies.
3. To study the developments of various trends in understanding history
4. To figure out the ongoing thought process on Ideas of protest.
5. To disseminate the debated issues in India.
6. To evolve the spirit of curiosity to understand the Mind and things.

18MHS104A Paper-IV ENVIRONMENTAL HISTORY

Course Outcomes

1. To understand the concepts and terms related to Environment
2. To analyze the Natural resources available
3. To evaluate the social changes and human intervention in the environment
4. To debate certain issues related to hazards
5. To educate the scholars to understand challenges to environment
6. To collect various sources based on environmental History

18MHS104B Paper-IV SOCIAL HISTORY OF SOUTH INDIA

Course Outcomes

1. To understand the origin and growth of society
2. To analyze the Social changes in South India
3. To evaluate the social changes taken in the south Indian history.
4. To debate certain issues related to social status
5. To educate the scholars to understand themselves as victim of the present society
6. To collect various sources based on social History

**18MHS104C Paper-III SOCIAL AND CULTURAL HISTORY OF TAMIL NADU
(FROM 1565 TO 1996 A.D.)**

Course Outcomes

1. To analyze the Social and Cultural changes in Tamil Nadu
2. To understand the origin and growth of DMK party in Tamil Nadu
3. To evaluate the social changes in Tamil Nadu during the British rule
4. To debate certain issues between 1565 to 1967

5. To prepare articles on Cultural History of Tamil Nadu
6. To collect various sources based on social and cultural history between 1600 to 1967

M. Phil Mathematics

Programme Outcomes

1. Scholars are to be adopted with a new paradigm of self-learning in the form of review of earlier knowledge acquired.
2. Scholars are brought to light from the previous investigation completed to the newer thrusts of knowledge and implementation in research.
3. Scholars are trained to design, implement and evaluate secured information (hard and soft) systems with assured quality and efficiency.
4. Scholars are to be oriented towards becoming globally competent.

Programme Specific Outcomes (PSOs)

1. To acquire teaching and research competency.
2. To understand nuances of Advanced Abstract Mathematics.
3. To develop Analytical and Logical skills.
4. To identify potential research problems.
5. To enhance competency to solve Mathematical Problems.
6. To acquire adequate theoretical knowledge to write dissertation
7. To get necessary training in using Mathematical Software
8. To acquire theoretical knowledge in various areas of Mathematics

18MMA101 Paper-I PROFESSIONAL SKILLS FOR TEACHING-LEARNING

Course Outcomes

1. To empower scholars with soft skills.
2. To introduce the teaching and dynamics of teaching – learning
3. To facilitate e- learning/ e-teaching with the ICT tools.
4. To prepare scholars with material resources for class room teaching
5. To acquire basic knowledge in Latex.
6. To expose students to problem solving techniques in Real and Complex analysis .

18MMA102 Paper-II RESEARCH METHODOLOGY

Course Outcomes

1. To empower scholars with Research Methodology.
2. To introduce the history of modern Mathematics.
3. To enhance problem solving skills in differential equations.
4. To prepare scholars with domination of Graphs

5. To acquire basic knowledge in metric spaces.
6. To give an introduction to important topological concepts

18MMA103**Paper-III ALGEBRA AND ANALYSIS****Course Outcomes**

1. To empower scholars with knowledge of pure mathematics.
2. To introduce the algebraic structure through modules.
3. To acquaint with advance concepts in algebra
4. To understand Borel measures.
5. To enhance problem solving skills in algebra.
6. To understand the techniques in algebra.

18MMA104A**Paper-IV ADVANCED NUMERICAL ANALYSIS****Course Outcomes**

1. Basic Knowledge of numerical methods
2. Approximation methods.
3. Linear and nonlinear approximation
4. Understanding polynomial equations
5. Techniques in numerical analysis
6. Initial and boundary value problems

18MMA104B Paper-IV FUNDAMENTALS OF DOMINATION IN GRAPHS**Course Outcomes**

1. Basic Knowledge of dominations
2. To learn local domination
3. To learn global domination
4. Understand Product graphs
5. To learn vizing conjecture
6. Applications of domination

18MMA104C**Paper-IV PRODUCT GRAPHS****Course Outcomes**

1. Theory of Product graphs
2. Understanding strong products
3. Understanding Cartesian products
4. Theory of automorphisms and invariants
5. Understanding direct products
6. Understanding Lexicographic products

18MMA104D**Paper-IV LABELLING OF GRAPHS****Course Outcomes**

1. Basic Knowledge of Labelling
2. Understanding different types of labeling
3. Concepts of Edge Magic Labelling
4. Applications of Labelling
5. To learn Magic squares and anti magic squares
6. Understanding Theory of Cycles and Super EAT Labelling

18MMA104E Paper-IV HOMOLOGICAL ALGEBRA AND SEMI-GROUPS**Course Outcomes**

1. Understanding theory of modules
2. To learn Projective modules
3. To learn injective modules
4. Understanding regular semi groups
5. Understanding inverse semi groups
6. Understanding concepts of semi lattices

18MMA104F Paper-IV STOCHASTIC MODELS IN QUEUEING THEORY**Course Outcomes**

1. Basic knowledge of queueing theory
2. Understanding Birth Death Process
3. Understanding different stochastic models
4. Applications to real life problems
5. Study Waiting time distribution
6. To learn queueing in general service

18MMA104G**Paper-IV HARMONIC ANALYSIS****Course Outcomes**

1. Understanding Fourier series
2. Understanding Fourier integrals
3. Applications of Harmonic Analysis
4. Understanding discrete group
5. Understanding compact group
6. Consequences of Minkowski's theorem

18MMA104H

Paper-IV ADVANCED FLUID DYNAMICS

Course Outcomes

1. Understanding advanced concepts in fluid dynamics
2. Understanding motion of a sphere
3. Understanding concentric sphere
4. Understanding Wave motion
5. Understanding Newtonian motion
6. Applications of Fluid dynamics

18MMA104I

Paper-IV NON-LINEAR DIFFERENTIAL EQUATIONS

Course Outcomes

1. Basic concepts of differential equation
2. Understanding Integral Manifolds
3. Application of nonlinear differential equation
4. Understanding Central manifolds
5. To learn Lorenz Equations
6. Understanding fractal sets

18MMA104J

Paper-IV FUZZY AUTOMATA THEORY

Course Outcomes

1. Basic concepts of automata theory
2. Understanding fuzzy theory in automata
3. Applications of automata
4. Understanding fuzzy grammar and context free grammar
5. Understanding fuzzy languages
6. Applications of Pumping lemma

18MMA104K

Paper-IV CRYPTOGRAPHY

Course Outcomes

1. Basic concepts of cryptography
2. Understanding concepts of Public key
3. Understanding concepts of symmetric key
4. Understanding RSA system
5. To learn discrete algorithm
6. Applications of cryptography

18MMA104L Paper-IV TOPOLOGY OF METRIC SPACES AND FIXED-POINT THEORY

1. Basic Knowledge of metric spaces
2. To learn various types of metric spaces
3. Understanding fixed point theory
4. Concepts of normal structure and nonexpansive mapping
5. Understanding Hyperconvex spaces
6. To learn Banach Lattices

18MMA104M Paper-IV WAVELETS, FUZZY AUTOMATA AND CHAOTIC SYSTEMS

Course Outcomes

1. Understanding theory of wavelets
2. Basic ideas of chaotic systems
3. Concepts of discrete fourier transform
4. Concepts of fast fourier transform
5. Understanding finite state machines
6. Identifying chaotic behavior in real life situations

18MMA104N Paper-IV FUZZY MATHEMATICS AND ITS APPLICATIONS

Course Outcomes

1. Basics of fuzzy sets
2. Understanding fuzzy relations
3. Understanding fuzzy arithmetic
4. Concept of Fuzzy decision making
5. Understanding fuzzy clustering
6. Applications of fuzzy theory

M.Phil. PHYSICS

Programme outcomes (POs)

1. Scholars are to be adopted with a new paradigm of self-learning in the form of review of earlier knowledge acquired.
2. Scholars are brought to light from the previous investigation completed to the newer thrusts of knowledge and implementation in research.
3. Scholars are trained to design, implement and evaluate secured information (hard and soft) systems with assured quality and efficiency.
4. Scholars are to be oriented towards becoming globally competent.

Programme Specific Outcomes (PSOs):

1. Research – Acquire recent knowledge towards research
2. Entrepreneurship and Employability
3. Exploring problem solving
4. Adopt new technology
5. Projects and model design
6. Effective communicating the findings
7. Experimental skill
8. Higher Education towards social relavent.

18MPH101 Paper-I PROFESSIONAL SKILLS FOR TEACHING-LEARNING

Course Outcomes

1. Empower scholars with soft skills.
2. Learn the teaching and dynamics of teaching – learning
3. Facilitate e- learning/ e-teaching with the ICT tools
4. Enable them to understand the nature of growth and development, learning, motivation and its various educational implications.
5. Learn the methods of teaching Physics.
6. Empower the evaluative process in class room teaching and laboratory practice.

18MPH102 Paper-II RESEARCH METHODOLOGY (OOC)

Course Outcomes

1. Acquire skill to identify the research problems
2. Knowledge about organizing scientific research paper
3. Application of statistical tools for research
4. Understand the working principle of different research instruments
5. Acquire skill to operate different research instruments

6. Apply mathematical functions and transforms for research

18MPH103 Paper-III ADVANCED PHYSICS

Course Outcomes

1. Understand different types of imperfections and their role.
2. Knowledge about wave propagation through wave guides.
3. Application of electro optics in communication
4. Understand basic concepts of group theory
5. Application of group theory in research.
6. Understand the principle and working of different types of transducers.

18MPH104A Paper-IV DIELECTRIC THIN FILM PHYSICS

Course Outcomes

1. Understand the preparation of thin films, thickness measurement and nucleation growth in thin films.
2. Knowledge about insulator and dielectric thin films.
3. Acquire knowledge about optical properties and polymer thin films

18MPH104B Paper-IV SEMICONDUCTOR THIN FILM PHYSIS

Course Outcomes

1. Understand the preparation of thin films, thickness measurement and nucleation growth in thin films.
2. Knowledge about transport and mechanical properties of thin films.
3. Acquire knowledge about electrical and optical properties of thin films.

**18MPH104C Paper-IV MICROCONDUCTOR AND INTERFACING
TECHNIQUES**

Course Outcomes

1. Understand the Microcontroller architecture, assembly language programming and instruction set of 8051
2. Knowledge about peripherals and interface.
3. Acquire knowledge about transducers

18MPH104D Paper-IV LUMINANCE MATERIALS AND CHARACTERIZATION

Course Outcomes

1. Understand the optical properties, luminescence, synthesis of glass and re doped glasses.
2. Acquire knowledge about radiative and non radiative return energy transfer and Spectral Intensities of F-F Transitions.
3. Understand the Advanced Experimental Techniques

18MPH104E

Paper-IV THIN FILM SENSORS

Course Outcomes

1. Understand the Vacuum & Measurement, Thin Film Nucleation & Growth and Preparation of Thin Films.
2. Acquire knowledge about Inter Diffusion , Electrical and Dielectric Properties of Thin Films.
3. Understand the Thin Film Sensor Principle and Materials.and application of Gas sensor

18MPH104F

Paper-IV LASER PHYSICS

Course Outcomes

1. Understand the theory and types of Lasers.
2. Acquire Knowledge about optical resonators, holography and scientific applications.
3. Understand the Lasers in engineering.

18MPH104G

Paper-IV PHONON PHYSICS

Course Outcomes

1. Understand the Classical and Quantum Theories of Lattice Dynamics.
2. Acquire Knowledge about Thermal and Dielectric Properties of Crystals.
3. Acquire knowledge about The Inelastic Scattering of Neutros and X– Rays and Effect of Defects on The Vibrations of Crystal Lattices.

18MPH104H Paper-IV PRINCIPLES AND METHODS OF CRYSTAL GROWTH

Course Outcomes

1. Understand the fundamentals and theories of crystal growth.
2. Acquire Knowledge about preparation of crystals.
3. Study and analysis of various spectrums.

18MPH104I**Paper-IV LATTICE DYNAMICS****Course Outcomes**

1. Understand the Classical and Quantum Theories of Lattice Dynamics, thermal and dielectric properties of crystals.
1. Acquire Knowledge about The Inelastic Scattering of Neutros and X– Rays.
2. Understand the defects and Lattice Dynamical Theory of the Diffusion Process.

18MPH104J**Paper-IV CHEMICAL PHYSICS****Course Outcomes**

1. Understand the liquid state and distribution function theories.
2. Acquire Knowledge about hard sphere and perturbation theories.
3. Understand the Ultrasonics of Biological Substances and Biochemicals

18MPH104K Paper-IV MICROPROCESSOR AND ITS APPLICATIONS**Course Outcomes**

1. Understand the Microcontroller architecture, assembly language programming and instruction set of 8085
2. Knowledge about peripherals and interface.
3. Acquire knowledge about applications of 8085.

18MPH104L Paper-IV LIQUID STATE CHEMICAL PHYSICS**Course Outcomes**

1. Understand the theory and models of liquid state.
2. Acquire Knowledge about fluids and structure of liquids.
3. Understand the Experimental Techniques For Liquid Mixtures

18MPH104M Paper-IV INSTRUMENTATION AND CONTROL**Course Outcomes**

1. Understand the Transducers, Mechanical Measurements, and Industrial Instrumentation
1. Knowledge about signals, systems, electrical and electronic measurements.
2. Acquire knowledge about Biomedical and Microcontroller based Instrumentation.

18MPH104N Paper-IV CRYSTAL GROWTH**Course Outcomes**

1. Understand the Nucleation and Kinetics of Crystal Growth and techniques.

2. Knowledge about Modern Crystal Growth Techniques.
3. Acquire knowledge about Physical Properties of Crystals.

18MPH104O Paper-IV NANOSCIENCE AND TECHNOLOGY

Course Outcomes

1. Understand the fundamentals of nanoscience and nanotechnology.
2. Knowledge about synthesis and characterization of nanomaterials.
3. Acquire knowledge about nanoscale materials and devices.

18MPH104P Paper-IV THIN FILM TECHNOLOGY AND ITS APPLICATIONS

Course Outcomes

1. Understand the thin film deposition techniques, film growth and structure.
2. Knowledge about thin film analysis, electrical, optical and magnetic properties.
3. Acquire knowledge about applications of thin films.

**18MPH104Q Paper-IV CRYSTAL GROWTH AND CHARACTERIZATION
TECHNIQUES**

Course Outcomes

1. Understand the Nucleation and Crystal Growth and techniques.
2. Knowledge about structural and optical analysis.
3. Acquire knowledge about mechanical, electrical and thermal analysis

**18MPH104R Paper-IV CRYSTAL GROWTH PROCESSES & ITS
CHARACTERIZATION TECHNIQUES**

Course Outcomes

1. Understand the thermodynamics and Crystal Growth and techniques.
2. Knowledge about various Crystal Growth Techniques.
3. Acquire knowledge about analysis and characterization of Crystals.

18MPH104S Paper-IV PRINCIPLES OF NANO-TECHNOLOGY

Course Outcomes

1. Understand the fundamentals, nucleation and kinetics of nanoparticles.
2. Knowledge about synthesis and structural studies of nanomaterials.
3. Acquire knowledge about applications of nanomaterials.

18MPH104T Paper-IV LIQUID STATE CHEMICAL PHYSICS

Course Outcomes

1. Understand the theory and models of liquid state.
2. Acquire Knowledge about fluids and structure of liquids.
3. Understand the Experimental Techniques For Liquid Mixtures

18MPH104U Paper-IV LIQUID STATE CHEMICAL PHYSICS WITH SPECTROSCOPIC CONFIRMATION

Course Outcomes

1. Understand the theory and distribution function of liquid state.
2. Acquire Knowledge about Experimental Techniques For Liquid Mixtures.
3. Understand about the spectroscopic confirmation

18MPH104V Paper-IV SYNTHESIS AND CHARACTERIZATION OF NANOMATERIALS

Course Outcomes

1. Understand the Physical and Chemical synthesis methods of Nanomaterials.
2. Acquire Knowledge about Electron Microscopic and X-ray crystallographic studies of Nanomaterial.
3. Understand the optical studies of Nanomaterials.

M. Phil. STATISTICS

Programme Outcomes (POs)

1. Scholars are to be adopted with a new paradigm of self-learning in the form of review of earlier knowledge acquired.
2. Scholars are brought to light from the previous investigation complete to the newer thrusts of knowledge and implementation in research.
3. Scholars are trained to design, implement and evaluate secured information (hard and soft) systems with assured quality and efficiency.
4. Scholars are to be oriented towards becoming globally competent.

Programme Specific Outcomes (PSOs)

1. Critical and Analytical Thinking Skills
2. Problem Skills
3. Communication and Presentation Skills
4. Teamwork Skills
5. Knowledge
6. Information Technology/Techniques
7. Ethics and Social Responsibility
8. Leadership Skills
9. Research Orientation
10. Employability Enhancement

18MST101 Paper-I PROFESSIONAL SKILLS FOR TEACHING-LEARNING

Course Outcomes

1. Empower scholars with soft skills
2. Introduce the techniques and dynamics of teaching
3. Facilitate e-learning/e-teaching with the ICT tools
4. Know the material resources for classroom teaching
5. Introduce soft skill for class room teaching
6. To improve the cognitive skills for research

18MST102 Paper-II RESEARCH METHODOLOGY (OOC)

Course outcomes

1. Revisiting of important basic concepts of statistics along with Research methodology.

2. Use Statistical Packages and interpretations of the results
3. Analyze how to write the proposal for research projects
4. Understand the methods to collect the error free data.
5. Learn the nature of the matrix for multivariate analysis
6. Develop the multivariate technique skills for innovate research projects.

18MST103 Paper-III ADVANCED STATISTICAL QUALITY CONTROL

Course outcomes

1. Learn the basics of Statistical Quality Control for research.
2. Understand the applications of different control charts.
3. Explore the critical situations for using control charts.
4. Illustrate the importance of Statistical process control.
5. Learn the different sampling plans.
6. Understand the importance of Statistical process control in Engineering and technology.

18MST104A Paper-III ADVANCED APPLIED MULTIVARIATE ANALYSIS

Course outcomes

1. Explain the importance of Principle component analysis.
2. Use data reduction techniques.
3. Understand the method of multidimensional scaling.
4. Know the clustering techniques for data collection.
5. Examine the nature of the Discriminant analysis.
6. Understand the differentiation between Latent class modeling and Restricted Latent class models.

18MST104B Paper-III ADVANCED DESIGN OF EXPERIMENTS

Course outcomes

1. Analyze the difference between the Latin square designs.
2. Learn the construction of orthogonal arrays.
3. Illustrate the Confounding techniques.
4. Understand the Importance of factorial experiments.
5. Examine the difference between BIBD and PBIBD.
6. Learn the nature of Second and third order rotatable designs.

18MST104C Paper-III ADVANCED STOCHASTIC PROCESSES

Course Outcomes

1. Examine the applications of Markov processes in innovative research.
2. Understand the importance of Birth and Death processes.
3. Know the renewal process in industry.

4. Learn the Branching process techniques.
5. Illustrate the importance of kolmogorov equations in research.
6. Examine the nature of the Brownian motion.

M.Phil. Tamil

PROGRAMME OUTCOMES (POs)

1. Scholars are to be adopted with a new paradigm of self-learning in the form of review of earlier knowledge acquired.
2. Scholars are brought to light from the previous investigation completed to the newer thrusts of knowledge and implementation in research.
3. Scholars are trained to design, implement and evaluate secured information (hard and soft) systems with assured quality and efficiency.
4. Scholars are to be oriented towards becoming globally competent.

PROGRAMME SPECIFIC OUTCOMES (PSOs)

1. Scholars will follow the various methodologies in teaching and learning.
2. Scholars will have acquired the skills of ICT
3. Scholars will be able to secure knowledge of recent trends of Tamil
4. Scholars will develop the skills required for writing the competitive examination
5. Scholars will get the analytical skills for criticizing Tamil Grammar and Literature
6. Scholars will understand the Research methodologies.
7. Scholars will be able to write their thesis based on research methodology and make the correction properly
8. Scholars will acquire the skills necessary for Self- Paced learning.

COURSE OUTCOMES

C-1 PROFESSIONAL SKILLS FOR TEACHING-LEARNING

After the completion of this course, the scholars will be able

1. To empower themselves with soft skills
2. To understand the different dimension of Teaching Learning process
3. To facilitate E- learning/ E-Teaching process by using ICT tools
4. To develop the skills required for teaching Prose, Poetry and Grammar
5. To handle the classes with the necessary preparation
6. To understand the importance of Teaching Psychology

C-2**RESEARCH METHODOLOGY**

After the completion of this course, the scholars will be able

1. To criticize the literature with research attitude.
2. To acquire the skills required for writing the thesis based on research methodologies
3. To define the research problems and get the conclusion
4. To familiarize in the collection of research data
5. To present the report without mistakes
6. To understand the trends and approaches of Field study

C-3**LITERARY THEORIES AND GENRES**

After the completion of this course, the scholars will be able

1. To understand the importance of literary criticism
2. To know the types of criticism
3. To criticize the literature by using various literary theories
4. To acquire the knowledge of literary trends over the period
5. To comprehend the theories related to literary genres
6. To evolve the classification of Tamil literature

POST GRADUATE PROGRAMMES

2018 M. Sc. BIOCHEMISTRY

Programme Outcomes (POs):

1. Graduates are prepared to be creators of new knowledge leading to innovation and entrepreneurship employable in various sectors such as private, government, and research organizations.
2. Graduates are trained to evolve new technologies in their own discipline.
3. Graduates are groomed to engage in lifelong learning process by exploring their knowledge independently.
4. Graduates are framed to design and conduct experiments /demos/create models to analyze and interpret data.
5. Graduates ought to have the ability of effectively communicating the findings of Biological sciences incorporating with existing knowledge.

Programme Specific Outcomes (PSOs):

1. Graduates are prepared to be creators of new knowledge in the field of life sciences, causing innovation and entrepreneurship, employable in various sectors such as private, government, and clinical /biomedical research organizations.
2. Graduates are trained to study and evolve the biomolecular mechanisms for the life processes in health and diseases, in living beings.
3. Graduates are groomed to carry on research in biology on chemical basis, by exploring their knowledge independently.
4. Graduates are encouraged to design and conduct experiments, to analyze and interpret biological problems, behind the research process.
5. Graduates ought to have the ability of effectively communicating the findings of Biological sciences with existing knowledge.
6. Appreciate proficiency in related disciplines such as molecular biology, endocrinology and immunology.
7. Graduates are instructed to work as a team to solve problems with traditional and modern laboratory tools.
8. Finally the graduates identify a plan for higher education or career in diverse fields.

Semester I

18PBI1101

Hours/Week: 6

Credits : 5

BIOMOLECULAR CHEMISTRY

Course Outcomes:

The course assures to provide the students with

1. A basic understanding of the molecular makeup of the living cells.
2. A thorough knowledge on the types, structure and functions of carbohydrates.
3. The metabolism of dietary and endogenous carbohydrates.
4. The fundamental insight on the types, structures and functions of amino acids and proteins.
5. The biosynthesis and chemical reactions of lipids.
6. The denovo synthesis and degradation pathways of nucleic acids.
7. The integration of various metabolic pathways.
8. At the end of the course, the students will be able to demonstrate the biomolecular constitution and metabolic processes.

Semester I**Hours/Week: 6****18PBI1102****Credits : 5****MOLECULAR BIOLOGY****Course Outcomes:**

The course assures to provide the students with

1. The pioneering experiments involved in molecular biology.
2. A basic understanding of the mobile genetic elements.
3. The molecular machinery of replication.
4. The mechanisms of different types of recombination.
5. The steps involved in the induction of transcription.
6. The gene expression and the regulation of cellular functions in cells.
7. The various steps involved in translation.
8. The errors and correction mechanisms of informational molecules.

Semester I**Hours/Week: 6****18PBI1103****Credits : 5****BIOENERGETICS AND ENZYMOLOGY****Course Outcomes:**

1. An understanding of bioenergetics.
2. The uniqueness of enzyme catalyzed reactions - activation energy.
3. A knowledge concerning biotransformation reactions involving enzymes.
4. Mechanism of action of selected enzymes.
5. Enzyme reactions and its characteristics along with the production and purification process

6. The methods in enzyme inhibition.
7. The understanding of enzyme kinetics and
8. The applications of enzymes in various fields.

Semester I

Hours/Week: 8

18PBI1104

Credits : 6

Laboratory Course-1: BIOCHEMISTRY AND ENZYMOLOGY

Course Outcomes:

1. Basic skills in the biochemistry lab.
2. Accurate use of pipettes, making solutions for enzyme and biochemical study.
3. The analyzes of the nutritive value of oils.
4. The estimation of vitamin C from fruits and vegetables.
5. The isolation and estimation of nucleic acids.
6. Safety measurements along with the quantification of biomolecules.
7. Purification methods of enzymes.
8. Kinetics of selected enzymes with influencing factors

Semester I

Hours/Week: 4

18PBI1201A

Credits : 4

Core Elective-1A DEVELOPMENTAL BIOLOGY

Course Outcomes:

1. The cellular basis of development.
2. Fundamental knowledge of animal embryonic development.
3. The process and mechanisms of sex determination in mammals.
4. The axis formation and somites in the organisms.
5. The insight to the development of various organs.
6. Learn how genes function to control phenotype of an organism.
7. Learn how genes function to cause tissue differentiation.
8. The role of environment in the developmental process.

Semester I

Hours/Week: 4

18PBI1201B

Credits : 4

Core Elective-1B BIOCHEMISTRY OF NATURAL PRODUCTS

Course Outcomes:

1. The occurrence, properties and economic importance of natural products from plants, animals and microbes.

2. The Classification of the natural compounds based on chemistry and applications.
3. The isolation strategies of natural products.
4. The therapeutic importance of those natural products.
5. The identification of the commercially important natural products.
6. The medicinal importance of saponins.
7. The therapeutic importance of Terpenoids.
8. The therapeutic applications of secondary metabolites.

Semester II

Hours/Week: 4

18PBI2105

Credits : 4

MICROBIOLOGY

Course Outcomes:

1. The basic classification and characteristic features of microbes;
2. The implications of microbes in the environment;
3. Awareness on the infectious diseases, their diagnosis and treatment options;
4. The microbial metabolism.
5. The etiology of infectious diseases.
6. The molecular mechanisms of infection.
7. The applications of microbiology in various industries.
8. The use of microbes for producing nutrients for mankind.

Semester II

Hours/Week: 5

18PBI2106

Credits : 4

RESEARCH METHODOLOGY

Course Outcomes:

1. The working principles, construction and applications of the instruments used in the studies related to various disciplines of biological sciences.
2. The operation of centrifuges
3. The principles and practical methods of electrophoresis
4. The knowledge on spectroscopic methods.
5. The safety protocols in research labs.
6. The statistical concepts and their significance.
7. The importance of research and to learn the art of data collection.
8. The nuances of scientific writing and publishing.

Semester II

Hours/Week: 5

18PBI2107

Credits : 4

HUMAN PHYSIOLOGY

Course Outcomes:

1. The anatomy of the body
2. The functional mechanisms of Gastrointestinal tract.
3. The mechanisms of cardiovascular system and respiration
4. The structure and functions of nervous system.
5. The functional mechanisms of neuromuscular junction.
6. Recognition of the interrelationships within and between anatomical and physiological systems of the human body.
7. The mechanisms of urine formation.
8. The knowledge on the influence of environment and feelings in the physiological processes.

Semester II

Hours/Week: 8

18PBI2108

Credits : 6

Laboratory Course-2: MICROBIOLOGY, PHYSIOLOGY & MOLECULAR TECHNIQUES

Course Outcomes:

1. Demonstrate various staining techniques, used to identify gram positive and negative bacteria.
2. Explain about different types of microbial culture media, their preparation and isolation methods of pure culture.
3. Explain the characterization of individual microbial species.
4. Demonstrate the determination of quality of food samples.
5. Understand the importance of the blood circulation and changes in the physiology of the circulation during exercise.
6. Demonstrate the procedures concerned with isolation of nucleic acids.
7. Learn the basic molecular separation techniques(DNA) through electrophoresis.
8. Prepare seeds artificially.

Semester II

Hours/Week: -

18PBI2109

Credits : 2

Self-paced Learning: ADVANCED NUTRITION

Course Outcomes:

1. The proximate principles of nutrition with reference to RDA.
2. The quantification of nutritional content of the food items.
3. The disorders associated with nutrition.
4. The nutritional significance of vitamins.

5. The role of minerals in metabolism.
6. The basic requirement of nutrition at different stages of life.
7. The experiments concerned with energy metabolism and nutritional assessment.
8. At the end of the course the students would be able to assess the nutritional status and design diet plans.

Semester II

Hours/Week: 4

18PBI2202A

Credits : 4

Core Elective-2A: LIFE SCIENCES FOR COMPETITIVE EXAMINAIONS-I

Course Outcomes:

1. Fundamental knowledge on the classification.
2. Preparation of herbarium.
3. The knowledge on the role of hormones in plants.
4. The knowledge on the plant physiological process.
5. The understanding on the role of nitrogen in plants.
6. The topics of the CSIR UGC – NET and SET syllabus that are not included in the core courses.
7. The principles of ecosystems.
8. The realization on the environmental health.

Semester II

Hours/Week: 4

18PBI2202B

Credits : 4

Core Elective-2B: MOLECULAR DIAGNOSTICS

Course Outcomes:

1. The molecular basis of diseases.
2. The various molecular diagnostic tools available for these diseases.
3. The transmission mechanisms of single gene disorders.
4. The applications of karyotyping procedures.
5. The tissue matching procedures.
6. The progress and developments in animal cell culture techniques.
7. The outlines for forensic methodologies.
8. The detection methods of cancer and HIV.

Semester II

Hours/Week: 4

18PSS2301

Credits : 4

IDC: SOFT SKILLS

Course Outcomes:

1. Students are taught the various nuances of grooming such as, good manners and etiquettes and they are trained to practice them in the class rooms.
2. Students are empowered with public speaking skills via extempore speeches and prepared speeches, presented before the class and assessed by the trainer as well as the companions which eventually helps build self confidence of the students.
3. Students learn the different types of resumes and different types of interview skills and write and print their own resumes and present before the interview panel for their mock interview.
4. Students actively learn the ten parameters of group discussion, perform on the stage with their colleagues, which is videotaped, reviewed and evaluated.
5. As students go through their teenage, self discovery becomes a tool to develop their personality facilitated with scientific psychological personality tests.
6. Students are guided to knowing their SWOT (Strengths, Weaknesses, Opportunities and Threats) and setting their short term and long term goals for their lives.

Semester III

Hours/Week: 4

18PBI3110

Credits : 3

PHARMACEUTICS AND NANOTECHNOLOGY

Course Outcomes:

1. Study the preparation and packaging methodologies in pharmaceuticals.
2. Demonstrate various drug delivery systems.
3. Learn the types and preparation methods of tablets.
4. Learn the types and preparation methods of capsules.
5. Learn the methods of quality control.
6. Know the basics of nanotechnology and its potential as medicines.
7. Recognize with the prospective of placement in the pharmaceutical industries.
8. Demonstrate the characterization methods of nanoparticles.

Semester III

Hours/Week: 4

18PBI3111

Credits : 3

GENETIC ENGINEERING

Course Outcomes:

1. Study the various underlying principles of genetic engineering and enzymes concerned with it.
2. Study the construction of gene cassettes and vectors.

3. Study the methodologies of gene transfer.
4. Acquire knowledge on the general principles of generating transgenic plants, animals and microbes.
5. Learn strategizing research methodologies employing genetic engineering techniques.
6. Study the methods of recombinant selection.
7. Learn the analytical procedures involving DNA.
8. Learn the applications of recombinant DNA in forensic department.

Semester III

Hours/Week: 4

18PBI3112

Credits : 4

Laboratory Course-3: IMMUNOLOGY, ANDROLOGY AND HISTOPATHOLOGY

Course Outcomes:

1. Learn immunotechniques in diagnosis.
2. Analyze sperm morphology and sperm count.
3. Analyze the viability of the sperm.
4. Analyze the allergy susceptibility of the individuals.
5. Learn about the histopathological screening of the various organs in animal models.
6. Study the principles and protocols in hormone assay.
7. Learn the basics of laboratory animal handling.
8. Learn the extraction procedures of metabolites from the plant source.

Semester III

Hours/Week: 6

18SBS3101

Credits : 5

Inder Disciplinary Core: SOLID WASTE MANAGEMENT

Course Outcomes:

1. To understand the importance of solid waste management.
2. To study the method s of collection of wastes.
3. To acquire knowledge on decomposition of organic matter.
4. To know the methods of solid waste management.
5. To learn the technology of vermicomposting.
6. To learn the technique of Mushroom cultivation.
7. To understand the importance and medicinal values of mushroom.
8. To understand the preparation of recipes of mushroom

Semester III

Hours/Week: 6

18PBS3101B

Credits : 5

Interdisciplinary Core: IMMUNOLOGY

Course Outcomes:

1. Know the anatomy of the immune reactions.
2. Study in detail the components of immune system.
3. Learn the different types of antigens.
4. Learn the structural details of antibodies.
5. Learn the generation mechanisms of antibodies.
6. Learn the initiation and regulation of immune response.
7. Learn the biochemical basis of immune disorders.
8. Know the analytical methods involved in immunology.

Semester III

Hours/Week: 4

18PBI3203A

Credits : 4

Core Elective-3A: LIFE SCIENCES FOR COMPETITIVE EXAMINATIONS-II

Course Outcomes:

1. Gain knowledge on basic theories of evolution.
2. Know the stages in the evolution process.
3. Learn the methods of speciation.
4. Study the topics of the CSIR UGC – Net and SET syllabus that are not included in the core courses.
5. Be familiar with ecosystem and its contents.
6. Learn the energy transfer within the different ecosystems.
7. Learn the causes of environmental pollution.
8. Understand the significance of environmental health.

Semester III

Hours/Week: 4

18PBI3203B

Credits : 4

Core Elective-3B: PHARMACEUTICAL BIOCHEMISTRY

Course Outcomes:

1. Make a detailed study of drugs, particularly their actions on living systems.
2. Learn the pharmacokinetics and pharmacodynamics of drugs.
3. Learn the formulations available for various tracts.
4. Learn the drugs available for GI tract and sleep disorders.
5. Know their chemotherapeutic value.
6. Familiarize with the adverse effects of drug action.
7. Study the process and development of drugs.
8. Learn the procedures of molecular docking.

Semester III

Hours/Week: 4

18PBI3301

Credits : 4

IDC (WS): HERBAL TECHNOLOGY

Course Outcomes:

1. Learn the medicinal value of plants.
2. Study the medicinally used traditional herbs.
3. Explore the role of herbs in Siddha medicine.
4. Understand various methods involved in recognition and collection of medicinal plants.
5. Understand various methods involved in preservation of medicinal plants.
6. Understand the methods of conservation of rare plants.
7. Study the phytochemical reactions of secondary metabolites.
8. Outline the plants used in traditional medicine.

Semester III

Hours/Week: 4

18PBI3302

Credits : 4

IDC (BS): FIRST AID MANAGEMENT

Course Outcomes:

1. Perform a basic assessment of an emergency situation.
2. Undertake immediate relief and rescue during emergency.
3. Learn the methods of arresting heamorrhage.
4. Learn the first aid methods to deal with bone fracture.
5. Learn the instrumentations available for emergency relief and rescue.
6. Demonstrate an awareness of signs, symptoms and treatment for common medical emergencies.
7. Gains psychological intelligence during critical situations.
8. Dispense the psychological counseling to persons at risk.

Semester IV

Hours/Week: 6

18PBI4113

Credits : 5

CLINICAL BIOCHEMISTRY

Course Outcomes:

1. Gain thorough knowledge about the biochemical basis of various diseases and disorders.
2. Analyze the mechanisms of blood clotting and the related disorders.
3. Analyze the symptoms of various diseases.
4. Learn the protein deficiency disorders.
5. Study the disorders of nucleic acid metabolism.
6. Study various diagnostic procedures for diseases and disorders.
7. Know the available treatment modalities.
8. Learn a wide range of protocols in clinical biochemistry analysis

Semester IV

Hours/Week: 6

18PBI4114

Credits : 4

ADVANCED ENDOCRINOLOGY

Course Outcomes:

1. Study the different glands of endocrine systems.
2. Learn the molecular features of hormones and their synthesis.
3. Study the hormonal regulations of various physiological functions and signaling mechanisms.
4. Study the signal transduction mediated by cell surface receptors.
5. Study the hormonal regulation of reproduction.
6. Familiarize with the endocrine diseases.
7. Understand the mechanism and role of nuclear receptors.
8. Outlines the endocrinology of cancer.

Semester IV

Hours/Week: 5

18PBI4115

Credits : 5

Laboratory Course-4 CLINICAL BIOCHEMISTRY-I

Course Outcomes:

1. Introduce the concept of Phlebotomy in clinical biochemistry.
2. Analysis of blood sugar for diabetic patients.
3. Analysis of lipid profile. 4. Assay of serum proteins and their metabolic end products.
4. Assay the clinical marker enzymes in various diseases.
5. Assay the vitamins in blood samples.
6. Evaluate the clinical situation based on the level of the parameters.
7. Suggest prognosis.

Semester IV

Hours/Week: 5

18PBI4116

Credits : 5

Laboratory Course-5 CLINICAL BIOCHEMISTRY-II

Course Outcomes:

1. Collection and preservation of blood and urine samples for diagnosis.
2. Learn the methodology of blood typing.
3. Gain knowledge on the counting of total RBC ,WBC and Platelets.
4. Analyze various biochemical blood parameters in clinical diagnosis using semiautoanalyser.
5. Study the normal, abnormal, urinary crystals and deposits.
6. Study the various modes of administration of xenobiotics to the experimental animals.
7. Skill the process of dissection.
8. Be aware of CPCSEA and its guidelines

2018 M. Sc. BOTANY

Programme Outcomes (POs):

1. Post graduate students are to be passionately engaged in initial learning with an aim to think differently as agents of new knowledge, Poststanding and applying new ideas in order to acquire employability/ self-employment.
2. Postgraduate students are trained to take up higher learning programmes.
3. Postgraduate students are made to be competent and socially responsible citizen of India.
4. Postgraduate students are to be exposed to technical, analytical and creative skills.
5. Postgraduate students are to be imparted with a broad conceptual background in the Biological sciences/ Computing sciences/ Languages and culture/ Management studies/ Physical sciences/

Programme Specific Outcomes (PSOs):

1. Graduates will acquire knowledge on various groups of plants and study their utilization and conservation.
2. Graduates will learn about the internal organization of plants and their role in functioning of plant system.
3. Graduates understand the ecological principles and their importance for sustainable utilization.
4. Graduates learn various techniques of plant breeding to enable better crop production for human welfare.
5. Graduates will acquire basic knowledge on statistics and learn its application in biological studies.
6. Graduates will develop skills on bioprocess technology which enable the scientific production of bioactive compounds of economic value.
7. Graduates will acquire knowledge on the production of GMOs which play a significant role in field of agriculture and medicine.
8. Graduates will learn the principle and methodology of thesis writing and research publications.

Semester I

Hours/Week: 6

18PBO1101

Credits : 5

PLANT DIVERSITY-I: THALLOPHYTES AND BRYOPHYTES

Course Outcomes:

1. To understand the major groups of cryptogamic plants and their characteristics.
2. To study their interrelationships and trace their evolutionary trends.

3. To know the classification, life cycle and economic importance of Algae.
4. To study the general features, classification and economic importance of Fungi.
5. To acquire basic knowledge on Lichens,
6. To understand Bryophytes and their salient features.
7. To understand the classification of Bryophytes.
8. To learn the economic importance of Bryophytes

Semester I

Hours/Week: 4

18PBO1102

Credits : 3

Laboratory Course-1 PLANT DIVERSITY-I: (THALLOPHYTES AND BRYOPHYTES)

Course Outcomes:

1. To study the internal organization of thallophytes and Bryophytes.
2. To learn the range of thallus organization in various thallophytes and Bryophytes.

Semester I

Hours/Week: 6

18PBO1103

Credits : 5

PLANT DIVERSITY-II: (PTERIDOPHYTES, GYMNOSPERMS AND PALEOBOTANY)

Course Outcomes:

1. To understand the major groups of lower vascular plants and their characteristics.
2. To trace their interrelationships and study their evolutionary trends.
3. To study their classification and life cycle patterns of representative genera.
4. To study the classification, phylogeny and economic importance of Gymnosperms.
5. To study the morphology, anatomy and reproduction of representative genera.
6. To acquire knowledge on Geological periods, fossilization and types of fossils.
7. To understand some Pteridophyte fossil genera and their life cycle.
8. To acquire knowledge on gymnosperm fossils.

Semester I

Hours/Week: 6

18PBO1104

Credits : 5

PLANT ANATOMY, EMBRYOLOGY AND MORPHOGENESIS

Course Outcomes:

1. To understand various types of tissues present in plants

2. To acquire knowledge about the tissues of stem, root and leaves
3. To understand the primary and secondary structure of dicots and monocots with reference to root, stem and leaves
4. To acquire basic knowledge of the structure and development of male and female gametophytes in plants
5. To acquire knowledge on the structure and development of dicot and monocot embryos
6. To understand the Morphogenesis and its relation to morphology
7. To study various type of endosperms.
8. To understand polyembryony and its uses.

Semester I

Hours/Week: 4

18PBO1201A

Credits : 4

Core Elective-1 ECOLOGY AND PHYTOGEOGRAPHY

Course Outcomes:

1. To understand the basic concepts of ecosystem and energy flow.
2. To acquire knowledge on population dynamics.
3. To understand the causes and consequences of climate change.
4. To study the principle and concepts of Phytogeography.
5. To acquire knowledge on biodiversity and their importance.
6. To learn the conservation strategies of biodiversity

Semester I

Hours/Week: 4

18PBO1201B

Credits : 4

Core Elective-1 FORESTRY AND WOOD SCIENCE

Course Outcomes:

1. To prepare students for careers in the forest services and wood processing industry.
2. To educate students to protect and conserve forests.
3. To acquire knowledge on forest resources and their utilization.
4. To understand the physical, chemical and mechanical properties of commercial wood.
5. To understand the raw materials needed for industries.
6. To acquire knowledge on wood substitution.

Semester II

Hours/Week: 6

18PBO2106

Credits : 5

PLANT PHYSIOLOGY

Course Outcomes:

1. To understand plant's diverse physiological functions.
2. To study the recent aspects of various physiological processes in plants.
3. To understand the application of physiology in agriculture.
4. To know how plants function at molecular, cellular and whole plant level.
5. To develop knowledge and confidence to pursue advance courses and research.
6. To get career as a field botanist or teacher in academic institutions.
7. To understand nitrogen metabolism in plants.
8. To understand physiology of flowering.

Semester II

Hours/Week: 3

18PBO2107

Credits : 3

Laboratory Course-3 PLANT PHYSIOLOGY

Course Outcomes

1. To study the effect of various physical factors on photosynthesis.
2. To estimate the quantity and activity of various enzymes.

Semester II

Hours/Week: 5

18PBO2108

Credits : 4

BIOCHEMISTRY

Course Outcomes:

1. To fathom the chemical environment and the dynamics of the biological system.
2. To elucidate the interrelationships of the various pathways.
3. To learn the structure and functions of carbohydrates.
4. To acquire knowledge on lipids.
5. To study amino acids and their metabolism.
6. To study the structure and functions of proteins.

Semester II

Hours/Week: 3

18PBO2109

Credits : 3

Laboratory Course-4 BIOCHEMISTRY

Course Outcomes

1. To understand the principle and the hereditary mechanisms.
2. To study the structure and functions of genetic materials.

Semester II

Hours/Week: 5

18PBO2110

Credits : 5

CELL AND MOLECULAR BIOLOGY

Course Outcomes:

1. To understand the structural organization and function of different cell organelles.
2. To study the cell cycle.
3. To understand the phenomenon of cell signaling
4. To acquire knowledge on genetic code
5. To study the mechanism of transcription in prokaryotes
6. To study the mechanism of translation in eukaryotes
7. To understand post-translation mechanism
8. To understand the principles of gene regulation.

Semester II

Hours/Week: -

18PBO2111

Credits : 2

Self-paced Learning: PLANT BREEDING AND EVOLUTION

Course Outcomes:

1. To study the progress made in the field of plant breeding.
2. To understand the principles, techniques and applications of plant breeding.
3. To understand the modes of reproduction in crops
4. To learn the hybridization techniques
5. To acquire knowledge on heterosis, mutation and polyploidy
6. To study the theories of evolution

Semester II

Hours/Week: 4

18PBO2202A

Credits : 4

Core Elective-2: BIOPHYSICS AND INSTRUMENTATION

Course Outcomes:

1. To understand the importance of Biophysics in modern biology.
2. To study the laws of thermodynamics.
3. To understand the concept of redox potential in biological system.
4. To study various types of microscopy and their applications.
5. To study various types of centrifugation.
6. To acquire knowledge on spectroscopy and tracer techniques.

Semester II

Hours/Week: 4

18PBO2202B

Credits : 4

Core Elective-2: PLANT PATHOLOGY

Course Outcomes:

1. To study the process of plant pathogenesis and disease establishment
2. To understand the basis of defence mechanism against pathogens
3. To acquire knowledge on the effect of infection on host physiology
4. To understand the various types of defence mechanism
5. To acquire knowledge on some common plant diseases
6. To learn the different types of disease control mechanism

Semester II

Hours/Week: 4

18PSS2301

Credits : 4

IDC: SOFT SKILLS

Course Outcomes:

1. Students are taught the various nuances of grooming such as, good manners and etiquettes and they are trained to practice them in the class rooms.
2. Students are empowered with public speaking skills via extempore speeches and prepared speeches, presented before the class and assessed by the trainer as well as the companions which eventually helps build self confidence of the students.
3. Students learn the different types of resumes and different types of interview skills and write and print their own resumes and present before the interview panel for their mock interview.
4. Students actively learn the ten parameters of group discussion, perform on the stage with their colleagues, which is videotaped, reviewed and evaluated.
5. As students go through their teenage, self discovery becomes a tool to develop their personality facilitated with scientific psychological personality tests.

6. Students are guided to knowing their SWOT (Strengths, Weaknesses, Opportunities and Threats) and setting their short term and long term goals for their lives.

Semester III

Hours/Week: 5

18PBO3112

Credits : 5

PLANT SYSTEMATICS

Course Outcomes:

1. To understand the relevance of molecular techniques in plantsystematics.
2. To study the classical taxonomy with reference to differentparameters.
3. To contrast keys to classify plants
4. To understand the principles of phylogenetic systematics
5. To understand principles of biological classification and nomenclature
6. To recognize important families of angiosperms.
7. To understand various evidences in support of classification.
8. To understand salient features of selected families.

Semester III

Hours/Week: 4

18PBO3113

Credits : 3

Laboratory Course-5 PLANT SYSTEMATICS

Course Outcomes

1. To understand the relevance of molecular techniques in plant systematics.
2. To study the classical taxonomy with reference to different parameters

Semester III

Hours/Week: 3

18PBO3114

Credits : 3

GENETICS

Course Outcomes:

1. To understand the principle and the hereditary mechanisms.
2. To study the structure and functions of genetic materials.
3. To acquire knowledge on linkage and crossing over
4. To understand the organization of prokaryotic and eukaryotic genomes
5. To understand the mechanism of DNA repair
6. To acquire knowledge on population genetics

Semester III

Hours/Week: 6

18SBS3101

Credits : 5

Inder Disciplinary Core: SOLID WASTE MANAGEMENT

Course Outcomes:

1. To understand the importance of solid waste management.
2. To study the methods of collection of wastes.
3. To acquire knowledge on decomposition of organic matter.
4. To know the methods of solid waste management.
5. To learn the technology of vermicomposting.
6. To learn the technique of Mushroom cultivation.
7. To understand the importance and medicinal values of mushroom.
8. To understand the preparation of recipes of mushroom

Semester III

Hours/Week: 4

18PBO3203A

Credits : 4

Core Elective-3: PHARMACOGNOSY

Course Outcomes:

1. To study the different systems of Indian medicines and the bioactive principles
2. To know the pharmacological importance of medicinal plants
3. To study the classification of drugs
4. To acquire knowledge on collection and processing of herbal drugs
5. To know about some important medicinal plants with their binomial and uses
6. To acquire knowledge on phytochemicals and their applications

Semester III

Hours/Week: 4

18PBO3203B

Credits : 4

Core Elective-3: BIOINFORMATICS AND BIONANOTECHNOLOGY

Course Outcomes:

1. To know importance of Bioinformatics in Biology
2. To know the various data bases available
3. To understand the basic concepts of Nanotechnology
4. To acquire knowledge on synthesis of green nano-particles
5. To study the characteristics of nanoparticles
6. To understand the interaction of nanoparticles with living system.

Semester III

Hours/Week: 4

18PBO3301

Credits : 4

IDC-2 (WS): BIOPROCESS TECHNOLOGY

Course Outcomes:

1. To introduce the principle, importance and components of a fermenter.
2. To study the basic concepts of unit operations and unit processes.
3. To understand the chemical engineering and its relation to other disciplines.
4. Ability to list chemical Monitoring process, units, and the corresponding equipment.
5. To study the production strategies of commercial products.
6. To understand the separation techniques, types and various effluent treatment process.

Semester III

Hours/Week: 4

18PBO3302

Credits : 4

IDC-3 (BS): HORTICULTURE AND LANDSCAPING

Course Outcomes:

1. To understand the importance and divisions of horticulture
2. To learn the various methods of plantpropagation
3. To know the art of indoorgardening
4. To acquire knowledge on floriculture
5. To study the types and components of gardens
6. To acquire knowledge on landscaping

Semester IV

Hours/Week: 5

18PBO4115

Credits : 4

MICROBIOLOGY AND IMMUNOLOGY

Course Outcomes:

1. To study the microorganisms and theiractivities.
2. To study the structure and organization of bacteria and viruses.
3. To understand the application of microbes in food and dairy microbiology.
4. To exploit their potentialities in agriculture, industry and therapeutic aspects.
5. To study the production and applications of antibiotics.
6. To understand the role of soil microbes in biogeochemical cycles.
7. To understand the basic concepts of the immunesystem.
8. To acquire knowledge on types and properties of antigens and antibodies.

Semester IV

Hours/Week: 5

18PBO4116

Credits : 4

GENETIC ENGINEERING AND BIOTECHNOLOGY

Course Outcomes:

1. To understand the role of enzymes in genetic engineering
2. To acquire knowledge in various cloning vectors
3. To understand the role of engineered vectors in bioremediation
4. To acquire knowledge on GM foods and their impact
5. To know the art of recombining genes and traits.
6. Understanding the revolutions that unfold in biotechnology

Semester IV

Hours/Week: 4

18PBO4117

Credits : 3

**Laboratory Course-7 MICROBIOLOGY, IMMUNOLOGY, GENETIC
ENGINEERING AND BIOTECHNOLOGY**

Course Outcomes:

1. To learn various techniques of isolation and enumeration of microorganisms from various sources.
2. To understand the immunological techniques.
3. To learn the technique of isolation of DNA.
4. To develop protocols for plant tissue culture and synthetic seed production.

Semester IV

Hours/Week: 4

18PBO4118

Credits : 4

RESEARCH METHODOLOGY

Course Outcomes:

1. To identify the influencing factors of research parameters
2. To understand the types and objectives of research.
3. To acquire knowledge on sampling techniques.
4. To acquire knowledge on Literature collection and thesis writing.
5. To test the significance, validity and reliability of the research
6. To acquire knowledge on basic concepts in Biostatistics.

Semester IV

Hours/Week: -

18PBO4119

Credits : 2

COMPREHENSIVE EXAMINATION

Course Outcomes:

1. To acquire knowledge for attending competitive exams in biology.
2. To study the structure and function of biomolecules.
3. To understand the mechanism of DNA replication and repair.
4. To learn the technique of synthesizing rDNA.
5. To understand the mechanism of photosynthesis.
6. To understand components of ecosystem.

2018 M. Sc. BIOTECHNOLOGY

Programme Outcomes (POs):

1. Graduates are prepared to be creators of new knowledge leading to innovation and entrepreneurship employable in various sectors such as private, government, and research organizations.
2. Graduates are trained to evolve new technologies in their own discipline.
3. Graduates are groomed to engage in lifelong learning process by exploring their knowledge independently.
4. Graduates are framed to design and conduct experiments /demos/create models to analyze and interpret data.
5. Graduates ought to have the ability of effectively communicating the findings of Biological sciences incorporating with existing knowledge.

Programme Specific Outcomes (PSOs):

1. Post graduates will earn and employ knowledge of Biotechnology and Scientific concepts to identify, understand, analyze and solve problems related to field of Biotechnology.
2. Theyt will be able design, perform experiments and interpret data for investigating complex problems in biotechnology and related fields.
3. Post graduates will be able to determine and apply appropriate tools and techniques in biotechnological manipulation.
4. Post graduates will be able to establish eco-friendly solutions to address complex environmental problems.
5. Post graduates will be able to understand the need and impact of biotechnological solutions on environment and societal context keeping in view need for sustainable solution.
6. Post graduates will have knowledge and understanding of related norms and ethics in Biotechnology product/technique development.
7. They will be able to take up a research problem, review literatures and will be able to technically solve the research oriented problem.
8. Post graduates will be fostered for higher studies, R&D activities and professional career in emerging trends of biotechnology.

Semester I

Hours/Week: 6

18PBT1101

Credits : 5

MOLECULAR BIOLOGY

Course Outcomes:

1. Understanding the basic structure and functioning of the genetic materials.
2. Knowledge about the changes in the genetic material and the consequences in plants & humans.
3. Critical thinking to compare and contrast the mechanisms of bacterial and eukaryotic DNA replication and, DNA repair.
4. Intellectual about the molecular mechanisms of bacterial & eukaryotic transcription, and translation respectively.
5. Understanding the chemical and molecular process that occurs in and between cells.
6. Academically gaining the most significant molecular based methods used today to expand our understanding the biology.
7. Analyze the concepts of the structure and function of genes, regulation of gene, microbial genetics, mutations and DNA repair.
8. Portrays the importance of recent discoveries and the applications of Molecular Biology and the ethics that are associated with these new technologies.

Semester I

Hours/Week: 6

18PBT1102

Credits : 5

BIOCHEMISTRY

Course Outcomes:

1. Knowledge about the molecular biology of life
2. Understanding the enzymes and how they catalyze reactions as well as enzyme kinetics
3. Intellectual about the structures of amino acids, their chemical properties and their organization intopolypeptides and proteins.
4. Review about the structure of fundamental monosaccharides and polysaccharides.
5. Knowledge about the structure and biological function of nucleotides and lipids.
6. Understanding the synthesis of biomolecules and their role in metabolic pathways along with their regulation
7. Understanding scientific basics of the life processes at the molecular level.
8. Explain and provide the inter-relationships of biomolecules and their consequences for interpreting & solving clinical problems.

Semester I

Hours/Week: 6

18PBT1103

Credits : 5

CELL BIOLOGY

Course Outcomes:

1. Knowledge in basic concepts of cell biology and properties about cells.

2. Ability to analyze and interpret the behaviour of cells in their microenvironment in multi-cellular organisms with emphasis on cell-cell interactions, cell - extra cellular matrix interactions, and soluble signalling.
3. Evidence-based critical thinking in cell biology.
4. Knowledge about the depth and scope of the ever developing field of cell biology.
5. Information literacy in identifying the subcellular organelles and describing their structure and function.
6. Knowledge in cell cycle, nuclear and cell division.
7. Gain an understanding of chemical and molecular processes that occur inside cells.
8. Understanding the signaling and interaction mechanisms between cells.

Semester I

Hours/Week: 8

18PBT1104

Credits : 6

Lab Course-I MOLECULAR BIOLOGY, BIOCHEMISTRY AND CELL BIOLOGY

Course Outcomes:

1. Recognize that biology has a basis in chemistry, physics, and mathematics.
2. Understanding safe laboratory practices and perform basic molecular biology techniques.
3. Ability to describe how scientific method is used to explain natural phenomena with effective oral and written language skills to communicate scientific data and ideas.
4. Generate hypotheses, evaluate data, and design experiments to investigate a scientific problem, and present advanced knowledge in the specialized fields of molecular and cell biology.
5. Develop their skills in the preparation and identification of cell structures and their functions.
6. Students will be able to develop their skills in isolation of plasmid DNA, genomic DNA and RNA.

Semester I

Hours/Week: 4

18PBT1201A

Credits : 4

Core Elective-IA DEVELOPMENTAL BIOLOGY

Course Outcomes:

1. Resourceful in the cellular basis of development.
2. Understanding the concepts in developmental biology related to gene regulation and epigenetics.
3. Intellectual in the developmental biology related to cell fate specification and patterning.
4. Ability to elucidate the early development process of humans.

5. Resourceful in the concepts of cellular competence, induction, specification, commitment and differentiation in embryonic development.
6. Knowledge in embryonic patterning.

Semester I

Hours/Week: 4

18PBT1201B

Credits : 4

Core Elective-IB STEM CELL TECHNOLOGY

Course Outcomes:

1. Understanding the stem cell biology and biotech revolution;
2. Resourceful in the molecular mechanisms and applications associated with this technology.
3. Critical thinking to compare and contrast tissue specific stem cell types and the basic mechanisms that regulate them.
4. Understanding the concepts of pluripotency and self-renewal.
5. Familiar with clinical problems for which stem cells can provide novel regenerative therapies.
6. Idea about ethical and political issues related to stem cell research.

Semester II

Hours/Week: 4

18PBT2105

Credits : 4

RECOMBINANT DNA TECHNOLOGY

Course Outcomes:

1. Knowledge in various underlying principles of genetic engineering that forms the basis of rDNA technology.
2. Resourceful in current applications of biotechnology and advances in different research areas.
3. Understanding the methodologies, and in brief the applications and related issues of rDNA technology.
4. Resourceful in strategizing research methodologies employing genetic engineering techniques.
5. Familiar with the key features of DNA, RNA and proteins and explain the inter-relationships between these molecules
6. Knowledge in bioethical issues related to this new technology

Semester II

Hours/Week: 5

18PBT2106

Credits : 4

MICROBIOLOGY

Course Outcomes:

1. Familiar in the microbial ecology and role of microbes in nutrient cycles.
2. Evaluate methods of microbial control and apply the proper methods necessary in a given scenario.
3. Knowledge in microbial organisms and their relevance of infectious diseases.
4. Intellectual literacy in the applications of microbiology in various industries.
5. Knowledge about the medical and practical uses for microorganisms
6. Knowledge in Disease transmission and control of nosocomial infections

Semester II**Hours/Week: 5****18PBT2107****Credits : 4****GENE EXPRESSION, GENOMICS, AND PROTEOMICS****Course Outcomes:**

1. Understand thoroughly the concepts and importance of Genes and genomes.
2. Impart knowledge on Nucleic acids and their characteristics, transcription, translation, protein sorting, regulation of gene expression
3. Understand the mechanism of gene control in prokaryotes and eukaryotes.
4. Study the basic techniques and concepts in genomics and proteomics.
5. Understand the applied fields of genomics and proteomics.
6. Knowledge about the sequencing strategies.

Semester II**Hours/Week: 8****18PBT2108****Credits : 6****Lab Course-II: RECOMBINANT DNA TECHNOLOGY, MICROBIOLOGY, AND GENOMICS****Course Outcomes:**

1. Technical know-how on versatile techniques in recombinant DNA technology.
2. Proficiency in designing and conducting experiments involving genetic manipulation.
3. The safe methods for isolation, subculture, and maintenance of bacterial and fungal specimens.
4. An understanding of fundamental stains, basic staining techniques, and related bacterial and fungal physiology.
5. An understanding of the uses of various media and testing protocols.
6. Study the basic techniques and concepts in genomics.

Semester II**Hours/Week: -**

18PBT2109

Credits : 2

Self-paced Learning: FUNDAMENTALS OF GENETICS

Course Outcomes:

1. Understanding the basic concepts of genetics
2. Resourceful in the concepts on Linkage and genetic mapping
3. Critical thinking about how traits are inherited and to use this understanding in analyses
4. Information literacy in the uses of population genetics techniques
5. The ability to evaluate conclusions that are based on genetic data.
6. Understanding the role of genetic mechanisms in evolution.

Semester II

Hours/Week: 4

18PBT2202A

Credits : 4

Core Elective-IIA: CELL SIGNALLING

Course Outcomes:

1. Understanding the basic knowledge in the components of the main signalling pathways and their functional properties
2. Knowledge in the regulation of target cell responsiveness.
3. Resourceful in the different mechanisms for receptor activation and regulation.
4. Understand the intracellular signalling cascades and their impact on cellular activities including cytoskeleton rearrangements, motility and changes in gene expression.
5. Resourceful in identifying the components of a general signal transduction pathway.
6. Knowledge in different messenger-receptor interactions bring about long or short-term changes in cell state.

Semester II

Hours/Week: 4

18PBT2202B

Credits : 4

Core Elective-IIB: MOLECULAR DIAGNOSTICS AND THERAPEUTICS

Course Outcomes:

1. Knowledge in the molecular mechanisms of diseases.
2. Familiar with the various molecular diagnostic tools available for genetic and infectious diseases.
3. Knowledge about the DNA probes and their molecular techniques for the disease diagnosis.
4. Analyse the difference between conventional and molecular techniques.
5. In-depth idea about how genetic problems may lead to disease or lethality.

6. An impression about modern DNA technology to the application of disease gene identification and analysis.

Semester II

Hours/Week: 4

18PSS2301

Credits : 4

IDC: SOFT SKILLS

Course Outcomes:

1. Students are taught the various nuances of grooming such as, good manners and etiquettes and they are trained to practice them in the class rooms.
2. Students are empowered with public speaking skills via extempore speeches and prepared speeches, presented before the class and assessed by the trainer as well as the companions which eventually helps build self confidence of the students.
3. Students learn the different types of resumes and different types of interview skills and write and print their own resumes and present before the interview panel for their mock interview.
4. Students actively learn the ten parameters of group discussion, perform on the stage with their colleagues, which is videotaped, reviewed and evaluated.
5. As students go through their teenage, self discovery becomes a tool to develop their personality facilitated with scientific psychological personality tests.
6. Students are guided to knowing their SWOT (Strengths, Weaknesses, Opportunities and Threats)and setting their short term and long term goals for their lives.

Semester III

Hours/Week: 4

18PBT3110

Credits : 3

BIOINSTRUMENTATION AND RESEARCH METHODOLOGY

Course Outcomes:

1. Beneficial to various scientific areas including life sciences, chemical sciences, material sciences and environmental science.
2. Provide scientific understanding of analytical techniques and detail interpretation of results.
3. Understand the working principles, construction and applications of the instruments often used in the studies related to various disciplines of Biological Sciences.
4. Understand the statistical concepts and applying them in data collection, analysis and interpretation.
5. Impart knowledge on different scientific research designs and methods
6. Understand the importance and the concept

Semester III

Hours/Week: 4

18PBT3111

Credits : 3

MICROBIAL BIOTECHNOLOGY

Course Outcomes:

1. It covers basic principles of fermentation and technologies of fermented food products.
2. The course covers the microbial growth kinetics, fermentation types, selection of microorganisms used in industry and production of different types of fermented food products.
3. The processes include traditional fermentation procedures and also those involving organisms modified by recombinant DNA technology.
4. Impart knowledge in the avenues of exploiting microbes.
5. Study the structure and types of fermentor. 6. Study the downstream processes for product recovery in fermentation.

Semester III

Hours/Week: 4

18PBT3112

Credits : 4

Lab Course-III: MICROBIAL BIOTECHNOLOGY, BIOINFORMATICS & BIostatISTICS AND IMMUNOLOGY

Course Outcomes:

1. Develop the skills of large scale production of secondary metabolites.
2. Study the batch and continuous culture growth
3. Evaluate the temperature effect on culture growth
4. DNA analysis using graph Algorithms Clustering and trees.
5. Impart knowledge on statistical analysis of biological data.
6. Advanced knowledge of the underlying principles of immunology and its application in solving problems in biological systems.

Semester III

Hours/Week: 6

18SBS3101

Credits : 5

Inder Disciplinary Core: SOLID WASTE MANAGEMENT

Course Outcomes:

1. To understand the importance of solid waste management.
2. To study the methods of collection of wastes.
3. To acquire knowledge on decomposition of organic matter.
4. To know the methods of solid waste management.
5. To learn the technology of vermicomposting.

6. To learn the technique of Mushroom cultivation.
7. To understand the importance and medicinal values of mushroom.
8. To understand the preparation of recipes of mushroom

Semester III

Hours/Week: 6

18PBS3101B

Credits : 5

Interdisciplinary Core: IMMUNOLOGY

Course Outcomes:

1. Understanding the function of the major components of the immune system in health and disease
2. Knowledge about the immune response of humans to foreign substances.
3. Familiar in the modern techniques that help determine human protection.
4. Intellectual literacy in the common immune diseases in terms of the underlying basic principles.
5. Resourceful in the structure, function, and characteristics of immunoglobulins.
6. Familiar with the immunologic responses involved in preventing, combating infections and the concepts of nonspecific and specific immunity.
7. Understanding the antigen-antibody interactions and the mechanism of the immune system to protect the body from the pathogens.

Semester III

Hours/Week: 4

18PBT3203A

Credits : 4

Core Elective-III A: BIOINFORMATICS

Course Outcomes:

1. To give students knowledge of and competence in use of bioinformatical methods central to conduction of molecular biological research projects.
2. Emphasis on bioinformatics related to exploration of proteins and includes analyses of sequences, database searches, sequence comparison, visualization and analysis of protein structures, and introduction to phylogenetic analyses.
3. Give an introduction to analysis of DNA sequences, genes and genomes, gene expression and systems biology.
4. To give students a basic competences in the use of bioinformatical tools.
5. Emphasizes the learning of bioinformatical tools in light of the student's knowledge of molecular biology.
6. Study the meaning and structure of biological information available in the existing databases.

Semester III

Hours/Week: 4

18PBT3203B

Credits : 4

Core Elective-IIIB: DRUG DISCOVERY AND DEVELOPMENT

Course Outcomes:

1. Make a detailed study of drugs, particularly their actions on living systems.
2. Understand the major aspects of the drug discovery process, starting with target selection, to compound screening to designing lead candidates.
3. Increase understanding of the various drug discovery tools and methods that are used for finding, identifying and designing a new drug.
4. Know their chemotherapeutic value.
5. Impart basic concepts in the field of drug design followed by advanced methodology in the molecular aspects of drug design.
6. Impart basic concepts of drug metabolism and pharmacokinetics, manufacturing principles, and product development and its quality.

Semester III

Hours/Week: 4

18PBT3301

Credits : 4

IDC (WS): MEDICAL BIOTECHNOLOGY

Course Outcomes:

1. To provide students with basic concepts and understanding of how the various drivers of medical biotechnology interact with one another and shape the business and finance of this industry and impact the growth of medical biotechnology companies.
2. To provide students with an historical perspective in the fast emerging medical biotechnology, cancer biology and the innovative processes that ensures the success of such endeavors.
3. To cover a host of topics that will provide the students with a springboard to develop their creative thinking and explore their ideas of new vision of medical biotechnology and cancer biology.
4. By learning the basics of medical genetics and their underlying mechanisms, one can be aware of the ways to avoid them and also know the implications of the drugs and their effects.
5. Aimed at learning the genetic disorders caused due to environmental factors as well as patterns of inheritance.
6. Provide a comprehensive introduction to the clinical research process.

Semester III

Hours/Week: 4

18PBT3302

Credits : 4

IDC (BS): FOOD TECHNOLOGY

Course Outcomes:

1. Understand the chemical nature and associated microbes of food.
2. Study various microbes that contaminate and spoil the foods
3. Understand the principles of food processing and preservation.
4. Study the manufacturing of basic food products
5. Critically evaluate and summarize a food science issue or problem.
6. Apply critical thinking and problem-solving skills to address current challenges in the food industry.

Semester IV**Hours/Week: 6****18PBT4113****Credits : 5****FOOD BIOTECHNOLOGY****Course Outcomes:**

1. Understand the positive role and benefits of microorganisms and enzymes in food production, processing, and preservation.
2. Understand basic biological and chemical processes of living cells, enzymes, and microbial nutrition in relation to fermentation processes.
3. Know clearly about the food microbiology and food borne diseases.
4. Critique the ethical concerns associated with modern biotechnology processes.
5. Appraise the beneficial effects of microorganisms on foods with regards to nutritional and functional properties.
6. Understand the strategies of food industrial biotechnological industries.
7. Knowledge of techniques used in food processing technology.
8. Understand the chemistry and nutritional value of food.

Semester IV**Hours/Week: 6****18PBT4114****Credits : 4****PLANT AND ANIMAL BIOTECHNOLOGY****Course Outcomes:**

1. To provide students with experiences in industry appropriate applications of biotechnology related to plant and animal agriculture.
2. To propagate endangered animals and plants by modifying cell in biotechnology and to propagate cell lines for use in microbiological, medical, and biochemical research.
3. To study the basic principles and techniques involved in plant and animal cell culture.
4. To understand the concepts of transformation in Plant and Animal systems.
5. To understand the achievements of biotechnology in Plant and Animal systems.
6. To study the importance of animal models

Semester IV

Hours/Week: 5

18PBT4115

Credits : 5

Lab Course-IV: FOOD BIOTECHNOLOGY

Course Outcomes:

1. Understand the microbiology of food, food-borne diseases, food spoilage, fermented food and modern microbial analysis techniques relating to food.
2. Enhance the student's technical, scientific communication and interpretive skills in food biotechnology.
3. Critically analyse and solve problems in food biotechnology, by selecting and applying practical techniques with technical competence in laboratory experiments.
4. Develop a fundamental understanding of basic concepts of food biotechnology and its uses in the society at a large extent.
5. Evaluate applications of various concepts & techniques of food biotechnology to facilitate biotechnological advancement and innovations.
6. Demonstrate knowledge of the regulatory frameworks and ethical principles relevant to food science and biotechnology.

Semester IV

Hours/Week: 5

18PBT4116

Credits : 5

Lab Course-V: PLANT AND ANIMAL BIOTECHNOLOGY

Course Outcomes:

1. To explain the basics of the physiological and molecular processes that occur in plants and animals.
2. To understand how biotechnology has been used to develop knowledge of complex processes that occur in the plants and animals.
3. To use basic biotechnological techniques to explore molecular biology of plants and animals.
4. To understand the processes involved in the planning, conduct and execution of plant & animal biotechnology experiments.
5. To develop their skills in the animal cell culture techniques.
6. To understand explicitly the concepts of plant tissue culture techniques.

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Programme Outcomes (POs):

1. Post graduate students are to be passionately engaged in self learning activities where they can apply new ideas in order to acquire employability/ self-employment.
2. Post graduate students are trained to take up entrepreneurship.
3. Post graduate students are trained to be competent and more serious about their life and the nation.
4. Post graduate students are trained self-learning.
5. Post graduate students are imparted with a broad conceptual background in the Computing sciences / Management studies/ Accountancy.

Programme Specific Outcomes (PSOs):

1. Analytical Thinking Skills
2. Social Skills
3. Communication and Presentation Skills
4. Knowledge and Employability Enhancement
5. Information Technology/Techniques
6. Special Accounting and Tally knowledge
7. Entrepreneurial Skills and Leadership Skills
8. Research experiences and exposure

Semester I

Hours/Week: 6

18PCC1101

Credits : 6

RESEARCH METHODOLOGY

Course Outcomes:

1. Understand the process of research
2. Understand the concepts of sampling and tools for data collection and analysis.
3. Learn how to enter the collected data
4. Learn complex random samplings designs
5. Understand the statistical tools suitable for the research problem
6. Recognize the conceptual framework of Testing, graphic presentation
7. Appreciate primary sources and secondary sources
8. Discuss the importance of Report Writing.

Semester I

Hours/Week: 7

18PCC1102

Credits : 6

FINANCIAL MANAGEMENT

Course Outcomes:

1. Know objectives- scope and how it has evolved over a period of time
2. Analyze a company's optimum capital structure and identify key factors involved in
3. Establish a company's worldwide capital structure.
4. Discuss the importance of capital investment planning and control
5. Learn how to enter the collected data and how to utilize the funds fruitfully.
6. Understand the conceptual framework of working capital requirement and estimation.
7. Explore the knowledge on Role of SEBI in Capital Issues and Time Value of money concepts.
8. Show how to take account of a firm's financing mix in evaluating investment decisions.

Semester I

Hours/Week: 6

18PCC1103

Credits : 5

MARKETING MANAGEMENT

Course Outcomes:

1. To understand the conception framework of mm
2. To examine the concept of product development and pricing
3. To analyses the various levels of distribution in marketing
4. To identify the role of adversity in the field of marketing
5. To be familiar with the importance of sale promotion in marketing
6. To interpret the various types of sales promotion programs
7. To reflect on the needs of marketing research and its importance in decision making
8. To enumerate the concepts of product life cycle, product mix and different strategies of fixing a price

Semester I

Hours/Week: 4

18PCC1104

Credits : 3

INTERNET CONCEPTS

Course Outcomes:

1. Build an understanding of the fundamental concepts of internet.
2. Define the basic taxonomy and terminology of the computer networks and protocols.
3. Develop a deeper understanding of the language of HTML.
4. Understand the basic structure of a website.

5. Ability to build a website.
6. Debugging the scripting languages.

Semester I

Hours/Week: 3

18PCC1105

Credits : 3

Software Lab-I: WEB DESIGNING

Course Outcomes:

1. Create a simple web-based system
2. Develop, Test and debug a simple PHP scripts.
3. Design PHP scripts that are used to create and populate database
4. Apply distributed techniques cookies manipulation in web-based systems.
5. Design to upload the file and images

Semester I

Hours/Week: 4

18PCC1201A

Credits : 4

Core Elective-I ENTREPRENEURSHIP DEVELOPMENT

Course Outcomes:

1. Understand the different dimensions of entrepreneurship.
2. Inculcate the spirit of entrepreneurship in students and make them job creators instead of job seekers.
3. be aware of the various methods of project appraisal and selection
4. Understand the various functions of TIIIC and DIC
5. Explore the knowledge on starting SMI in real life situation
6. To understand the concept of Legal and Statutory Environment for Small Industry

Semester I

Hours/Week: 4

18PCC1201B

Credits : 4

Core Elective-I E-COMMERCE

Course Outcomes:

1. To enable the student to understand basics of E-Commerce
2. To gain a practical orientation to E-Commerce and E- Business management.
3. To know the practical knowledge on banking system
4. To acquire the knowledge on e commerce marketing technology
5. To gain a practical knowledge on electronic payment system
6. To acquire Marketing strategies & E-Commerce

Semester II

Hours/Week: 6

18PCC2106

Credits : 6

COST ACCOUNTING

Course Outcomes:

1. Understand basic concepts of cost accounting
2. Describe the preparation of cost sheet
3. Explain the methods of pricing issues and stocks - compute and explain the stock control levels
4. Compute labour cost using the various methods of remuneration and incentives schemes.
5. Study the overheads analysis and explain how to allocate and apportion overheads to cost centre
6. Describe the valuation process in Process Costing- determine equivalent units
7. Understand various methods of apportioning joint costs to jointproducts.
8. To study the reconciliation of cost and financial data

Semester II

Hours/Week: 4

18PCC2107

Credits : 3

DATABASE SYSTEMS

Course Outcomes:

1. Impart the basic and advanced concepts of database.
2. Understanding the rolls and functionalities of Database administrator.
3. Learning the various database languages.
4. Acquiring the knowledge of normalization.
5. Define the Components of transaction state.
6. Understand the Characteristics and Components of concurrency control protocols.

Semester II

Hours/Week: 3

18PCC2108

Credits : 2

Software Lab-II RDBMS

Course Outcomes:

1. Populate and query a database using DML/DDI commands.
2. Design a table and apply aggregate function and set operations.

3. Normalize the database using normalization rules.
4. Apply PL/SQL for query processing.
5. Design nested sub queries and correlated sub queries for a given problem.
6. Use PL/SQL stored procedure, stored functions, cursors and packages to query the database.

Semester II

Hours/Week: 5

18PCC2109

Credits : 4

MANAGERIAL SKILLS

Course Outcomes:

1. To understand about Management thoughts
2. To impart knowledge on managerial objectives
3. To be aware of the various skills of management
4. To insist on the importance of interpersonal skills
5. To become a fully cultured person
6. To be aware of the various skills of employability

Semester II

Hours/Week: 4

18PCC2110

Credits : 2

LABOUR LEGISLATIONS

Course Outcomes:

1. Understand the acts supporting the workers
2. Gain knowledge regarding compensation provided to workers
3. Understand the concepts of labour acts
4. Understand issues related to the compensation or rewarding human resources in various forms of organizations
5. Familiarize on the process of bonus computation on wage and salary.
6. Understand the acts on payment of gratuity to workers

Semester II

Hours/Week: -

18PCC2111A

Credits : 2

Self-paced Learning: CORPORATE CULTURE AND PRACTICES

Course Outcomes:

1. To create an understanding of the importance of corporate culture for Business Management and strategies.
2. To understand corporate mission and vision
3. To gain knowledge on the cultural web organizational structure
4. To provide an understanding of how corporate culture is created, maintained and changed.
5. To provide the macro socio-cultural factors that influence corporate culture
6. To acquire knowledge on typologies of corporate culture

Semester II

Hours/Week: -

18PCC2111B

Credits : 2

Self-paced Learning: EVENT MANAGEMENT

Course Outcomes:

1. To acquaint with the concept issues and various aspects of event management.
2. To give basic knowledge on concepts of event Management.
3. To take up facets of event management
4. To use the various concepts of activities in event Management
5. To understand the strategies of event management
6. Understand how to create an event that achieves specific objectives for the host/client.

Semester II

Hours/Week: -

18PCC2111C

Credits : 2

Self-paced Learning: CROSS CULTURE MANAGEMENT

Course Outcomes:

1. To study the disciplines of cross culture
2. To induce the students about the various cultural differences.
3. To interpret the cultural dimensions of people, time and world.
4. To identify inter-cultural communication and its reflection.
5. To understand the native language of communication.
6. To know the historical origin of of cross culture.

Semester II

Hours/Week: -

18PCC2111D

Credits : 2

Self-paced Learning: CUSTOMER RELATIONSHIP MANAGEMENT

Course Outcomes:

1. Acquire knowledge regarding relations in customer relationship management
2. Possess insight in customer's satisfaction
3. Know and apply the services quality
4. Gain knowledge in electronic customer relationship management
5. Understand the importance of customers and employees in organization and management
6. Gain knowledge on the importance of customer satisfaction

Semester II

Hours/Week: -

18PCC2111E

Credits : 2

Self-paced Learning: MODERN BANKING

Course Outcomes:

1. To understand the meaning- importance and the economic and monetary implications of banking operations
2. To possess knowledge about the various forms of banking services
3. To gain knowledge on various forms of loans offered by banks
4. To learn about Banking Regulations Act
5. To the knowledge on Negotiable instrument
6. To gain insight in to E-banking services

Semester II

Hours/Week: -

18PCC2111F

Credits : 2

Self-paced Learning: DISASTER MANAGEMENT

Course Outcomes:

1. Understand reduce damages and deaths
2. Gain a practical orientation to speed recovery
3. Understand the concepts in reduce personal suffering
4. Explore the knowledge on protect victims
5. Study the legal and ethical issues in disaster management.
6. To understand disaster resources and their utility in disaster management

Semester II

Hours/Week: 4

18PCC2202A

Credits : 4

Core Elective-II: FUNDAMENTALS OF INSURANCE

Course Outcomes:

1. To provide a basic understanding of the insurance mechanism.
2. To explain the concept of insurance and how it is used to cover risk.
3. To know the business operation of insurance
4. To understand the relationship between insurers and their customers
5. To identify the types of business and the risks involved.
6. To understand the various schemes of insurance companies

Semester II

Hours/Week: 4

18PCC2202B

Credits : 4

Core Elective-II: KNOWLEDGE MANAGEMENT SYSTEMS

Course Outcomes:

1. To know how to design and maintain knowledge management system
2. Knowledge of components in KMS and how to use in business environment for effective decision making
3. Use a framework and a clear language for knowledge management concepts;
4. Describe how valuable individual, group and organizational knowledge is managed throughout the knowledge management cycle;
5. Define the different knowledge types and explain how they are addressed by knowledge management;
6. Describe the major roles and responsibilities in knowledge management implementations;

Semester II

Hours/Week: 4

18PSS2301

Credits : 4

IDC: SOFT SKILLS

Course Outcomes:

1. Students are taught the various nuances of grooming such as, good manners and etiquettes and they are trained to practice them in the class rooms.
2. Students are empowered with public speaking skills via extempore speeches and prepared speeches, presented before the class and assessed by the trainer as well as the companions which eventually helps build self-confidence of the students.
3. Students learn the different types of resumes and different types of interview skills and write and print their own resumes and present before the interview panel for their mock interview.
4. Students actively learn the ten parameters of group discussion, perform on the stage with their colleagues, which is videotaped, reviewed and evaluated.
5. As students go through their teenage, self-discovery becomes a tool to develop their personality facilitated with scientific psychological personality tests.

6. Students are guided to knowing their SWOT (Strengths, Weaknesses, Opportunities and Threats) and setting their short term and long-term goals for their lives.

Semester III

Hours/Week: 6

18PCC3112

Credits : 5

OPERATIONS RESEARCH

Course Outcomes:

1. Understand the concepts and use of various mathematical techniques of operations research for business decision
2. Formulate a real-world problem as a mathematical programming model
3. Understand the concept of decision theory by using it in the certainty and uncertainty situations
4. Solve network models like the shortest path- minimum spanning tree and maximum flow problems
5. Know the application of queuing theory and game theory in the real life situations
6. Apply the CPM and PERT in the business process.
7. Identify the knowledge of operations research to real life situation
8. Improve their calculating capacity

Semester III

Hours/Week: 3

18PCC3113

Credits : 3

OOP WITH C++ AND JAVA

Course Outcomes:

1. Knowing the basic concepts of programming skills.
2. Learning the problem solving technique.
3. Understanding the fundamentals of language constructs.
4. Acquiring the knowledge of object oriented programming.
5. Impart the knowledge and programming skills on object –oriented programming languages such as, C++ and JAVA.
6. Ability to build and debugging a programming.

Semester III

Hours/Week: 3

18PCC3114

Credits : 2

Software Lab-III OBJECT - ORIENTED PROGRAMMING

Course Outcomes

1. Demonstrate the basic concepts of OOPS

2. Implement the programming skills based on OOPS
3. Demonstrate the behavior of Exception handling and Multithreading
4. Implement the GUI techniques (Event handling, Applet and Swing).
5. Develop programming aspect with files and networking.
6. Apply JDBC methods to establish connection with database

Semester III

Hours/Week: 4

18PCC3203A

Credits : 4

Core Elective-III: COMPANY LAW

Course Outcomes:

1. To understand the formation, management and other activities of the companies
2. To Gain knowledge on the functioning of a company
3. To know the regulations pertaining to the issue of shares
4. To impart knowledge on corporate management , government regulation of corporate business
5. To Gain knowledge about company 's share capital and membership
6. To understand the procedure of winding up of the company

Semester III

Hours/Week: 4

18PCC3203B

Credits : 4

Core Elective-III NGO MANAGEMENT

Course Outcomes:

1. To Over view about the NGO and Issues.
2. Facets of NGO's and different dimensions and understanding social welfare activities.
3. NGO's and Social, Cultural and ideological forces.
4. NGO's and community based services and volunteerism.
5. NGO's and Team building process and participation activities for society development.
6. Understand the reasons for the persistence of global poverty and inequality and how current development paradigms contribute to poverty reduction and human development.

Semester III

Hours/Week: 4

18PCC3301

Credits : 4

IDC (WS): STRESS MANAGEMENT

Course Outcomes:

1. Provide a broad physical- social and psychological understanding of human stress.
2. Focus on presenting a broad background of stress research.
3. Understand the implications of crisis management.
4. Developing a sense of humour in work place.
5. Improving personality in self development.
6. To understand crisis management

Semester III**Hours/Week: 4****18PCC3302****Credits : 4****IDC (BS): SOCIAL PSYCHOLOGY****Course Outcomes:**

1. Study social interaction and social influence.
2. Understand the behavior and mental processes and enhances the ability to apply
3. Empirical knowledge to improve the lives of people.
4. Learn Cognition in social world and self esteem and social comparison
5. Be taught interpersonal relations and interpersonal attraction.
6. Apply social psychology- social influence in Pro social behaviour in assembly.

Semester IV**Hours/Week: 5****18PCC4115****Credits : 5****BUSINESS TAXATION****Course Outcomes:**

1. To understand the importance of indirect taxes (GST) in the Indian and global economy and its contribution for the economic development.
2. To understand the different types of taxes
3. To comprehend the principles of taxations, objectives of taxes and its impact, shifting and incidence process of indirect taxes in market orientated economy.
4. To understand the implications of indirect taxes on the taxable capacity consumers, dealers and of the society and its changes.
5. To gain knowledge on customs act
6. To understand the Tax reforms in India and it's impact of economy
7. To make them to be a tax consultant in preparing the tax planning, tax management. Payment of tax and filling of tax returns.
8. To understand the impact of GST on Domestic, National and International Trade and educating the students as a tax audit, consultant and mangers.

Semester IV

Hours/Week: 4

18PCC4116

Credits : 4

FINANCIAL ACCOUNTING PACKAGE - TALLY ERP 9

Course Outcomes:

1. Impart the students with the basic principles and concepts of accounting.
2. Provide knowledge on the use and application of computer in accounting.
3. Impart the knowledge on TDS-TCS and VAT Calculations
4. Know and practice about the various vouchers.
5. Give exposure on inventory maintenance
6. To learn about the Inventory information

Semester IV

Hours/Week: 4

18PCC4118

Credits : 3

TEACHING & RESEARCH APTITUDE

Course Outcomes:

1. The main objective is to assess the teaching and research capabilities of the candidates.
2. The test is aimed at assessing the teaching and general/research aptitude as Well as their awareness.
3. They are expected to possess and exhibit cognitive abilities.
4. Cognitive abilities include comprehension, analysis, evaluation, understanding the structure of arguments and deductive and inductive reasoning.
5. The students are also expected to have a general awareness and knowledge of sources of information.
6. To aware of interaction between people, environment and natural resources and their impact on quality of life.

Semester IV

Hours/Week: 5

18PCC4120

Credits : 4

Software Lab: MANAGEMENT INFORMATION SYSTEM

Course Outcomes:

1. To Know the Management Information System Concepts
2. Gain knowledge about Importance of IT
3. Able to explore the Basics of Hardware and Software
4. Know about the Database Applications

5. Analyze the accounting and financial information system and decision support system.
6. Plan and implement business changes with global perspective.

M. Sc. Chemistry

Programme Outcomes (POs):

1. Graduates are prepared to be creators of new knowledge leading to innovation and entrepreneurship employable in various sectors such as private, government, and research organizations.
2. Graduates are trained to evolve new technologies in their own discipline.
3. Graduates are groomed to engage in lifelong learning process by exploring their knowledge independently.
4. Graduates are framed to design and conduct experiments /demos/create models to analyze and interpret data.
5. Graduates ought to have the ability of effectively communicating the findings of Physical sciences; incorporating with existing knowledge.

Programme Specific Outcomes (PSOs):

1. Human and Social Values and Responsibilities in the context of learning Chemistry
2. Communicative Skills and the Creative scientific mind towards learning chemistry
3. Positive approach towards Environment and Ecology from the Chemistry perspective
4. Critical thinking and the Analytical mind, students develop for the in depth knowledge in advanced-level Chemistry
5. The relevance of extension of Chemistry in the social context for solving social issues
6. Employability Skills shall enable the students to find jobs in corechemistry and other related fields
7. Entrepreneurial Skills shall empower the students to start their own industries / business in core-chemistry fields
8. Analytical or Experimental Skills make the students capable of doing higher-level research works in the emerging fields of chemistry.

Semester I

Hours/Week: 6

18PCH1101

Credits : 5

INORGANIC CHEMISTRY - I

Course Outcomes:

1. The chemistry of transition and inner transition elements are learnt
2. Important compounds of transition metals and their applications are learnt
3. The fundamentals and instrumentation of nuclear chemistry are learnt
4. The applications of nuclear chemistry in theoretical and analytical fields are learnt
5. Concept of nuclear energy is understood
6. Importance and need of nuclear energy to the expanding human society is understood

7. Disposal techniques of nuclear wastes and safety in working with nuclear energy are understood
8. Various atomic power projects in India are learnt

Semester I

Hours/Week: 6

18PCH1102

Credits : 5

ORGANIC CHEMISTRY - I

Course Outcomes:

1. Students learn bonding in organic molecules and the structural implications on properties
2. Students get learnt the concept of aromatic character in some molecules
3. Students understand the importance of stereochemical aspects of structure and properties
4. Students get to know the chemical reactions and the mechanisms via different intermediates
5. Students learn the techniques of studying the mechanisms of reactions
6. Students understand the nucleophilic substitution reactions shown by organic molecules
7. Students get to know the mechanistic pathways of those nucleophilic substitution reactions
8. Students understand the structural and stereochemical implications on nucleophilic substitution reactions

Semester I

Hours/Week: 6

18PCH1103

Credits : 5

PHYSICAL CHEMISTRY - I

Course Outcomes:

1. Students learn and understand the theories of reaction rates
2. Students learn the concept of potential energy contour plots
3. The concepts and applications of reaction kinetic chemistry are understood
4. Acid-base and enzyme catalysis concepts are learnt
5. Students learn and understand the concepts of surface catalysis
6. The theory of strong electrolytes and its applications is learnt
7. Students learn and understand the concepts of electrical double layer
8. The concepts of polarization and derivation of Butler -Volmer equation is learnt

Semester I

Hours/Week: 4

18PCH1104

Credits : 3

Lab Course: ORGANIC CHEMISTRY - I

Course Outcomes:

1. Students learn the separation of binary organic mixtures
2. Students understand the green chemistry concepts
3. Students learn the skills of doing microlevel analysis
4. Students get to know the methods of qualitative analysis of organic compounds
5. Students understand the single stage preparation of organic compounds
6. Students learn about the derivative of the organic functional groups

Semester I

Hours/Week: 4

18PCH1301

Credits : 4

IDC-I (WS): INDUSTRIAL PRODUCTS

Course Outcomes:

1. Students learn Industrial products like cement and glass and their manufacturing processes and their uses in day today life
2. Students get learnt the concept of dyes, pigments and paints and their preparation and uses
3. Students understand the importance of plastic and fibres and their utility
4. Students get to know the preparation and uses of fertilizers in the agricultural sector
5. Students learn the techniques of studying cosmetic and their uses
6. Students understand the recycling of plastic to avoid pollution

Semester II

Hours/Week: 6

18PCH2106

Credits : 5

INORGANIC CHEMISTRY-II

Course Outcomes:

1. Concept of ionic bonding is understood
2. Various types of chemical forces and their effects on the physical properties of substances are learnt
3. Theories of covalent bonding are learnt
4. Methods of prediction of structures of polyatomic molecules are understood
5. Applications of electromotive force in inorganic chemistry are learnt
6. Various concepts of acids and bases and the basis of Hard-Soft-AcidBase theory are learnt
7. Chemistry of non-aqueous solvents is understood

8. Structures and properties of inorganic chains, rings, cages and clusters are understood

Semester II

Hours/Week: 6

18PCH2107

Credits : 5

ORGANIC CHEMISTRY-II

Course Outcomes:

1. Students learn the characteristic features of electrophilic substitutions
2. Students understand the different kinds of electrophilic mechanisms in both aromatic and aliphatic compounds
3. Students learn the addition reactions in carbon-carbon unsaturated bonds
4. Students get to know the addition reactions to carbon-hetero atom multiple bonds
5. Students have sufficient knowledge on the mechanisms of elimination reactions and their name reactions
6. Students have better knowledge on the synthetic uses of the different oxidants and reductants used in organic synthesis
7. Students get to know the classifications, mechanisms and applications of various molecular rearrangements
8. Students prepare and learn some selected topics by themselves through online study

Semester II

Hours/Week: 6

18PCH2108

Credits : 5

PHYSICAL CHEMISTRY-II

Course Outcomes:

1. Students learn and understand the concept of classical mechanics
2. Hydrogen atomic spectrum is learnt and understood
3. The concepts of mathematics of quantum chemistry is learnt
4. Students learn and understand the concepts of Schrodinger equation
5. The concept of probability distribution is learnt
6. Students learn and understand the concept of group theory
7. Students understand the concept of building a character table
8. The concept of hybridization and crystal symmetry is learnt.

Semester II

Hours/Week: 4

18PCH2109

Credits : 3

Lab Course: ORGANIC CHEMISTRY-II

Course Outcomes:

1. Students understand the quantitative analysis in organic chemistry
2. Students know the estimation of organic compounds
3. Students understand the double stage organic preparations
4. Students get to know the chromatographic techniques
5. Students learn the chemical characterization of oils, proteins and dyes

Semester II

Hours/Week: 4

18PCH2110

Credits : 3

Lab Course: PHYSICAL CHEMISTRY-II

Course Outcomes:

1. Students learn and understand the concept Electrode potential
2. The concept of Salting out constant is learnt
3. Students learn and understand the concepts of Conductometric titrations
4. Students learn and understand the concepts of Potentiometric titrations
5. The concepts and measurement of equivalent conductance is learnt
6. Redox properties of ionic species is well understood

Semester II

Hours/Week: -

18PCH2111

Credits : 2

Self-paced Learning: SELECTED TOPICS IN PHYSICAL CHEMISTRY

Course Outcomes:

1. Students learn and understand the concept of Partial molar properties and Fugacity
2. The concept of laws of thermodynamics and activity is learnt
3. The Concepts of basics of thermodynamics is learnt
4. Radiation chemistry and its concept are understood
5. Corrosion and its applications is learnt and understood
6. Students learn and understand the concept of Renewable sources of energy

Semester II Hours/Week: 4

18PSS2301 Credits : 4

IDC: SOFT SKILLS

Course Outcomes:

1. Students are taught the various nuances of grooming such as, good manners and etiquettes and they are trained to practice them in the class rooms.

2. Students are empowered with public speaking skills via extempore speeches and prepared speeches, presented before the class and assessed by the trainer as well as the companions which eventually helps build self confidence of the students.
3. Students learn the different types of resumes and different types of interview skills and write and print their own resumes and present before the interview panel for their mock interview.
4. Students actively learn the ten parameters of group discussion, perform on the stage with their colleagues, which is videotaped, reviewed and evaluated.
5. As students go through their teenage, self discovery becomes a tool to develop their personality facilitated with scientific psychological personality tests.
6. Students are guided to knowing their SWOT (Strengths, Weaknesses, Opportunities and Threats) and setting their short term and long term goals for their lives

Semester III

Hours/Week: 6

18PCH3112

Credits : 5

INORGANIC CHEMISTRY-III

Course Outcomes:

1. Theories of bonding in coordination compounds are learnt
2. Basics of organometallics and structure and bonding in organometallic compounds are understood
3. Mechanisms of reactions of complexes are learnt
4. Industrial applications of organometallic catalysts are learnt
5. Different types of magnetic behaviors and their measurement are learnt
6. Origin of electronic spectra of complexes and their interpretations are understood
7. Applications of infrared spectroscopy to the study of coordination chemistry is understood
8. Applications of NMR, ESR and Mossbauer spectrometric methods to the field of coordination chemistry are learnt

Semester III

Hours/Week: 6

18PCH3113

Credits : 5

ORGANIC CHEMISTRY-III

Course Outcomes:

1. Students learn concepts and applications of UV-Vis spectroscopy
2. Students get learnt the concept IR spectroscopy and are able to find out the IR stretching frequency of organic functional groups
3. Students learn the principles, techniques and applications the of NMR and ESR spectroscopy for the structural elucidations

4. Students get to know the instrumentation, ionization techniques and fragmentation patterns, of chemical compounds using mass spectrometry
5. Students analyse and design the strategies of the retrosynthetic approach to synthesize organic molecules.
6. Students understand stereo chemical implications of pericyclic reaction in organic synthesis.
7. Students get to know the mechanistic pathways of DA, sigmatropic and electrocyclic reaction
8. Students understand the structural and stereochemical implications on photochemical reactions

Semester III

Hours/Week: 6

18SPS3101A

Credits : 5

**Interdisciplinary Core: SPECTROSCOPY AND STATISTICAL
THERMODYNAMICS**

Course Outcomes:

1. Students learn and understand the concept of Molecular spectroscopy
2. The concept of FT-IR is well understood
3. The concepts of Raman Spectroscopy is well understood
4. Students learn and understand the concepts of NMR spectroscopy
5. The concepts of probability distribution is understood
6. The concept of statistical thermodynamics is understood
7. Students learn and understand the concept of partial molar properties
8. The application of statistical thermodynamics is understood

Semester III

Hours/Week: 6

18SPS3101B

Credits : 5

IDC: SPECTROSCOPY

Course Outcomes:

1. Understand the aspects of rotational spectroscopy and its techniques.
2. Understand the theory and principles of vibrational spectroscopy and its techniques.
3. Comprehend the basics of Raman and their instrumentation techniques.
4. Understand the physics behind NMR and ESR spectroscopy and its instrumentation.
5. Perceive the theory and principles of electronic and X-ray spectroscopy.
6. Understand Mossbauer spectroscopic techniques and hyperfine spectral lines.
7. Understand phosphorescence and fluorescence.
8. Analyze the structure of compounds by various spectroscopic techniques.

Semester IV

Hours/Week: 6

18SPS3101C

Credits : 5

SENSORS AND TRANSDUCERS

Course Outcomes

1. Understand the working principles of various transducers.
2. Characterize and measure the non - electrical quantities
3. Acquire knowledge of measurement techniques of thermal conductivity
4. Enhance the knowledge on integrated sensors.
5. Able to understand the usage of electrolytic sensors
6. Learn about biosensors and MEMS based sensors
7. Design the signal conditioning circuits used in bio- instrumentation
8. To analyze the operations of various sensors used in industries and commercial applications.

Semester III

Hours/Week: 4

18PCH3201A

Credits : 4

Core Elective-IA: ANALYTICAL CHEMISTRY

Course Outcomes:

1. The nature of errors in analyses and their types are learnt
2. Methods of minimization of errors in analytical measurements are understood
3. Statistical methods in error analysis are learnt
4. Validation methods of experimental data are understood
5. Fundamentals and applications of thermo-analytical techniques are learnt
6. Various chromatographic techniques – their theory, instrumentation, types and applications are learnt

Semester III

Hours/Week: 4

18PCH3201B

Credits : 4

Core Elective-IB: CHEMICAL INSTRUMENTATION

Course Outcomes:

1. The nature and choice of methods of measurement are learnt
2. Variables that control measurements are understood
3. Limits of detection and amplification are learnt
4. Concept of operational amplifiers is understood
5. Control of current and voltage are understood

- Signal-to-noise ratio is learnt

Semester III

Hours/Week: 4

18PCH3202A

Credits : 3

Core Elective-IIA: Lab Course: INORGANIC CHEMISTRY-I

Course Outcomes:

- Qualitative analysis of common metals are learnt
- Qualitative analysis of rare metals are learnt
- Beer-Lamberts' law is understood
- Colorimetric analysis of some common metals are learnt
- Experimental conditions and setup for the general methods of preparation of complexes are learnt
- Preparation methods of some inorganic complexes are understood

Semester III

Hours/Week: 4

18PCH3202B

Credits : 4

Core Elective-IIB: Lab Course: CHARACTERIZATION OF COORDINATION COMPLEXES

Course Outcomes:

- Determination of metal-ligand ratio is learnt
- Estimation of charges on complexes is understood
- Para and diamagnetic nature of complexes is understood
- Determination of magnetic susceptibility of complexes is learnt
- Uses of electronic spectra in the characterization of complexes are learnt
- Use of IR data in determining the metal-ligand linkage is understood

Semester III

Hours/Week: 4

18PCH3302

Credits : 4

IDC-III (BS): HEALTH CHEMISTRY

Course Outcomes:

- Students learn the importance of basic nutrients and maintenance of good health
- Students understand the classification of carbohydrates, proteins and vitamins
- Students gain knowledge on drugs and their mode of action
- Students learn the functions of body fluids

5. Students learn the factors affecting the blood pressure
6. Students learn the various digestion processes occurring in mouth, stomach, intestine and pancreas

Semester IV

Hours/Week: 4

18PCH4115

Credits : 4

INORGANIC CHEMISTRY-IV

Course Outcomes:

1. Various structures of solid inorganic molecules are understood
2. Principles and applications of X-ray diffraction methods are learnt
3. Structural preferences of spinels and anti-spinels are understood
4. Structures of covalent crystals are understood
5. Various crystal defects are understood
6. Theories of solids and the concept of super conductivity are learnt

Semester IV

Hours/Week: 4

18PCH4116

Credits : 4

ORGANIC CHEMISTRY-IV

Course Outcomes:

1. Students learn and understand the stereochemical aspects of the chemical reactions
2. Students can learn and understand the asymmetric synthesis of organic molecules
3. Students understand the importance of stereochemical aspects of small ring system
4. Students learn the overview of the organic reaction mechanisms.
5. Students are motivated to know the concept of green chemistry.
6. Students understand the different types of green chemistry solvents

Semester IV

Hours/Week: 4

18PCH4117

Credits : 4

PHYSICAL CHEMISTRY-III

Course Outcomes:

1. Students learn and understand the concept of EMF and its Applications
2. Polarography and its application is well understood
3. Students learn and understand the concepts and Instrumentation of Amperometry
4. The underlying concepts of Cyclic voltammetry is well understood

5. Students learn and understand the concepts of Electrogravimetry and Coulometry
6. The concept of applications of quantum chemistry is learnt

Semester IV

Hours/Week: 4

18PCH4118

Credits : 3

Lab Course: INORGANIC CHEMISTRY-II

Course Outcomes:

1. Principles behind volumetric and gravimetric techniques are learnt
2. Separation of metal ions in binary mixtures are learnt
3. Quantification methods of metal ions are learnt
4. Estimation of iron and copper are understood
5. Estimation of volumetric and gravimetric analysis of Zn are understood
6. Simple single stage preparations of some complex compounds are learnt

Semester IV

Hours/Week: 4

18PCH4203A

Credits : 4

Core Elective-III A NATURAL PRODUCTS

Course Outcomes:

1. Students know the structure of carbohydrates
2. Students learn the mechanism of photosynthesis and citrate cycle
3. Students learn the biosynthesis as well as chemical synthesis of proteins
4. Students learn the protecting and deprotecting groups of some functional groups
5. Students learn how to elucidate the structures of some natural products
6. Students study the chemistry of important heterocycles

Semester IV

Hours/Week: 4

18PCH4203B

Credits : 4

Core Elective-III B PHARMACEUTICAL CHEMISTRY

Course Outcomes:

1. Students understand the design, structure and activity relationship of drugs.
2. Students learn various modes of spread of common diseases and their treatment.
3. Students learn the advanced drugs for new diseases.
4. Students learn the mechanism of action of drugs on the biological systems
5. Students learn the structure of important drugs

6. Students get to know the importance of anti-biotics and anti-septics

DEPARTMENT OF COMMERCE (M.Com.)

Programme Outcomes (POs):

1. Graduates are prepared to be creators of new knowledge leading to innovation and entrepreneurship employable in various sectors such as Private, Government, and Research Organizations.
2. Graduates are trained to evolve/adopt new technologies in their own discipline.
3. Graduates are groomed to engage in lifelong learning process by exploring their knowledge independently.
4. Graduates are framed to design and conduct experiments /demos/create models to analyze and interpret data.
5. Graduates ought to have the ability of effectively communicating the findings of management studies to incorporate with existing knowledge.

Programme Specific Outcomes (PSOs):

1. This programme has been designed to develop critical, analytical, cognitive skills among the students.
2. The concepts, process and the requirements for starting up and carrying on a business or a profession are incorporated in the courses to develop entrepreneurial qualities among the students.
3. Employability skills required to make the students efficient and disciplined employees in business and professional organizations are embedded in the courses of this programme.
4. Opportunities are created through the courses to enhance the communication and presentation skills among the students.
5. The methods of teaching and learning the courses will lead the students in building up the teamwork skills necessary for the students to work as a team of administrators, managers and employees.
6. Courses have been prepared to infuse the sense of social responsibilities and to apply in business and professions the principles of ethics.
7. Application of concepts, process and methods learnt in class rooms and practical learning are provided through courses and internships in this programme.
8. Leadership qualities are enhanced by making the students organize events learnt and understood through the courses in the programme.

Semester I
18PCO1102

Hours/Week: 7
Credits : 6

BUSINESS TAXATION

Course Outcomes:

1. Demonstrate knowledge of the concepts, principles, and rules of taxation of individuals and businesses;
2. Prepare tax forms for individuals and firms;
3. Recognize tax planning opportunities and recommend appropriate tax-saving strategies for decision making;
4. Address tax situations for a variety of taxpayers, such as salaried persons, owners of business, professionals, investors, home and rental property owners.
5. Computing income from salary and the tax liability of individuals, computing income from house property and the tax liability.
6. Computing income from business / profession and capital gains.
7. Calculate the tax liability of firms and cooperative societies.
8. Introduce GST and its implication on individuals and business with regard to taxation

Semester I
18PCO1103

Hours/Week: 6
Credits : 5

ADVERTISEMENTANDSALES PROMOTION

Course Outcomes:

1. Identify and demonstrate the terms and concepts that are commonly used in promotion and advertising, as indicated by performance on tests, projects, and assignments.
2. Articulate the value of an ethical approach to promotion and advertising activities.
3. Demonstrate a knowledge of international promotion and advertising functions with due respect to diverse cultural dissimilarities.
4. Exemplify the media types depending on reach and appeal of the Advertisement.
5. Know the importance Sales promotions and salesmanship in Marketing.
6. Understand consumer buying behavior.
7. Realize the competitiveness of online trading.
8. Highlight the significance of CRM.

Semester I
18PCO1104

Hours/Week: 6
Credits : 5

STRATEGICMANAGEMENT

Course Outcomes:

1. Learn the basic concepts of strategic management process.
2. Inherit skills required to analyse the industry.
3. Acquire nuances of company analysis.
4. Get acquainted with different forms of strategies
5. Learn how firms formulate, implement and evaluate corporate business strategies.
6. Acquire skills for analyzing an industry formulating vision and mission for organization.
7. Understand the effect of change in the organization and business scenario
8. Learn the methods of responding to the changes and adapt an appropriate method of change

Semester I
18PCO1201A

Hours/Week: 4
Credits : 4

Core Elective-I SUPPLYCHAINMANAGEMENT

Course Outcomes:

1. Explain basic theory and techniques of supply chain Management.
2. Be aware of Concepts and applications of supply chain Management.
3. Understand the effectiveness of application of logistics in SCM.
4. Analyze the significance of the various utilities associated with the inventory Models.
5. Learn how firms formulate, implement and evaluate corporate business strategies.
6. Examine various issues and problems associated with supply chain in a changing business environment

Semester I
18PCO1201B

Hours/Week: 4
Credits : 4

Core Elective-I WASTE MANAGEMENT

Course Outcomes:

1. Understand different sources of solid wastes and mechanism to handle them.
2. Comprehend the adverse impacts of hazardous wastes.
3. Familiarize with the management and handling of biomedical and chemical wastes.
4. Acquaint various techniques and models available for Solid waste management.
5. Apply different techniques in the disposal of solid wastes.
6. Formulate strategies to effectively manage wastes and protect environment

Semester II
18PCO2105

Hours/Week: 6
Credits : 5

RESEARCH METHODOLOGY

Course Outcomes:

1. Understand the basic concepts of research.
2. Be familiar with identification of Research problems and formulation of research design.
3. Comprehend the sample surveys and sampling procedures.
4. Use suitable method of primary data collection and frame questionnaire and interview schedule.
5. Apply statistical tools for analysis.
6. Infer and interpret data appropriately.
7. Learn the dynamics of different types of research reports and acquire skills of report writing.
8. Execute research projects in commerce.

Semester II
18PCO2106

Hours/Week: 6
Credits : 6

COST SYSTEMAND COST CONTROL

Course Outcomes:

1. Understand the importance of cost system and cost control to organizations.
2. Be familiar with cost accounting principles and concepts and prepare cost sheets.
3. Reconcile costing profits with financial profits and integrate cost accounting with financial accounting.
4. Apply the concepts relating to process cost and compute the cost each stage of production.
5. Identify the variances in the elements of cost through comparison and analyze the cause of such variances.
6. Understand the relevance, applicability and procedure involved in the preparation of marginal costing.
7. Learn the nuances of Marginal costing and identify the appropriate situations for its applications.
8. Have an overview of the growing relevance of newer costing concepts like Activity Based Costing and Target Costing

Semester II
18PCO2107

Hours/Week: 5
Credits : 4

FINANCIALSERVICES

Course Outcomes:

1. Focus light on the working of financial system in India.
2. Clarify the ideas on merchant banking.
3. Present case studies on Merger and Acquisitions.
4. Focus on Mudra - Micro unit Development and refinance agency -2015.
5. Insight on Factoring and Forfaiting.
6. Bring out the application of merchant banking activities.

Semester II
18PCO2108

Hours/Week: 5
Credits : 4

NGOMANAGEMENT

Course Outcomes:

1. Understand the history, growth and the challenges of NGOs
2. Develop projects for NGOs

3. Market NGOs activities.
4. Apply the provisions of legislations related to NGOs
5. Apply strategies to raise funds for NGOs.
6. Understand the HR aspects in running NGOs

Semester II
18PCO2109A

Hours/Week: -
Credits : 2

Self-paced Course-I:
CUSTOMER RELATIONSHIP MANAGEMENT

Course Outcomes:

1. Understand the basic nuances of CRM.
2. Realise the importance of Enterprise Marketing Automation.
3. Understand the concept of Call Centres.
4. Comprehend customer satisfaction.
5. Develop scale to measure customer satisfaction.
6. Appreciate the role of employees in CRM

Semester II
18PCO2109B

Hours/Week: -
Credits : 2

Self-paced Course-II: ENTREPRENEURIAL DEVELOPMENT

Course Outcomes:

1. Understand the basic concepts and theories of entrepreneurship
2. Conceive business ideas and convert them into business projects
3. Learn the incentives and subsidies provided to budding entrepreneurs.
4. Become familiar with institutions offering various forms of assistances
5. Exemplify knowledge on Industrial estates, Foreign Direct Investment, SEZ etc
6. Succeed as an entrepreneur

Semester II
18PCO2109C

Hours/Week:-
Credits : 2

Self-paced Course-III:

INTERNET AND E-COMMERCE

Course Outcomes:

1. Exhibit his knowledge in basics of internet and ecommerce.
2. Be proficient in various models or forms of ecommerce.
3. Gain exposure in E-marketing and E-branding.
4. Evaluate various modes or forms of E-payment methods.
5. Understand various forms of threats in internet and Security mechanisms available for protection against them.
6. Know latest developments in Internet and E-Commerce

Semester II
18PCO2109D

Hours/Week: -
Credits : 2

Self-paced Course-IV: COMMERCE FOR COMPETITIVE EXAMINATIONS

Course Outcomes:

1. Gain knowledge important topics and latest developments in Banking
2. Know basics and latest developments in economics
3. Understand various avenues of investments and different types of financial markets and institutions.
4. Familiarize with basic numerical ability problems.
5. Gain exposure to verbal reasoning related problems.
6. Answer commerce related questions in Competitive examinations.

Semester II
18PCO2202

Hours/Week: 4
Credits : 4

Core Elective (WS): EXPORTANDIMPORTMANAGEMENT

Course Outcomes:

1. Understand the basic concepts of international trade environment
2. Know foreign trade policy in India.
3. Gain exposure export and import procedures and practices.
4. Evolve and understand the needs of the international market.
5. Strategize, plan and execute ideas for export and import.

6. Evaluate the global Business for becoming a successful Export Import Manager

Semester II
18PEC2202

Hours/Week: 4
Credits : 4

Core Elective (WS):
LABOUR ECONOMICS

Course Outcomes:

1. Understand the theoretical as well as empirical issues of agriculture labour.
2. Know about Industrial labour with special reference to India.
3. Recognize issues pertaining to the wage theories, employment policies and so on.
4. Know about how trade union functions and it paves the way for collective bargaining to the globalised economy and social security measures.
5. To understand the need of Trade Unions in Labour Welfare.
6. To study Labour Welfare measures.

Semester II
18PHR2202

Hours/Week: 4
Credits : 4

Core Elective:
MANAGERIALEFFECTIVENESS

Course Outcomes:

1. Gained knowledge and understanding about effectiveness and qualities of a successful manager.
2. Able to understand oneself better and plan accordingly for the future.
3. Equipped with the right attitudes and skills towards achieving greater levels of managerial effectiveness.
4. Have developed the seven essential habits of highly effective people and are able to practice in their life to be more effective.
5. Proficient in different types of business correspondence.
6. Have acquired the basic career skills and enhanced employability skill.

Semester III
18PCO3110

Hours/Week: 7
Credits : 5

QUANTITATIVE TECHNIQUES

Course Outcomes:

1. Understand the concepts of operation research and acknowledge the applications of operation research.
2. Appreciate the scope of operation research in decision making and learn to apply Graphical and simplex methods of linear programming model.
3. Solve transportation problems regarding determination supply to destinations from appropriate sources.
4. Assign work or job to suitable person, machine or process.
5. Apply different models and techniques available to solve inventory related problems.
6. Formulate optimum replacement policy of assets and components
7. Analyse various decisions using different decision analysis techniques.
8. Adopt suitable quantitative techniques to use business opportunities and solve business problems

Semester III
18PCO3111

Hours/Week: 3
Credits : 2

BUSINESS ANALYTICS

Course Outcomes:

1. Understand how managers use business analytics to formulate and solve business problems and to support managerial decision making.
2. Become familiar with the processes needed to develop, report, and analyze business data.
3. Apply R language for business decisions.
4. Use and apply Excel and Excel add-ins to solve business problems.
5. Gain exposure to Finance and HR analytics.
6. Experience different components of marketing analytics

Semester III
18PCO3112

Hours/Week: 2
Credits : 2

SOFTWARE LAB FOR BUSINESSANALYTICS

Course Outcomes:

1. Know the nuances of R language
2. Write programs using R language for data analysis
3. Apply various tools and techniques of Excel Worksheet
4. Analyse and project various categories of finance and Accounting
5. Evaluate various parameters for effective Human Resource Management
6. Examine and forecast various criterions of Marketing

Semester III
18SMS3101

Hours/Week: 6
Credits : 5

Interdisciplinary Core: HUMAN RESOURCE MANAGEMENT

Course Outcomes:

1. Understand the principles and practices related to Human Resource Planning
2. Learn the polices related to Human Resource Development
3. Develop and assess one's own competencies towards a career in HRM.
4. Familiarize with the practical applications of Human resource terminology

Semester III
18PCO3203

Hours/Week: 4
Credits : 4

Core Elective (WS) PORTFOLIOMANAGEMENT

Course Outcomes:

1. Decipher the meaning of investment and risks associated with it.

2. Identify and appreciate various investment avenues.
3. Understand underlying facts of portfolio construction.
4. Know the influence of Fundamental Analysis.
5. Understand the nuances of technical analysis.
6. Judge and choose suitable investment proposals

Semester III
18PEC3203

Hours/Week: 4
Credits : 4

Core Elective (WS)
INDIAN ECONOMY

Course Outcomes:

1. Acquire the basic knowledge about the structure of Indian Economy
2. Know the key problems in the Economic Development in India
3. Know the efforts taken for the Economic Development of India
4. Know the different policies related to Economic Development
5. Acquire the knowledge for resolving the economic problems of India
6. Get the knowledge of analyzing the Macro Economic policies

Semester III
18PHR3203

Hours/Week: 4
Credits : 4

Core Elective (WS):
COMPENSATION MANAGEMENT

Course Outcomes:

1. Gained knowledge on the different types of wages and the importance of equity in wage and salary administration.
2. Have become aware of the issues related to compensation or rewarding human resources in various forms of organizations
3. Familiarized on the computation of wage and salary.
4. Learnt about the different machineries involved in wage fixation in our country.
5. Developed skills in designing, analyzing and restructuring reward management systems, policies and strategies.

6. Know about the modern incentive schemes available for employee motivation

Semester III
18PCO3302

Hours/Week: 4
Credits : 4

IDC (WS):
FINANCIAL AND MANAGEMENT ACCOUNTING

Course Outcomes:

1. Familiarise with the fundamental aspects of financial accounting and familiarize oneself with recording, posting, balancing and preparation of Trial Balance.
2. Gain exposure to final accounts and Balance sheet for sole traders and joint stock companies.
3. Acquire knowledge with basics of cost accounting and acquire the skill of preparing cost sheet .
4. Understand e the nuances of marginal costing and be familiar with application of Marginal costing in decision making.
5. Realise the basics of Management accounting and familiarize oneself with the preparation of comparative and common size financial statements and accounting ratios.
6. Excel with the basic background in financial, cost and management accounting

Semester III
18PEC3301

Hours/Week: 4
Credits : 4

IDC (WS):
INDIAN ECONOMY

Course Outcomes:

1. Acquire the basic knowledge about the structure of Indian Economy
2. Know the key problems in the Economic Development in India
3. Know the efforts taken for the Economic Development of India

4. Know the different policies related to Economic Development
5. Acquire the knowledge for resolving the economic problems of India
6. Get the knowledge of analyzing the Macro Economic policies

Semester IV
18PHR4403

Hours/Week: 4
Credits : 4

IDC (WS):
ORGANISATIONAL BEHAVIOUR

Course Outcomes:

1. Grasp the organizational theories that would enlighten the understanding of human behavior at work.
2. Familiarize with the need for behavior modifications in the changing work environment.
3. Understand team/group processes and to be able to address issues arising from individual and collective organizational behavior.
4. Know the importance of change in the competitive work environment.

Semester III
18PCO3302

Hours/Week: 4
Credits : 4

IDC (BS):
BASICS OF TAXATION

Course Outcomes:

1. Have knowledge of the basic concepts of Income Tax Act, 1961
2. Analyze the components of taxable salary and compute it.
3. Classify the types of house properties and will be able to compute their taxable annual values.
4. Understand the basic concepts of and provisions relating to income from business or profession
5. Understand, classify and compute taxable capital gains
6. Know the income taxable under the head income from other sources and apply the provisions for deductions to and rates of tax and compute the tax.

Semester IV
18PCO4114

Hours/Week: 7
Credits : 4

ADVANCED FINANCIAL MANAGEMENT

Course Outcomes:

1. Understand the concept of Finance and its fundamentals.
2. Elucidate the concept of working capital and its management.
3. Identify different sources of finance.
4. Calculate the cost of capital of different sources of funds.
5. Recognise the impact of capital structure on shareholder's wealth.
6. Appreciate the need and importance of short term liquidity.
7. Choose appropriate long term capital expenditure decisions.
8. Acquire the knowledge of different dividend policies and their impacts.

Semester IV
18PCO4115

Hours/Week: 7
Credits : 4

BUSINESS ETHICS

Course Outcomes:

1. Understand the various types and theories of ethics.
2. Apply ethics in the area of Human Resource Management.
3. Realize ethical issues pertaining to the field of marketing.
4. Familiarize with the ethical issues in financial services provided by various bodies
5. Grasp how the Corporate firms are Socially Responsible towards society and nature/environment.
6. Adopt and follow ethical principles in business activities as a responsible person

Semester IV
18PCO4116

Hours/Week: 4
Credits : 2

ADVANCED COMPUTERISED ACCOUNTING

Course Outcomes:

1. Understand the basics of accounting packages and create, alter and delete companies, accounting groups and ledgers.
2. Equip with skills of entering transactions in the appropriate accounting vouchers and creation and application of cost centres.
3. Acquaint with creation of inventory masters and use various inventory features.
4. Know to enter transactions with TCS, TDS & GST and Prepare payrolls and budgets.
5. Configure various masters and vouchers and extract accounting and inventory reports.
6. Work in the real time computerized business environment as an accountant or a store keeper

Semester IV
18PCO4117

Hours/Week: 2
Credits : 2

SOFTWARE LAB FOR ADVANCED COMPUTERISED ACCOUNTING

Course Outcomes:

1. Create, alter and delete companies and groups.
2. Extract profit and loss account and balance sheet through ledger account balances and adjustment entries.
3. Pass entries for transactions in accounting vouchers with or without stock items.
4. Pass entries for transactions requiring special features such as TDS, GST, TCS, Cost centers and Payrolls.
5. Carry out order processing and maintain accounting records along with inventory records and generate reports.
6. Work as an accountant or a storekeeper in the computerized environment of business organizations

Semester IV
18PCO4118

Hours/Week: 6
Credits : 4

INTELLIGENCE FOR EXCELLENCE

Course Outcomes:

1. Learn various types of intelligence necessary for excellence.
2. Achieve excellence in terms of their personal and professional life.
3. Be aware of the interrelatedness of human beings and society.
4. Develop higher consciousness to excel.
5. Understand the business environment required for excellence.
6. Have some awareness of self, society and others.

Department of MCA

**Semester I
17PCA1101**

**Hours/Week: 6
Credits : 5**

UNIX & C PROGRAMMING

Course Outcomes

Upon successful completion of this course, students will be able

1. To understand the structure and commands of UNIX operating system.
2. To know basic UNIX commands.
3. To handle various data types in a programming.
4. To know the flow of the various control structures.
5. To familiar with function calling mechanism.
6. To transform a problem into involving programming constructs.
7. To write programs using structures, strings, arrays and pointers.
8. To write file handling programs.

**Semester I
17PCA1102**

**Hours/Week: 6
Credits : 5**

MATHEMATICAL FOUNDATIONS

Course Outcomes

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

1. Ability to apply mathematical logic to solve problems
2. Apply the rules of inference and methods of proof including direct and indirect proof forms, proof by contradiction, and mathematical induction.
3. Understand sets, relations, relations, functions, and discrete structure
4. Know the properties of lattices and Boolean Algebra
5. Solve polynomial equation using Birge-Vieta and Graffe's root squaring method
6. Solve linear system of equation using direct methods Gauss-elimination and Gauss-Jordan Method and Iterative methods Gauss-Jacobi and Gauss-Seidal Method.
7. Know the interpolation techniques and predicting the unknown values for a given value
8. Apply numerical integration using Trapezoidal, Simpson's rules and Romberg's Method

**Semester I
17PCA1104**

**Hours/Week: 6
Credits : 5**

DIGITAL COMPUTER FUNDAMENTALS

Course Outcomes

1. Understand and learn the fundamental concepts of digital computer
2. Know the logics of different ICs and Boolean Algebra
3. Learn the functionalities of Data processing circuits and Arithmetic circuits
4. To be skillful in digital numbers and code conversions
5. To get the functioning of registers and counters
6. Learn the memory elements and their functionalities

Semester II
17PCA2108

Hours/Week: 4
Credits : 3

OBJECT ORIENTED CONCEPTS AND C++

Course Outcomes

1. Acquired knowledge on basic object oriented concepts and systems
2. Acquired ability to design modular programs using functions and classes
3. Acquired the capability to manage memory efficiently
4. Acquired the ability to design objects with polymorphic behaviour
5. Acquired the skills of developing reusable code
6. Acquired ability to process data in secondary storages
7. Possesed skills to handle runtime errors
8. Acquired the knowledge on generic programming

Semester II
17PCA2109

Hours/Week: 4
Credits : 3

OPERATING SYSTEMS

Course Outcomes

1. To understand the services provided by the OS and the design of an operating system.
2. To understand the structure and organization of the file system.
3. To understand what a process is and how processes are synchronized and scheduled.
4. To understand the different approaches to memory management.
5. Demonstrate an understanding of different I/O techniques in operating system.

6. To know the difference between processes and threads.
7. Students should be able to use system calls for managing processes, memory and the file system.
8. To know the basic knowledge of protection and security mechanisms.

Semester II
17PCA2110

Hours/Week: 4
Credits : 4

PROBABILITY AND STATISTICS

Course Outcomes

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

1. Understand the axiomatic formulation of modern Probability Theory and think of random variables as an intrinsic need for the analysis of random phenomena.
2. Translate real-world problems into probability models and finding a reasonable solution
3. Know the properties of discrete and continuous distribution functions and its applications
4. Use method of moments and moment generating function
5. Apply Mathematical expectations, Correlation and Regression for Practical Problems
6. Identify when and how to use various tests of hypothesis such as t, F, Chi-square
7. Compute the ANOVA table for the testing of more than two means
8. Analyze variance and design Experiments in agricultural data

Semester II
17PCA2201A

Hours/Week: 4
Credits : 4

Core Elective-I **PYTHON**

Course Outcomes

1. To explore the fundamental concepts of Python
2. To understand Basics of Python programming language
3. To solve simple problems using Python
4. To acquire fundamental knowledge and skills on Python Programming
5. To understand the nuances of this language.
6. To know the usage of modules and packages in Python
7. To familiarize with file concepts in Python

8. To familiarize with web concepts using Python.

Semester II
17PCA2201B

Hours/Week: 4
Credits : 4

Core Elective-I
COMPUTER SIMULATION

Course Outcomes

1. Knowing the basic concepts of simulation and its role in problem solving.
2. Understanding and applying mathematical models for simulation
3. Understanding and applying statistical models for simulation
4. Acquiring the knowledge of queuing systems
5. Learning the generation and usage of random numbers.
6. Learning input modeling for simulation and validating the input and output.
7. Analyzing the need to incorporate simulation and modeling considerations throughout the design and execution of a project
8. Understanding the limitations and ways of improvement of a system using simulation and modeling.

Semester II
17PCA2301

Hours/Week: 4
Credits : 4

IDC (WS):
DATA ANALYSIS USING R

Course Outcomes

1. Ability to perform data analysis with statistical techniques using R
2. Ability to interpret data in both diagrammatic and graphical representation
3. Ability to work with probability distributions in R
4. Ability to appreciate the types of correlation in R
5. Ability to achieve regression analysis in R
6. Ability to observe the validation of linear regression Model
7. Ability to identify the usage of graphics with R
8. Ability to carry out appropriate statistical tests using R

Semester II
17PMA2301

Hours/Week: 4
Credits : 4

IDC (WS):

MATLAB

Course Outcomes

After learning this course, the learner would have acquired skills to

1. Associate Mathematical and computing techniques.
2. Infer analytical and problem solving skills.
3. Prescribe commercial solution based on data analysis.
4. Interpret statistical manipulation of data.
5. Generate simulations for scientific problems.
6. Automate solutions for Algebraic Equations.
7. Predict graphical output for optimized outcomes.
8. Avail means to visualize given data in graphical format.

Semester III
17PCA3113

Hours/Week: 4
Credits : 3

PROGRAMMING IN JAVA

Course Outcomes

On completion of the course the student will be able to

1. Develop object oriented software system
2. Design reusable code
3. Design interactive user interface
4. Have efficient runtime error handling skills
5. Process data in secondary storages
6. Develop parallel applications
7. Work with databases and networked environments
8. Develop three tier architecture based software systems

Semester III
17PCA3114

Hours/Week: 4
Credits : 3

DATABASE SYSTEMS

Course Outcomes:

1. To understand the relationship between database systems and Organizational / management context
2. To understand the workings of a relational database system and normalize data;
3. To give the detailed knowledge about the Different Approaches to the Database System giving emphasis to Relational Approach and

Concurrency Management.

4. Learn the fundamental concepts of a relational database system.
5. Utilize a wide range of features available in a DBMS package.
6. Analyze database requirements and determine the entities involved in the system and their relationship to one another.

Semester III
17SCS3101

Hours/Week: 4
Credits : 3

DESIGN AND ANALYSIS OF ALGORITHMS

Course Outcomes:

1. To give the basis for the core of computer science.
2. To understanding the fundamental concepts in data structure
3. To learnt the basic knowledge of linked lists concepts in data structure and simplification of expressions and trees.
4. To give importance to finding the complexity (order) of algorithms.
5. To understand the searching and sorting methods.
6. Ability to have knowledge of linked list and tree concepts.
7. Working knowledge of backtracking and algebraic problems.
8. Designing of new algorithms and improve programming skill.

Semester III
17PCA3202A

Hours/Week: 4
Credits : 4

Core Elective-II **COMPUTER ORGANISATION AND ARCHITECTURE**

Course Outcomes:

1. Gain basic knowledge on various building blocks of a digital computer.
2. Understand the CPU organization and different kinds of processing techniques
3. To learn the computer arithmetic operations
4. Get to know the architecture of 8086 and their instruction set
5. To understand the architecture of advanced microprocessors
6. To compare the technical nuances of microprocessors

Semester III
17PCA3202B

Hours/Week: 4
Credits : 4

Core Elective-II **ENTERPRISE RESOURCE PLANNING**

Course Outcomes

After learning this course, the learner would have acquired skills to

1. To understand the plan and design of ERP systems
2. To understand the how ERP is implemented in various divisions of an organization
3. To comprehend the management of ERP Project
4. To learn how to model a supply chain system
5. To learn to improve the performance of the system by being able to forecast demand and to schedule supply
6. To understand and design Customer Relationship application modules.

Semester III
17PCA3402

Hours/Week: 4
Credits : 4

IDC (BS): WEB DESIGN

Course Outcomes

1. To understand the Internet concepts and Realize the Basic Network concepts
2. To learn and identify the features of HTML tags
3. To design the HTML tables, frames and forms
4. To acquire the basic concepts of JavaScript Programming
5. To comprehend the objects in HTML and Java Script
6. To handle the events and set the cookies in Java Script
7. To develop the programming skills using Markup and Scripting Languages
8. To design the simple web pages using HTML and JavaScript

Semester IV
17PCA4118

Hours/Week: 5
Credits : 4

PROGRAMMING SMART DEVICES

Course Outcomes

1. Ability to develop applications for smart devices using android.
2. Ability to handle operation of the application, configuration files, intents, and activities.
3. Ability to work with UI-component layouts, event handling, and screen orientations.

4. Ability to appreciate android framework and features.
5. Ability to develop xml to create layouts in android.
6. Ability to design interfaces like Buttons, Menus, and Dialogs.
7. Ability to design different types of screen layouts in android.
8. Ability to operate graphics resources in android.

Semester IV
17PCA4119

Hours/Week: 5
Credits : 4

ACCOUNTING AND FINANCIAL MANAGEMENT

Course Outcomes

1. Analyze and record transactions, construct financial statements, and close the books for the accounting period.
2. Ability to adjust and correct errors in the process of accounting.
3. Understand the fall in value of assets and use of accounting packages.
4. Identify and analyze the costing systems adopted in the business organizations.
5. Demonstrate mastery of costing systems, cost management systems.
6. Ability to appreciate budgeting systems and performance.
7. Critically analyse and provide recommendations to improve the operations of organizations.
8. Demonstrate the need for appropriate decision making, control and performance evaluation of an organization.

Semester IV
17PCA4120

Hours/Week: 5
Credits : 4

GRAPH AND AUTOMATA THEORY

Course Outcomes

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

1. Study various operations on graphs
2. Know the various matrix representations of Graph
3. Understand Tree Properties
4. Know basic terminologies on digraph
5. Study various algorithms on Graph
6. Construct NFA and DFA
7. Master the applications of finite automata
8. Know the various Grammar and different normal forms

Semester IV
17PCA4121

Hours/Week: 5
Credits : 3

COMPUTER NETWORKS AND SECURITY

Course Outcomes

Students completing this course will be able to

1. Obtain the fundamental knowledge in computer network communication
2. Understand the OSI reference model
3. Learn the technical factors of each layer in OSI reference model
4. Understand the fundamentals of network security
5. Learn the encryption and digital signature techniques
6. Know the network security issues at IPv4 and IPv6

Semester IV
17PCA4203A

Hours/Week: 4
Credits : 4

Core Elective-III **DATA MINING TECHNIQUES**

Course Outcomes

Up on successful completion of the course, students should be able to

1. Demonstrate the concepts of Data Warehouse and Data Mining techniques.
2. Understand the different kinds of Data and their sources
3. Process raw data to make it suitable for various data mining algorithms
4. Examine the types of the data to be mined and apply pre-processing methods on raw data.
5. Discover interesting patterns, analyse supervised and unsupervised models and estimate the accuracy of the algorithms.
6. Apply the techniques of clustering, classification, visualization and data mining software tools
7. Apply the techniques of association finding and feature selection to real world data
8. Ensuring security and privacy while applying mining techniques

Semester IV
17PCA4203B

Hours/Week: 4
Credits : 4

Core Elective-III **INFORMATION STORAGE AND MANAGEMENT**

Course Outcomes:

1. Awareness of Storage Architectures, including Storage Subsystems.
2. Define variety of Storage System Environments.
3. Knowledge of different RAID levels and their suitability for different application environments.
4. Understand the Characteristics and Components of Storage Area Networks (SAN).
5. Define the Components of SAN, Fibre Channel (FC) Protocols and Topologies.
6. Describe the File Sharing Operations and Protocols on Network Attached Storage (NAS).
7. Describe the different Backup, Recovery Topologies and their role in providing disaster Recovery.
8. Describe different types of Storage Virtualization and File level Virtualization.

Semester IV
17PCA4203C

Hours/Week: 4
Credits : 4

Core Elective-III
LINUX ADMINISTRATION

Course Outcomes:

1. Gain basic knowledge on Linux Introduction and Installation.
2. Understand the Administration and Setting Up and Supporting users
3. To learn the Security Issues
4. Get to know the Networking and Connecting to Internet
5. To understand the Setting Up File Server
6. To learn the usage of Web Servers

Semester V
17PCA5125

Hours/Week: 4
Credits : 3

DISTRIBUTED TECHNOLOGIES

Course Outcomes:

1. To understand Distributed technologies
2. To understand Distributed technologies Architecture
3. To understand Distributed technologies with Java RMI, J2EE, SERVLET, and DOT NET
4. Ability to have clear outline about specific area to which the project

belongs

5. Capable of gathering information based on the nature of database management systems.
6. To understand to access databases thru above mentioned technologies.

Semester V
17PCA5126

Hours/Week: 4
Credits : 3

SOFTWARE ENGINEERING

Course Outcomes:

1. To acquire knowledge in various software development models
2. Extract and analyze software requirements specifications for different projects
3. Develop skills in basic architecture/design and apply standard coding practices
4. Ability to define the basic concepts and importance of software project management concepts like cost estimation, scheduling and reviewing progress
5. Identify and implement of the software metrics
6. Apply different testing and debugging techniques and analyzing their effectiveness
7. Critically analyse and provide recommendations to improve the operations of the development of the project
8. Demonstrate the need for appropriate decision making, control and performance evaluation of a project.

Semester V
17PCA5127

Hours/Week: 4
Credits : 3

BIG DATA AND CLOUD COMPUTING

Course Outcomes:

1. Ability to appreciate the concepts of Cloud Computing and their applications.
2. Ability to develop business integrated services in cloud computing.
3. Ability to appreciate the concepts and features of Big Data.
4. Ability to become a Big Data Analytics.
5. Ability to Saving, Storing and Retrieving Work in R.
6. Ability to utilize the graphical representation for data in R
7. Ability to carry out appropriate statistical tests using R.
8. Ability to solve statistical problems using R.

Semester V

Hours/Week: 4

17PCA5128

Credits : 3

OPERATIONS RESEARCH

Course Outcomes:

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

1. Formulate real life Problems as LP Model and finding an optimized solution, different methods of Solving LP Model
2. Know the concept of solving Transportation Problems and Assignment Problem with Business Solutions
3. Know the Primal Dual Relationship as Producer and Consumer relationship in business
4. Identify the activities, schedule the Project and finding time of completion.
5. Critically identifying the important activities which need attention during development of Projects.
6. Know the importance of Queue and its applications to various real life examples, identifying the critical elements in the Queuing Theory
7. Understand the need of inventory and models for different products
8. Perform inventory analysis in selected product methods.

Semester V
17PCA5129

Hours/Week: 4
Credits : 3

COMPILER DESIGN

Course Outcomes:

1. To introduce the various phases of a compiler
2. To give the basic ideas on automata theory
3. To know the various parsing techniques.
4. To impart the code optimization techniques
5. To know the structure and various phases of compiler
6. To implement lexical analyzer
7. To know the basic parsing techniques
8. To develop skills in generating intermediate code

PGDCSA
Post-Graduate Diploma Computer Science Application(PGDCSA)

Programme outcomes (POs)

1. Graduates are prepared to be creators of new knowledge leading to innovation, entrepreneur and employable in various sectors such as Private, Government and Research organizations.
2. Graduates are trained to evolve/ adopt new technologies in their own discipline.
3. Graduates are groomed to engage in lifelong learning process by exploring knowledge independently
4. Graduates are framed to design and conduct experiments/ demonstrate/ create models to analyze and interpret data.
5. Graduates ought to have the ability of effectively communicating the findings of Biological Sciences/Computing Sciences/ Languages and Culture/ Management Studies/ Physical Sciences/ and to incorporate with existing knowledge.

Programme Specific Outcomes (PSOs)

1. Fundamental knowledge on the workings of various Computing Technologies
2. Basic knowledge of recent trends in general computing and information technology
3. An Ability to design and develop simple applications for different platforms

Semester I
18DCA1101

Hours/Week: 7
Credits : 5

C-PROGRAMMING

Course Outcomes:

1. Understand the basic terminology of algorithm, flowchart and gain awareness used in computer programming
2. Design programs involving the various concepts like decision structures, loops, functions of C language
3. Demonstrate the single, multi-dimensional arrays, String functions and user defined functions
4. Compare the structure and union of C and apply it to construct array of

structures and structure function

5. Understand the dynamics of memory by the use of pointers and pointers with functions
6. Comprehend the Processing of sequential and random access file concepts

Semester I
18DCA1102

Hours/Week: 6
Credits : 5

FOUNDATIONS OF COMPUTER SCIENCE

Course Outcomes:

1. Understand the basic terminology in the digital logic used in computers
2. Comprehend the Number system
3. Understand the Database Management System and Internet Concepts
4. Emphasize the need, role, importance and uses of databases in application development
5. Identify the various types of Networks
6. Explore the various types of Software Life Cycle Models

Semester I
18DCA1103

Hours/Week: 6
Credits : 5

OPERATING SYSTEMS

Course Outcomes:

1. Understand the basic concept of Computer System and Operating System Structure
2. Gain Knowledge of the fundamental aspects of process and processor managements with deadlocks and CPU scheduling
3. Introduce memory and virtual memory techniques
4. Understand files, directories and its accessing methods and its structures
5. Ability to know mass storage devices and its scheduling
6. Understand the security on the operating system and protection mechanisms

Semester I
18DCA1104

Hours/Week: 6
Credits : 5

SYSTEMS ANALYSIS AND DESIGN

Course Outcomes:

1. Define and describe the five phases of the system development life cycle
2. State at least five expected benefits from systems projects
3. Explain at least three ways in which information systems support business requirements
4. Describe how systems analysts interact with users, management and other information systems professionals
5. Develop data flow diagrams and decision tables
6. Evaluate systems development alternatives

Semester I
18DCA1105

Hours/Week: 5
Credits : 4

Software Lab-I: C-PROGRAMMING

Course Outcomes:

1. Design the basic concept of C Programming, and its different modules that includes conditional and looping expressions
2. Identify the Role of constants, variables, identifiers, operators, type conversion and develop Arrays, Strings and Functions programming
3. Design the concept of structure and union programs
4. Use of pointers to solve problems associated with array of pointers and function pointers
5. Apply the command line arguments involving the idea of modularity
6. Develop sequential file and random files concept for data processing

Semester II
18DCA2106

Hours/Week: 7
Credits : 5

WEB DESIGN USING PHP

Course Outcomes:

1. Gain knowledge on HTML5 structure for presentation of information in web pages
2. Apply HTML5 and CSS3 standards to build dynamic websites
3. Understand the Functionality of PHP Language and MySQL
4. Develop Applications using PHP with MySQL with dynamic forms
5. Associate the syntax and functions available to deal with file processing for files on the server as well as processing web URLs
6. Design the paradigm for dealing with AJAX FORMS using PHP

Semester II
18DCA2107

Hours/Week: 6
Credits : 5

RECENT TRENDS IN I.T.

Course Outcomes:

1. Gain knowledge on the concepts of Mobile Computing
2. Describe the basic concepts of Cloud Computing and its applications
3. Extend their knowledge of big data analytics in Enterprises
4. Explore the different technologies in the current scenario
5. Gain knowledge on the concepts of Mobile Computing, Cloud Computing, Big Data and Social Networking
6. Gain idea about the Ethical Hacking

Semester II
18DCA2108

Hours/Week: 6
Credits : 5

CREATIVE VIRTUALIZATION AND IMAGE MANIPULATION

Course Outcomes:

1. Understand the basic concepts of computer based media
2. Distinguish between 2D and 3D images
3. Manipulate images in GIMP
4. Create basic 3D animations
5. Conceptual study of Interactive Animation and application
6. Create basic 3D models and animations

Semester II
18DCA2109

Hours/Week: 6
Credits : 5

CUSTOMER RELATIONSHIP MANAGEMENT AND ERP

Course Outcomes:

1. Learn the basic concepts of Customer Relationship Management
2. Emphasize the need for CRM in different Aspects
3. Understand the concept of Customer Satisfaction
4. Recognize various Technologies used in CRM
5. Extend their knowledge of Enterprise Resource Planning
6. Familiarize the concept of ERP implementation life cycle

Semester II
18DCA2110

Hours/Week: 5
Credits : 4

Software Lab-II: WEB DESIGN USING PHP

Course Outcomes:

1. Create and Design Pages using HTML
2. Style pages using CSS
3. Create a simple web-based system to develop, Test and debug a simple PHP scripts
4. Design PHP scripts that are used to create and populate database
5. Test and debug object-oriented PHP scripts

6. Design and Manipulate forms to provide user authentication, and perform cookies manipulation

M. Sc.
COMPUTER SCIENCE

Programme Outcomes (POs):

1. Graduates are prepared to be creators of new knowledge leading to innovation and entrepreneurship employable in various sectors such as private, government, and research organizations.
2. Graduates are trained to evolve new technologies in their own discipline.
3. Graduates are groomed to engage in lifelong learning process by exploring their knowledge independently.
4. Graduates are framed to design and conduct experiments /demos/create models to analyze and interpret data.
5. Graduates ought to have the ability of effectively communicating the findings of Biological sciences= incorporating with existing knowledge.

Programme Specific Outcomes (PSOs):

1. Fundamental knowledge in problem solving, general computing, and in depth knowledge in Computer Science.
2. An ability to identify, analyse, design, optimize and implement system solutions using suitable computing techniques leading to propulsion towards employability.
3. An ability to understand and provide analytical solutions to real life problems in Data Science with thrust in lifelong learning.
4. Fundamental knowledge in computational methods and tools for solving real-time problems.
5. An ability to act as a leader, or as a part of a team to create multi-functional software products
6. An Ability to demonstrate individual practical experiences in a variety of programming languages and situations.

Semester I
18PCS1101

Hours/Week: 5
Credits : 4

PROGRAMMING IN JAVA

Course Outcomes:

1. Develop solutions for a range of problems using object-oriented programming.

2. Solve simple problems using the fundamental syntax and semantics of the Java - Programming language
3. Use the Java event-handling model to respond to events arising from the GUI - Components.
4. Acquire knowledge of threads and JDBC programming techniques in Java.
5. Learn to apply networking concepts through Java program
6. Understand Various dynamic multitier programming concepts

Semester I
18PCS1102

Hours/Week: 5
Credits : 4

DATA SCIENCE USING PYTHON

Course Outcomes:

1. Understanding the basic concepts of Python
2. Preparing and pre-processing data
3. Visualizing the results of analytics effectively
4. Basic understanding of NumPy and Pandas
5. Ability to use conditional loops and list by python
6. Learn the Visualization through Matplotlib

Semester I
18PCS1103

Hours/Week: 5
Credits: 4

MATHEMATICAL FOUNDATIONS

Course Outcomes

1. Ability to understand the basics of operation research techniques.
2. Understand the concept of graphical method
3. Ability to solve the recurrence relation.
4. Ability to apply the concepts of coding theory and how to measure the hamming distance.
5. Ability to understand the basic rules of logic.
6. Understand various Cryptography techniques

Semester I
18PCS1104

Hours/Week: 5
Credits : 4

DATA STRUCTURES AND ALGORITHM DESIGN METHODS

Course Outcomes:

1. Learn the fundamentals of data structures with their implementation and its applications
2. Learn to design and analysis of algorithms and in various algorithm design strategies
3. Give importance to find the complexity (order) of algorithms
4. Understand sorting and searching techniques
5. Learn about the real-time problems using algorithms
6. Understand binary tree and its traversal

Semester I
18PCS1105

Hours/Week: 3
Credits : 2

Software Lab-I JAVA

Course Outcomes:

1. Demonstrate the basic concepts of OOPS
2. Implement the programming skills based on OOPS
3. Demonstrate the behavior of Exception handling and Multithreading
4. Implement the GUI techniques (Event handling, Applet and Swing).
5. Develop programming aspect with files and networking.
6. Apply JDBC methods to establish connection with database.

Semester I
18PCS1106

Hours/Week: 3
Credits : 2

Software Lab-I PYTHON

Course Outcomes:

1. Design forms using various functions
2. Apply rich controls and conditional statement logic in Python
3. Demonstrate the functionality of stack and regular expressions through Python
4. Ability to Create and manipulate array functions using Numpy
5. Ability to Create indexing scripts using Pandas
6. Build applications using Pandas

Semester I
18PCS1201A

Hours/Week: 4
Credits : 4

Core Elective-I
HIGH PERFORMANCE COMPUTING

Course Outcomes:

1. Understand fundamental concepts and techniques in parallel computation structuring and design.
2. To Study various architectures of high - performance computing systems.
3. To demonstrate the principles of Parallel Algorithm Design.
4. Investigate modern design structures of pipelined and multiprocessors systems.
5. Understand the algorithms using parallel programming principle.
6. To study about Parallel sparse matrix and vector multiplication

Semester I
18PCS1201B

Hours/Week: 4
Credits : 4

Core Elective-I
ADVANCED MICROPROCESSORS & MICROCONTROLLERS

Course Outcomes:

1. Understand the architecture of 8086
2. Write simple 8086 programs

3. Compare the architectures of 286 to Pentium
4. Understand the need and use of 8051
5. Ability to understand the memory and Input addressing
6. Acquire basic knowledge of working of RTOS

Semester II
18PCS2107

Hours/Week: 5
Credits : 4

Online Course:
PROGRAMMING WITH C# USING ASP•NET

Course Outcomes:

1. Understand the concept and architecture of ASP.NET
2. Create rich GUI web applications using Visual Studio.NET
3. Learn and implement new features in ASP.NET
4. Discuss and extend data list and data grid controls
5. Demonstrate the database connectivity in ASP.NET
6. Learn the basics of XML and data caching

Semester II
18PCS2108

Hours/Week: 5
Credits : 4

DATABASE AND NoSQL

Course Outcomes:

1. Understand the concept of database and data warehouses.
2. Knowledge on MongoDB query language.
3. Ability to comprehend the principles of NoSQL.
4. Understand the difference of NoSQL key value database and Document database
5. Know the concept of Column database
6. Understand the data modelling techniques

Semester II
18PCS2109

Hours/Week: 3
Credits : 2

Software Lab-III
ASP•NET

Course Outcomes:

1. Design forms using various web controls
2. Apply rich controls and validation controls to the web page
3. Incorporate cookies, session and application state in a web page
4. Create and manipulate the data in the database using ADO.NET
5. Create a template using data list and data grid
6. Build an application using XML

Semester II
18PCS2110

Hours/Week: 3
Credits : 2

Software Lab-IV
MongoDB

Course Outcomes:

1. Create a simple Structured query program
2. Design database using MongoDB
3. Apply distributed techniques for querying documents and modification
4. Ability to process and design forms to upload the JSON files
5. Test and debug regular expression and indexing
6. Design and Manipulate forms to provide user authentication

Semester II
18PCS2202A

Hours/Week: 4
Credits : 4

Core Elective-II:
COMPILERDESIGN

Course Outcomes:

1. Apply skills and familiarity which are applicable to a broad range of computer applications.
2. Design and develop a comprehensive Compiler for a given language
3. Implement various parsing, conversion, optimization and code generation algorithms for the design of a compiler.
4. Understand the concept parsing techniques
5. Able to understand the memory allocation
6. Understand the Loop Optimization and DAG

Semester II
18PCS2202B

Hours/Week: 4
Credits : 4

Core Elective-II:
ETHICAL HACKING

Course Outcomes:

1. Defend hacking attacks and protect data assets
2. Defend a computer against a variety of security attacks using various tools
3. Practice and use safe techniques on the World Wide Web.
4. Understand the techniques of Keyloggers and Spyware.
5. Able to know about the concept of Penetration Testing
6. Apply skills for different types of test

Semester II
18PCS2111

Hours/Week: -
Credits : 2

Self-paced Learning:
COMPUTER NETWORKS

Course Outcomes:

1. Define the services, functions, and inter-relationship of different layers in network models

2. Describe how modules in different layers inter-operate and analyze their enactment.
3. Learn various protocols used in communication.
4. Understand the various networks and switching concept
5. Know about the various technology using internet protocols
6. Understand the concept of Quality of Service

Semester II
18PCS2301

Hours/Week: 4
Credits : 4

IDC (WS):
PERVASIVE AND AD HOC NETWORKS

Course Outcomes:

1. Understand the basics of Mobile Adaptability
2. Comprehension of Ad Hoc Networks and their security
3. Understanding of Wireless Network Security mechanisms
4. Able to know about Integrity Codes
5. Understand the concept of Authentication
6. Learn the concept of Equivalent Privacy

Semester III
18PCS3113

Hours/Week: 5
Credits : 4

Online Course:
BIG DATA ANALYTICS

Course Outcomes:

1. Understand the concept and challenge of big data and why existing technology is inadequate to analyze the Big Data;
2. Collect, manage, store, query, and analyze various form of Big Data;
3. Gain hands-on experience on large-scale analytics tools to solve some open big data problems;
4. Understand the impact of big data for business decisions and strategy.
5. Address the limitations and challenges of working in a Big Data

environment and thus utilize the opportunities for commercial and/or social benefit.

6. Understand the workings of various tools using Big Data

Semester III
18PCS3114

Hours/Week: 5
Credits : 4

JAVA SCRIPT WITH PHP AND MYSQL

Course Outcomes:

1. Understand the concept of Internet programming using JavaScript
2. Describe the basic JavaScript syntax and structures
3. Use regular expressions for form validation.
4. Understand the use of event-handlers and the Document Object Model
5. Understand the basic functionality of PHP scripting
6. The ability to understand PHP, MYSQL and AJAX concepts

Semester III
18SCS3101B

Hours/Week: 6
Credits : 5

Interdisciplinary Core: MOBILE APPLICATION DEVELOPMENT

Course Outcomes:

1. Understand the basic concept of mobile devices and types of mobile operating system
2. Ability to know the concept of cross platform system architecture
3. Use the development tools in the Android development environment
4. To develop their own apps using the major components of Android API
5. Use the Java programming language to build Android apps
6. Analyze the concept of android SQLite and managing database.

Semester III
18PCS3115

Hours/Week: 3
Credits : 2

Software Lab-V:
PHP

Course Outcomes:

1. Ability to create dynamic interactive websites using Javascript
2. Ability to create content to interact with the databases
3. Understand the functionality of Javascript
4. The Ability to understand Php, Mysql and Ajax Concepts
5. Understand the concept of cookies and function
6. Understand the functionality of get and post method

Semester III
18PCS3116

Hours/Week: 3
Credits : 2

Software Lab-VI:
ANDROID

Course Outcomes:

1. Describe and compare different mobile application models/architectures and patterns.
2. Describe the components and structure of a mobile development framework
3. Install and configure Android application development tools.
4. Design and develop user Interfaces for the Android platform.
5. Save state information across important operating system events.
6. Apply Java programming concepts to Android application development

Semester III
18PCS3203A

Hours/Week: 4
Credits : 4

Core Elective-III:
NETWORKING SECURITY

Course Outcomes:

1. Identify some of the factors driving the need for network security
2. Define the terms vulnerability, threat and attack
3. Identify physical points of vulnerability in simple networks
4. Compare and contrast symmetric and asymmetric encryption systems and their vulnerability to attack, and explain the characteristics of hybrid systems.
5. Understand the functionality of virus and thread
6. Understand the concept of Firewall and configuration

Semester II
18PCS3203B

Hours/Week: 4
Credits : 4

Core Elective-II:
XML AND WEB SERVICES

Course Outcomes:

1. Analyze structured web document in XML based syntax
2. Ability to know the Java API of the semantic web platform
3. Identify and select the appropriate framework components in the creation of web service solutions.
4. Understand the techniques about Soap
5. Able to know about web services and enterprises
6. To know about the techniques WSDL using SOAP and UDDI

Semester III
18PCS3302

Hours/Week: 4
Credits : 4

IDC (BS):
ADVANCES IN COMPUTER SCIENCE

Course Outcomes:

1. To understand the basic concepts of Cloud Computing
2. Differentiates the types of Cloud, its architecture and its applications
3. To understand the basic concepts of IoT and its applications
4. Understand the concept of consumer application
5. Able to understand the concept of security
6. Understand Food and Water Tracking Security

Semester III
18PCS3117

Hours/Week: -
Credits : 7

MINI PROJECT

Course Outcomes:

1. Learn to plan, Design and Analyze small scale projects
2. Understand the Software development life cycle phases through various models
3. Ability to perform Critical Thinking, Reasoning, and Creative Thinking
4. Develop Interpersonal Communication
5. Ability to visualize the simple problems and provide simple solutions
6. Ability to choose an appropriate tool for the task

Semester III
18PCS3118

Hours/Week: -
Credits : 2

COMPREHENSIVE EXAMINATION

Course Outcomes:

1. Develop solutions for a range of problems using object-oriented programming.
2. Learn programming paradigms in Python.
3. Create rich GUI web applications using Visual Studio.NET
4. Learn MongoDB query language.

5. Use the development tools in the Android development environment
6. Understand the basic functionality of PHP scripting

Semester IV
18PCS4119

Hours/Week: 30
Credits : 20

MAJOR PROJECT
DISSERTATION AND VIVA-VOCE

Course Outcomes:

1. Learn to plan, design and analyze the modules
2. Understand various needs of the Industry
3. Ability to perform Critical Thinking, Reasoning, and Creative Thinking in a Workplace
4. Develop Communication Skills, both for Interpersonal and Presentation Needs
5. Ability to visualize the problems and provide Solution by Decision Making
6. Work as an individual, or as a part of a team in a real-time industry environment

M. Sc.
INFORMATION TECHNOLOGY

Programme Outcomes (POs):

1. Graduates are prepared to be creators of new knowledge leading to innovation, entrepreneur and employable in various sectors such as Private, Government and Research organizations.
2. Graduates are trained to evolve/ adopt new technologies in their own discipline.
3. Graduates are groomed to engage in lifelong learning process by exploring knowledge independently
4. Graduates are framed to design and conduct experiments/ demonstrate/ create models to analyze and interpret data.
5. Graduates ought to have the ability of effectively communicating the findings of Biological Sciences/Computing Sciences/ Languages and Culture/ Management Studies/ Physical Sciences/ and to incorporate with existing knowledge.

Programme Specific Outcomes (PSOs):

1. Fundamental knowledge in problem solving, general computing, and in depth knowledge in Information Technology.
2. An ability to identify, analyze, design, optimize and implement system solutions using suitable computing techniques leading to propulsion towards employability.
3. An ability to understand and provide solutions to real life problems in Internet of Things with thrust in lifelong learning.
4. Fundamental knowledge in computational methods and tools for solving realtime problems.
5. An ability to act as a leader, or as a part of a team to create multi-functional software products
6. An Ability to demonstrate individual practical experiences in a variety of programming languages and situations

Semester I
18PIT1101

Hours/Week: 5
Credits : 4

PROGRAMMING IN JAVA

Course Outcomes:

1. Develop solutions for a range of problems using object-oriented programming.
2. Solve simple problems using the fundamental syntax and semantics of the Java Programming language
3. Use the Java event-handling model to respond to events arising from the GUI Components.
4. Acquire knowledge of thread and JDBC programming techniques in Java.
5. Understand and implement advanced concepts of java like Networking and RMI
6. Demonstrate the ability to learn java concepts Servlet and Cookies.

Semester I
18PIT1102

Hours/Week: 5
Credits : 4

DATABASE SYSTEMS

Course Outcomes:

1. Understand relational database theory and be able to use a relational database management system.
2. Understand the relational model and relational algebra operations.
3. Able to use SQL commands to create, manipulate, and query databases.
4. Able to apply proper techniques, such as normalization, in designing a database.
5. Understand and apply the concept of PL/SQL
6. Understand the parallel and distributed data base systems.

Semester I
18PIT1103

Hours/Week: 5
Credits : 4

Core Elective-I:
CLOUD & FOG COMPUTING

Course Outcomes:

1. Compare the strengths and limitations of cloud computing
2. Identify the architecture, infrastructure and delivery models of cloud computing and apply suitable virtualization concept.
3. Ability to discern and appropriate Cloud Providers.
4. Recognize the Energy Efficient and Market Oriented Cloud models.
5. Comprehend the need of Fog Computing in integrating IoT with Cloud.
6. Personalize Real World Problems using Fog and IoT

Semester I
18PIT1104

Hours/Week: 5
Credits : 4

INTRODUCTION TO IoT

Course Outcomes:

1. Understand the Architectural Overview of IoT.
2. Realize the concepts of IoT using Wireless Technologies.
3. Understand the various IoT Protocols.
4. Impart the knowledge on the devices of IoT.
5. Comprehend the idea of M2M.
6. Learn the IoT security in various domains.

Semester I
18PIT1105

Hours/Week: 3
Credits : 2

Software Lab-I:
JAVA

Course Outcomes:

1. Demonstrate the basic concepts of OOPS
2. Implement the programming skills based on OOPS
3. Demonstrate the behavior of Exception handling and Multithreading
4. Implement the concept of GUI (Event handling, Applet and Swing).
5. Develop programming aspect with files and networking.
6. Apply the concept of JDBC to develop connection with database.

Semester I
18PIT1106

Hours/Week: 3
Credits : 2

Software Lab-II: RDBMS

Course Outcomes:

1. Populate and query a database using DML/DDI commands.
2. Design a table and apply aggregate function and set operations.
3. Normalize the database using normalization rules.
4. Apply PL/SQL for query processing.
5. Design nested sub queries and correlated sub queries for a given problem.
6. Use PL/SQL stored procedure, stored functions, cursors and packages to query the database

Semester I
18PIT1201A

Hours/Week: 4
Credits : 4

SOFTWAREENGINEERING

Course Outcomes:

1. Basic understanding of software engineering, terminologies, various process models.
2. Learn the importance of software requirement specification and requirement engineering tasks.
3. Understand the relationship between estimation, scheduling and modularity of a software system.

4. Understand and apply the concept of software metrics and project planning
5. Impart the knowledge in testing strategies and techniques
6. Fundamental knowledge of functional testing and cause effect graphing.

Semester I
18PIT1201B

Hours/Week: 4
Credits : 4

Core Elective-II:
WEB SERVICES WITH JSON

Course Outcomes:

1. Able to develop the aptitude skills.
2. Able to boost the logical thinking by reasoning.
3. Comprehend the basic knowledge in C, C++ and Java.
4. Examine their technical skills by debugging the programs.
5. Able to compete in the competitive exams and interviews
6. Understand the concepts of UDDI and SOAP in WSDL

Semester II
18PIT2107

Hours/Week: 5
Credits : 4

Online Course:
WEB DESIGN & PHP

Course Outcomes:

1. Understand fundamental concepts of design web forms
2. Study various styles using cascading style sheets
3. Demonstrate the creation of dynamic web pages
4. Understand the nuances of PHP Programming
5. Understand avoid and Handle errors in PHP pages
6. Understand the structure of MYSQL

Semester II
18PIT2108

Hours/Week: 5
Credits : 4

IoT PROGRAMMING

Course Outcomes:

1. Understand the concept of software specifications
2. Understand about the basics of Pi 3 operating system
3. To Learn the operate your Pi 3 using different interfaces
4. Gain knowledge of install to different packages on Pi.
5. Learn various types of LED circuits.
6. Gain knowledge of project and testing

Semester II
18PIT2109

Hours/Week: 3
Credits : 2

Software Lab-III: WEB DESIGN & PHP

Course Outcomes:

1. Create a simple web-based system 2.Develope, Test and debug a simple PHP scripts.
2. Design PHP scripts that are used to create and populate database
3. Apply distributed techniques cookies manipulation in web-based systems.
4. Design to upload the file and images
5. Test and debug object-oriented PHP scripts
6. Design and Manipulate forms to provide user authentication.

Semester II
18PIT2110

Hours/Week: 3
Credits : 2

Software Lab-IV:

IoT PROGRAMMING

Course Outcomes:

1. Perform simple operations using Python programming
2. Implement basic functionality of Pi 3 operating system
3. Ability to operate Raspberry Pi using different interfaces
4. Ability to Perform File handling and Object Oriented Programming in Python
5. Ability to use various types PINs and circuits.
6. Demonstrate knowledge of project and testing using Raspberry Pi and Python

Semester II
18PIT2202A

Hours/Week: 4
Credits : 4

Core Elective-II: INFORMATION SECURITY

Course Outcomes:

1. Learn the basic concepts of Information Security
2. Emphasize the need for security in different Aspects
3. To evaluate legal, ethical and professional aspects of Information Security.
4. Familiarize in intrusion detection and Prevention.
5. Recognize various security Scanning and Analysis Tools
6. Understand the concept of Cryptography and Recognize its Tools

Semester II
18PIT2202B

Hours/Week: 4
Credits : 4

Core Elective-II: REAL TIME OPERATING SYSTEMS

Course Outcomes:

1. Understand the aspects of Real Time Embedded concepts
2. Learn the Essentials of Open Source RTOS and their usage
3. Identify the proper technique to design a Real-Time System
4. Spell out VxWorks RTOS and real time application programming with it
5. Build the device driver and kernel internal for Embedded OS
6. RTOSearn and apply the knowledge of Memory systems

Semester II
18PIT2111

Hours/Week: -
Credits : 2

Self-paced Learning: MOBILE COMMUNICATION

Course Outcomes:

1. Familiarize various generations of mobile communications and the concept of cellular communication, basics of wireless communication
2. Knowledge acquired of GSM, IS-95 CDMA mobile communication standard, its architecture, logical channels, advantages and limitations.
3. Comprehension of 3G mobile standards and their comparison with 2G technologies.
4. Understand multicarrier communication systems and differentiate various Wireless LANs.
5. Understand multicarrier communion systems.
6. Knowledge of infrastructure and Ad Hoc networks

Semester II
18PIT2301

Hours/Week: 4
Credits : 4

IDC (WS):

COMPUTER GENERATED IMAGERY

Course Outcomes:

1. Understand the basic concepts of multimedia components
2. Understand the elements of graphic design

3. Distinguish between 2D and 3D images
4. Manipulate images in GIMP
5. Create basic 3D animations
6. Understand the fundamentals of 3D rendering and optimization.

Semester II
18PIT2112

Hours/Week: 2
Credits : 1

PC TROUBLE SHOOTING

Course Outcomes:

1. Install operating systems into partitions
2. Troubleshoot problems in Operating System
3. Install Network Hardware and Troubleshoot connections

Semester III
18PIT3113

Hours/Week: 5
Credits : 4

Online Course: BIG DATA ANALYTICS

Course Outcomes:

1. Understand the concept and challenge of big data and why existing technology is inadequate to analyze the big data;
2. Collect, manage, store, query, and analyze various form of big data;
3. Gain hands-on experience on large-scale analytics tools to solve some open big data problems;
4. Understand the impact of big data for business decisions and strategy.
5. Address the limitations and challenges of working in a big data environment.
6. Utilize the opportunities for commercial and/or social benefit

Semester III
18PIT3114

Hours/Week: 6
Credits: 4

JAVA SCRIPT PROGRAMMING ON THINGS

Course Outcomes:

1. Understand the working of JavaScript development environment
2. Ability to perform client side validation on HTML forms
3. Learn to implement JQuery in HTML pages
4. Ability to discern various development boards for IoT programming
5. Develop IoT applications with Node.JS Johnny Five
6. Ability to Connect the devices to Cloud services

Semester III
18SCS3101B

Hours/Week: 6
Credits : 5

Inter-disciplinary Core : MOBILE APPLICATION DEVELOPMENT USING ANDROID

Course Out comes:

1. Understand the basic concept of mobile devices and types of mobile operating system
2. Ability to know the concept of cross platform system architecture
3. Use the development tools in the Android development environment
4. To develop their own apps using the major components of Android API
5. Use the Java programming language to build Android apps
6. Analyze the concept of android SQLite and managing database.

Semester III
18PIT3115

Hours/Week: 3
Credits : 2

Software Lab-V: IoT PROGRAMMING USING JAVA SCRIPT

Course Outcomes:

1. Understand the working of JavaScript development environment
2. Demonstrated various client side validation on HTML forms using JavaScript
3. Implement JQuery in HTML pages for design and functionality
4. Work on various development boards for IoT programming
5. Develop IoT applications with Node.JS Johnny Five
6. Ability to Connect the devices to Cloud services

Semester III
18PIT3116

Hours/Week: 3
Credits : 2

Software Lab-VI:
ANDROID

Course Outcomes:

1. Describe and compare different mobile application models/architectures and patterns.
2. Describe the components and structure of a mobile development framework
3. Install and configure Android application development tools.
4. Design and develop user Interfaces for the Android platform.
5. Save state information across important operating system events.
6. Apply Java programming concepts to Android application development.

Semester III
18PIT3203A

Hours/Week: 4
Credits : 4

Core Elective-III:
HIGHPERFORMANCECOMPUTING

Course Outcomes:

1. Understand fundamental concepts and techniques in parallel computation structuring and design.

2. To Study various architectures of high - performance computing systems.
3. To demonstrate the principles of Parallel Algorithm Design.
4. Investigate modern design structures of pipelined and multiprocessors systems.
5. Understand the algorithms using parallel programming principle.
6. To study about Parallel sparse matrix and vector multiplication.

Semester III
18PIT3203B

Hours/Week: 4
Credits : 4

Core Elective-III:
INTELLIGENT NETWORKS

Course Outcomes:

1. Understand the various technologies used in telecommunications
2. Understand about architectures, and protocols used in the telecommunications industry
3. Learn the 1G, 2G, 3G, 4G, LTE, WiMAX and their role in present and future Mobility
4. Learn various types of wireless and mobility
5. Understand various network types and functions
6. Gain knowledge in cybernetics and humanistic intelligence.

Semester III
18PIT3302

Hours/Week: 4
Credits : 4

IDC (BS):
WEB DESIGN AND CONTENT MANAGEMENT SYSTEM

Course Outcomes:

1. Understand webpage layout and design webpage using HTML
2. Design webpage using CSS
3. Build dynamic website using Server side scripting language
4. Understand the concept of Database

5. Create websites with Word Press
6. Create dynamic content and learn to backup site data

Semester III
18PIT3117

Hours/Week: -
Credits : 7

MINIPROJECT

Course Outcomes:

1. Learn to plan, Design and Analyze small scale projects
2. Understand the Software development life cycle phases through various models
3. Ability to perform Critical Thinking, Reasoning, and Creative Thinking
4. Develop Interpersonal Communication
5. Ability to visualize the simple problems and provide simple solutions
6. Ability to choose an appropriate tool for the task

Semester III
18PIT3118

Hours/Week: -
Credits : 2

COMPREHENSIVE EXAMINATION

Course Outcomes:

1. Solve simple problems using the fundamental syntax and semantics of the Java
2. Programming language
3. Recall the SQL commands to create, manipulate, nested queries, joins and query databases
4. Understand the fundamentals of PHP programming and database operations by using MySql
5. Learn the Essentials of Open Source RTOS and their usage
6. Gain knowledge of install to different packages on Raspberry Pi understand big data concepts, Hadoop framework and its importance in business field

Semester IV
18PIT4119

Hours/Week: 30
Credits : 20

MAJOR PROJECT, DISSERTATION & VIVA-VOCE

Course Outcomes:

1. Learn to plan, design and analyze the modules
2. Understand various needs of the Industry
3. Ability to perform Critical Thinking, Reasoning, and Creative Thinking in a Workplace
4. Develop Communication Skills, Both for Interpersonal And Presentation Needs
5. Ability to visualize the problems and provide Solution by Decision Making
6. Work as an individual, or as a part of a team in a real-time industry environment
7. Able to create working databases and be familiar in DDL and DML
8. Exposure towards industry standards and strategies in software and web developments.

M. A. ECONOMICS

Programme Outcomes (POs):

1. Graduates are prepared to be creators of new knowledge leading to innovation and entrepreneurship employable in various sectors such as private, government, and research organizations.
2. Graduates are trained to evolve new technologies in their own discipline.
3. Graduates are groomed to engage in lifelong learning process by exploring their knowledge independently.
4. Graduates are framed to design and conduct experiments /demos/create models to analyze and interpret data.
5. Graduates ought to have the ability of effectively communicating the findings of Biological sciences incorporating with existing knowledge.

Programme Specific Outcomes (PSOs):

1. To appreciate the importance of the subject Economics.
2. To study the various terms and concepts in Economics.
3. To study various principles and theories in Economics.
4. To evaluate the programmes and policies of both Central and State the Governments.
5. To study various current economic issues and problems to identify solution.
6. To study the quantitative techniques and its applications in Economics.
7. To study research methodology in Economics to undertake research.
8. To study the global economic issues like Globalization, Privatization and Liberalization.

Semester I
18PEC1101

Hours/Week: 7
Credits : 5

ADVANCED MICRO ECONOMICS-I

Course Outcomes:

1. To equip the students' with basic concepts of advanced micro economics.

2. To impart knowledge on consumer and producer behavior to reach equilibrium.
3. To enhance the students' analytical skill on cost concepts.
4. To increase the analytical skill of students on market concepts.
5. To study the theory of production and costs.
6. To understand the money of market structure.
7. To create awareness of using mathematical techniques in economic theories.
8. To make the students' understand the efficacy of game theory and its uses in economics

Semester I
18PEC1102

Hours/Week: 6
Credits : 5

ANALYSIS OF INDIAN ECONOMY

Course Outcomes:

1. To study the significance of Natural Resources in Indian Economy
2. To understand the various vital problems affecting Indian Economy
3. To analyze policy measures with a special note on rural development.
4. To know the role and significance of Information Technology in the modern India.
5. To analyze the economic reforms of India.
6. To know the WTO scenario in the Indian context.
7. To know the significance of NITI AAYOG.
8. To assess the capital flows by trade in India

Semester I
18PEC1103

Hours/Week: 6
Credits : 4

PUBLIC ECONOMICS

Course Outcomes:

1. Understand the role and functions of the government in a modern economy

2. Understand the issues related to market failure and government intervention
3. Provide an understanding of concepts and theories of public economics
4. Analyse the interrelationship between Centre, State and Local Governments.
5. To study the recent trends in public expenditure, taxation and budgetary policy.
6. Understand the fiscal reforms in India

Semester I
18PEC1104

Hours/Week: 7
Credits : 5

STATISTICAL TOOLS FOR ECONOMICS

Course Outcomes:

1. To understand the basics of statistics
2. To know the theoretical background of correlation and regression and its application in Economics.
3. To know the importance of time series analysis in research.
4. To understand the various properties of statistical distributions.
5. To help students develop hypothesis for their research work.
6. To facilitate a research bent of mind in statistical tools.
7. To inculcate the practice of applying various statistical tools.
8. To apply statistical tools in research

Semester I
18PEC1201

Hours/Week: 4
Credits : 4

Core Elective-I COMPUTER APPLICATION IN ECONOMICS

Course Outcomes:

1. To enable the students to understand the fundamentals of computer.
2. To acquire knowledge of MS Word, MS Excel, MS PowerPoint.
3. To impart skills in proper procedures to create documents.

4. To know and understand the importance of recent Operating System.
5. To understand the impact of internet in recent scenario.
6. To know the importance of social networks in this current era

Semester II
18PEC2105

Hours/Week: 6
Credits : 5

ADVANCEDMICRO ECONOMICS-II

Course Outcomes:

1. To impart students' skills on theory of firm.
2. To equip the students' with the importance of theory of distribution.
3. To enhance the students' knowledge on welfare economics.
4. To impart the students' knowledge on partial equilibrium.
5. To equip the students' awareness with regard to general equilibrium and its superiority over partial equilibrium.
6. To make the students' know details on economics of uncertainty and information.
7. To understand the difference between partial equilibrium and general equilibrium.
8. To study the new market models.

Semester II
18PEC2106

Hours/Week: 6
Credits : 5

MATHEMATICAL TOOLS FOR ECONOMICS

Course Outcomes:

1. To understand the meaning and importance of mathematical tools
2. To help students to acquire the knowledge of applying mathematical tools to simple problems in Economics.
3. To learn the concept of differentiation and its application in Economics.
4. To know the concept of integration and its application in Economics.
5. To learn the basic operations and properties of matrices.
6. To help students to develop the aptitude for research.

7. To apply mathematical tools in core Economics papers.
8. To acquire mathematical knowledge in real life situations.

Semester II
18PEC2107

Hours/Week: 5
Credits : 5

MACRO ECONOMIC PROCESS

Course Outcomes:

1. Introduce the macro economic concepts and variables.
2. Make them understand the idea about aggregates and their significance.
3. Learn the theoretical background of macro economics.
4. Understand the macro economic principles in Indian context.
5. Study various approaches for demand for money.
6. Study the theories of trade cycle.
7. To help the students know and understand various theories.
8. To study the significance and impact of multiplier and accelerator.

Semester II
18PEC2108

Hours/Week: 5
Credits : 4

ENVIRONMENTAL ECONOMICS

Course Outcomes:

1. Know the basic concepts of Environmental Economics
2. Understand various theories of Environmental Economics
3. Understand the various environmental pollutions and the policy measures to control pollution.
4. Know the applications of the waste management.
5. Know conservation of biodiversity from this course
6. Know the different issues related to environment

Semester II
18PEC2109

Hours/Week: -
Credits : 2

Self-paced Learning:
TOURISM MANAGEMENT

Course Outcomes:

1. To know the importance of Tourism Management and its promotion.
2. To understand the various elements of tourism management
3. To understand government's initiatives for tourism development
4. To impart information about recent trends in domestic and international tourism in India
5. To understand the basic concepts and importance of medical tourism.
6. To know the detailed study of Tourism Development Corporation

Semester II
18PEC2202

Hours/Week: 4
Credits : 4

Core Elective-II:
LABOUR ECONOMICS

Course Outcomes:

1. Understand the theoretical as well as empirical issues of agriculture labour.
2. Know about Industrial labour with special reference to India.
3. Recognize issues pertaining to the wage theories, employment policies and so on.
4. Know about how trade union functions and it paves the way for collective bargaining to the globalised economy and social security measures.
5. To understand the need of Trade Unions in Labour Welfare.
6. To study Labour Welfare measures.

Semester II
18PCO2202

Hours/Week: 4
Credits : 4

Core Elective (WS) - II:
EXPORT AND IMPORT MANAGEMENT

Course Outcomes:

1. Understand the basic concepts of international trade environment
2. Know foreign trade policy in India.
3. Gain exposure export and import procedures and practices.
4. Evolve and understand the needs of the international market.
5. Strategize, plan and execute ideas for export and import.
6. Evaluate the global Business for becoming a successful Export Import Manager

Semester II
18PHR2202

Hours/Week: 4
Credits : 4

Core Elective (WS) - II:
MANAGERIAL EFFECTIVENESS

Course Outcomes:

1. Gained knowledge and understanding about effectiveness and qualities of a successful manager.
2. Able to understand oneself better and plan accordingly for the future.
3. Equipped with the right attitudes and skills towards achieving greater levels of managerial effectiveness.
4. Have developed the seven essential habits of highly effective people and are able to practice in their life to be more effective.
5. Proficient in different types of business correspondence.
6. Have acquired the basic career skills and enhanced employability skill.

Semester III
18PEC3110

Hours/Week: 6
Credits : 5

ECONOMICS OF GROWTH AND DEVELOPMENT

Course Outcomes:

1. To understand the various concepts of Growth and Development with special reference to India.
2. To analyze theoretical and empirical issues in economic growth and development.
3. To familiarize the students with contemporary issues in economic growth and development
4. To understand the role and contribution of modern technology in economic development
5. To know the policy analysis between developing and developed countries.
6. To provide critical thinking on contemporary issues on economic growth and development.
7. To understand the evolution of growth and development in the modern era.
8. To understand the functions of MNCs in the global economy.

Semester III
18PEC3111

Hours/Week: 6
Credits : 5

MONETARY ECONOMICS

Course Outcomes:

1. Understand the latest developments in Monetary Economics
2. Know recent trends in banking theories and practice
3. Understand the importance of Monetary Policy and its working
4. Compare the banking system of India with other systems.
5. Study the functions of RBI
6. Study about inflation in India
7. Study the impact of demonetization in India
8. To know the performance of nationalised banks in India.

Semester III
18SMS3101

Hours/Week: 6
Credits : 5

Inter-disciplinary Core:
HUMAN RESOURCE MANAGEMENT

Course Outcomes:

1. Being competent with knowledge and skill of human resource management.
2. Groomed with proficiency in the latest techniques related planning and development of human resources in an industry.
3. Nurtured with the recent strategic HRM practices entitled to succeed competitive examinations.
4. Potential enough to carry research activities in the areas of human resource management as per the need of the hour.
5. Sensitized in the changing scenario of HR practices and being competent to start new ventures (Entrepreneurs)
6. Proficient in carrying research activities as per the dynamics of human resource climate of the industry.
7. Equipped with enhanced practical knowledge and skill in the specialization of human resource through industrial interface (in plant training and frequent industrial visits)
8. Efficient to train subordinate by sharing the equipped and enriched knowledge in various fields of HR

Semester III
18PEC3203

Hours/Week: 4
Credits : 4

Core Elective:
INTRODUCTION TO ECONOMETRICS

Course Outcomes:

1. It enhances the students' knowledge to quantify the socioeconomic problems
2. It induces the quantitative techniques skills
3. It helps the students to understand the relationship between the variable and nature of relationship.

4. The student will learn the forecasting techniques.
5. This course enriches the students with problem solving skills.
6. The main accent is done on economic interpretations and application of considered econometric models.

Semester III
18PEC3301

Hours/Week: 4
Credits : 4

IDC (WS):
INDIAN ECONOMY

Course Outcomes:

1. Acquire the basic knowledge about the structure of Indian Economy
2. Know the key problems in the Economic Development in India
3. Know the efforts taken for the Economic Development of India
4. Know the different policies related to Economic Development
5. Acquire the knowledge for resolving the economic problems of India
6. Get the knowledge of analyzing the Macro Economic policies

Semester III
18PCO3203

Hours/Week: 4
Credits : 4

Core Elective (WS):
PORTFOLIO MANAGEMENT

Course Outcomes:

1. Decipher the meaning of investment and risks associated with it.
2. Identify and appreciate various investment avenues.
3. Understand underlying facts of portfolio construction.
4. Know the influence of Fundamental Analysis.
5. Understand the nuances of technical analysis.
6. Judge and choose suitable investment proposals

Semester III
18PHR3203

Hours/Week: 4
Credits : 4

Core Elective (WS):
COMPENSATION MANAGEMENT

Course Outcomes:

1. Gained knowledge on the different types of wages and the importance of equity in wage and salary administration.
2. Have become aware of the issues related to compensation or rewarding human resources in various forms of organizations
3. Familiarized on the computation of wage and salary.
4. Learnt about the different machineries involved in wage fixation in our country.
5. Developed skills in designing, analyzing and restructuring reward management systems, policies and strategies.
6. Learnt the different incentive payment plans introduced by the management researchers

Semester III
18PEC3302

Hours/Week: 4
Credits : 4

IDC (BS):
MANAGERIAL ECONOMICS

Course Outcomes:

1. Acquire the basic knowledge about General economics to the students.
2. Understand the Managerial skill and its applications to the students.
3. Impart the knowledge of demand theory
4. Understand the production theory to the students.
5. Understand how products are priced.
6. Know the various macroeconomic polices

Semester IV
18PEC4112

Hours/Week: 7
Credits : 5

INTERNATIONAL ECONOMICS

Course Outcomes:

1. Understand the importance of international trade
2. Analyse various international trade theories
3. Understand the importance and way to regulate international trade
4. Understand the national economy in the global context
5. Know the impact of trade policies both at national and international level
6. Enable the students to understand the EXIM Policy.
7. Study the level of international financial flows.
8. Understand the functions of international institutions in the global economy

Semester IV
18PEC4113

Hours/Week: 6
Credits : 4

RESEARCH METHODOLOGY

Course Outcomes:

1. To define research, explain and apply research terms in Economics
2. To describe the research process and the principle activities, skills and ethics associated with the research process
3. To propose a research study and justify the theory as well as the methodological decisions, including sampling and measurement
4. To be able to develop literature review and research methodology based on the selected topic.
5. To know the sample design and to develop the skills for sampling and sampling techniques used to collect survey data
6. To know the significance of Report writing and mechanics of thesis writing

Semester IV
18PEC4114

Hours/Week: 6
Credits : 4

INDUSTRIAL ECONOMICS

Course Outcomes:

1. Students should achieve an understanding of some of the most important theories concerning the organisation of industries and the behaviour of firms within those industries.
2. Describe the basic models of the behaviour of firms and industrial organization.
3. Identify and compare different market structures (Perfect competition, monopolistic competition, monopoly and oligopoly), as well as, compare their price and output implications.
4. Describe and explain the determinants of the size and structure of firms and the implications of the separation of ownership and control.
5. Discuss how the firms' actions affect consumer welfare and intervention of the government.
6. Discuss the factors that influence the conduct of firms in terms of their advertising, price setting, R&D, and other decisions

Semester IV
18PEC4115

Hours/Week: 7
Credits : 5

OPTIMISATION TECHNIQUES IN ECONOMICS

Course Outcomes:

1. To Understand the meaning, purpose, and tools of Optimisation techniques in Economics
2. To know the history, stages and limitations of Operations Research
3. To understand various Applications of Operations Research in Economics
4. To Formulate Linear Programming Problem and Solve the problem graphically
5. To Understand the basics of simplex method and Big M Method
6. To Formulate the Transportation Problem and determine basic feasible solution

7. To Formulate and solve the assignment problems

8. To introduce simulation techniques to students and explain the steps of simulation

M. Sc. ELECTRONICS

Programme Outcomes (POs):

1. Students are prepared to be creators of new knowledge leading to innovation, entrepreneur and employable in various sectors such as Private, Government and Research organizations.
2. Students are trained to evolve/ adopt new technologies in their own discipline.
3. Students are groomed to engage in lifelong learning process by exploring knowledge independently
4. Students are framed to design and conduct experiments/ demonstrate/ create models to analyze and interpret data.
5. Students ought to have the ability of effectively communicating the findings of Biological Sciences/ Computing Sciences/ Languages and Culture/ Management Studies/ Physical Sciences/ and to incorporate with existing knowledge.

Programme Specific Outcomes (PSOs):

1. Critical and Analytical Thinking Skills
2. Focus on latest technology in Electronics
3. Hardware designing skills
4. Trouble shooting and programming skill
5. Digital design synthesis and simulation
6. Entrepreneurial Skills
7. Employability Enhancement
8. Research and industrial consultancy

Semester I
18PEL1101

Hours/Week: 6
Credits : 5

DESIGN OF ANALOG CIRCUITS

Course Outcomes:

1. Ability to understand different type of amplifiers and their working
2. Acquire knowledge on current mirrors, voltage and current reference circuits.
3. Acquire knowledge on various transistor configuration
4. To understand the knowledge about frequency response in circuits
5. Analyze the characteristics of OP-Amp
6. To master on special amplifiers and data converters.
7. To understand characterize the analog IC's
8. Apply the fundamental concepts of design of multistage amplifier for real time applications.

Semester I
18PEL1102

Hours/Week: 6
Credits : 5

DESIGN OF DIGITAL CIRCUITS

Course Outcomes:

1. Ability to understand the combinational logic functional theory and design.
2. Acquire knowledge on data transmission system
3. To perceive the design concepts of counters and shift registers
4. Acquire knowledge on clock-driven sequential circuits.
5. Analyze design concepts of event driven circuits
6. To simulate and implement the digital design concepts in software.
7. To verify the digital circuits outputs in Lab VIEW
8. Apply the fundamental concepts of design digital circuits for real time applications

Semester I
18PEL1103

Hours/Week: 6
Credits : 5

SIGNALS AND SYSTEMS

Course Outcomes:

1. Ability to analyze signals and LTI Systems.
2. Understand Laplace Transforms of functions
3. Ability to solve some important properties of Laplace Transform
4. To perceive the Fourier series of functions.
5. Acquire knowledge on Fourier transform
6. To solve the mathematical problems in Fourier transform
7. Understand the complex functions and Z transforms.
8. Knowledge on signals and their functions by simulating them in SIMULINK and MATLAB

Semester I
18PEL1401

Hours/Week: 4
Credits : 4

IDC (WS):
ELECTRONICS MEDIA

Course Outcomes:

1. Ability to understand the essential electronic components for media
2. Ability to distinguish the elements of photography
3. To identify the audio systems
4. Acquire knowledge on video broadcasting systems.
5. To installation and maintenance of the electronics media devices
6. Apply the functionalities of electronic devices and circuits in electronic media

Semester II
18PEL2105

Hours/Week: 6
Credits : 5

EMBEDDED SYSTEM-I

Course Outcomes:

1. Ability to understand the basics of 8 bit microcontroller
2. Ability to write assembly language program in 8051 microcontroller
3. To acquire knowledge on interfacing techniques of 8bit microcontroller
4. Acquire the basics of 16bit microcontroller

5. To understand the knowledge on 32bit microcontroller
6. Acquire knowledge on ARM instruction set
7. Analyze the interfacing protocols
8. Knowledge on programming in Keil μ Vision and MPLAB IDEs

Semester II
18PEL2106

Hours/Week: 6
Credits : 4

DIGITAL SIGNAL PROCESSING AND ADSP

Course Outcomes:

1. To analyze the signal processing techniques in DSP
2. Ability to understand Discrete and fast Fourier transforms.
3. To design FIR filters to suit specific requirements for specific application
4. To design IIR filters to suit specific requirements for specific application
5. Design and apply the PDSP techniques using in CCS
6. Ability to design the filters in PDSP using MATLAB

Semester II
18PEL2107

Hours/Week: 6
Credits : 4

POWER ELECTRONICS AND SOLAR PV SYSTEMS

Course Outcomes:

1. Acquire knowledge on advanced power semiconductor devices.
2. Analyze rectifiers and DC- DC converters
3. Classify and understand different power converters and inverters
4. To attain knowledge on solar PV systems.
5. Apply and interpret power systems using PSIM.
6. Ability to visualize the concepts of smart grids

Semester II
18PEL2109A

Hours/Week: -
Credits : 2

Self-paced Learning:
AUTOMOTIVE ELECTRONICS

Course Outcomes:

1. Ability to understand the basics of modern automobile systems.
2. To acquire knowledge on ECU
3. Familiarize with CAN protocol used in automobiles.
4. Enhance LIN and FLEXRAY protocols used in automobiles.
5. Knowledge on hybrid and electric vehicles
6. Apply the concepts of electronic circuits bus and protocols in automobiles.

Semester II
18PEL2109B

Hours/Week: -
Credits : 2

Self-paced Learning:
PROGRAMMABLE LOGIC CONTROLLERS AND PROGRAMMING

Course Outcomes:

1. To learn the basic concepts of PLC.
2. Analyze the Ladder logic programming in PLC
3. Enhance the advance PLC Programming concepts.
4. Acquire Knowledge on wiring and analog sensors.
5. To apply and interpret PLC programming using OMRON and KEYENCE.
6. Gain the knowledge on industrial automation.

Semester II
18PEL2109C

Hours/Week: -
Credits : 2

Self-paced Learning:
MEDICAL ELECTRONICS

Course Outcomes:

1. Ability to classify understand various electrodes and transducers in the field of medical electronics.
2. To identify the bio medical recorders.
3. Acquire knowledge on the diverse imaging systems.
4. To indentify the blood flow meters and blood cell counters.
5. Analyze various advance Bio-medical instruments.
6. To conceive ideas about functionalities of equipments used in hospitals.

Semester III
18PEL3110

Hours/Week: 4
Credits : 4

EMBEDDED SYSTEM -II

Course Outcomes:

1. Ability to learn the basics of AVR microcontroller and Arduino UNO.
2. Demonstrate the peripheral interfacing with microcontrollers
3. To Understand the basics of Arduino and single board computers
4. Knowledge on programming using PYTHON
5. To analyze various architectures and programming IDE
6. Acquire knowledge on GPIO interface with RASPBERRY P

Semester III
18SPS3101A

Hours/Week: 6
Credits : 5

Interdisciplinary Core: SPECTROSCOPY AND STATISTICAL THERMODYNAMICS

Course Outcomes:

1. Students learn and understand the concept of Molecular spectroscopy
2. The concept of FT-IR is well understood
3. The concepts of Raman Spectroscopy is well understood
4. Students learn and understand the concepts of NMR spectroscopy
5. The concepts of probability distribution is understood
6. The concept of statistical thermodynamics is understood

7. Students learn and understand the concept of partial molar properties
8. The application of statistical thermodynamics is understood

Semester III
18SPS3101B

Hours/Week: 5
Credits : 5

IDC: SPECTROSCOPY

Course Outcomes:

1. Understand the aspects of rotational spectroscopy and its techniques.
2. Understand the theory and principles of vibrational spectroscopy and its techniques.
3. Comprehend the basics of Raman and their instrumentation techniques.
4. Understand the physics behind NMR and ESR spectroscopy and its instrumentation.
5. Perceive the theory and principles of electronic and X-ray spectroscopy.
6. Understand Mossbauer spectroscopic techniques and hyperfine spectral lines.
7. Understand phosphorescence and fluorescence.
8. Analyze the structure of compounds by various spectroscopic techniques.

Semester IV
18SPS3101C

Hours/Week: 6
Credits : 5

SENSORS AND TRANSDUCERS

Course Outcomes

1. Understand the working principles of various transducers.
2. Characterize and measure the non - electrical quantities
3. Acquire knowledge of measurement techniques of thermal conductivity
4. Enhance the knowledge on integrated sensors.
5. Able to understand the usage of electrolytic sensors
6. Learn about biosensors and MEMS based sensors
7. Design the signal conditioning circuits used in bio- instrumentation

8. To analyze the operations of various sensors used in industries and commercial applications

Semester III
18PEL3201A

Hours/Week: 4
Credits : 4

VLSI DESIGN AND VHDL PROGRAMMING

Course Outcomes:

1. Understand the basics of VLSI technology and VHDL programming
2. To Compare and analyze various semiconductor devices used in VLSI
3. Analyse scaling factors and testing procedures for VLSI system.
4. Simulate and test various digital circuits using VHDL.
5. Ability to understand the concepts of data types and synthesis in VHDL programming
6. Acquire knowledge on circuit design and simulation using Xilinx IDE

Semester III
18PEL3201B

Hours/Week: 4
Credits : 4

ELECTROMAGNETIC THEORY

Course Outcomes:

1. Ability to understand the basic wave equations of Electromagnetic waves.
2. Acquire knowledge on pointing vector and wave guides
3. To classify and study various antennas with directional properties.
4. Analyse the fundamentals of transmission lines
5. Understand the principles of microwave devices.
6. Apply basic electro- magnetic laws and understand the operations of different antennas

Semester III
18PEL3202A

Hours/Week: 4
Credits : 4

COMPUTER HARDWARE AND NETWORKS

Course Outcomes:

1. Understand the basic hardware configuration of a computer
2. Characterize the mother board and mother board chipsets
3. To avail knowledge on BIOS and the Boot processes.
4. Knowledge on various expansion cards, motherboard ports and connectors
5. Learn about the basics of networks and network topologies.
6. Apply basics of electronics to acquire knowledge on PC preventive maintenance and troubleshooting

Semester III
18PEL3202B

Hours/Week: 4
Credits : 4

INSTRUMENTATION

Course Outcomes:

1. Understand the basics of analytical instruments
2. Classify and study various biomedical instruments
3. Identify the troubleshooting PC based instruments
4. Ability to understand industrial network protocols
5. Enhance the knowledge on applications of instrumentation
6. Learn operate on different instruments

Semester III
18PBS3302

Hours/Week: 4
Credits : 4

IDC (BS): CONSUMER ELECTRONICS

Course Outcomes:

1. Ability to operate on different types of cameras
2. To classify and analyze various television technologies.
3. Knowledge on surveillance devices
4. Acquire knowledge on various smart gadgets
5. Ability to understand the home automation devices
6. Apply basics of electronics in consumer electronics field

Semester IV
18PEL4113

Hours/Week: 6
Credits : 5

EMBEDDED SYSTEM-III

Course Outcomes

1. To understand the design basics of embedded system.
2. To acquire knowledge on custom single – purpose processors
3. Acquire knowledge on embedded software development tools
4. To Know and use RTOS to build an real – time embedded system
5. To analyze synchronization and data communication
6. To work with Micro EJ platform.
7. To familiarize embedded system design applications with real time operating system.
8. Able to understand the asynchronous data reception from multiple data communication Channels

Semester IV
18PEL4114

Hours/Week: 6
Credits : 5

CONTROL SYSTEM AND ROBOTICS

Course Outcomes

1. Acquire knowledge on basic concepts of control system and robotics
2. Ability to understand the mathematical model of control system
3. Acquire knowledge on time response analysis
4. Study various controllers and errors
5. Understand the concepts of Kinematics and dynamics of Robots.
6. Analyze robot controls and applications.
7. Acquire basic hands on working with robotics
8. Applications of robotics with control system

Semester IV
18PEL4201A

Hours/Week: 4
Credits : 4

INTERNETOFTHINGS(IoT) & ARTIFICIAL INTELLIGENCE (AI)

Course Outcomes

1. Able to understand the basic concepts of IoT and network standards.
2. Acquire knowledge on web of things
3. Analyze the revolution of cloud computing.
4. To understand basic knowledge of Artificial Intelligence
5. Creative skills acquire Artificial Intelligence algorithms.
6. Enhance the applications of electronics in the field of IoT

Semester IV
18PEL4201B

Hours/Week: 4
Credits : 4

MODERN COMMUNICATION SYSTEMS

Course Outcomes

1. Ability to understand the basics of modern communication system
2. Knowledge on pulse modulation systems
3. Enhance the concepts of digital modulation techniques
4. To interpret mobile communication techniques

5. Analyze fiber optic communication techniques.
6. To study multiple access techniques

M. A. ENGLISH

Programme Outcomes (POs):

1. Graduates are prepared to be creators of new knowledge leading to innovation and entrepreneurship employable in various sectors such as private, government, and research organizations.
2. Graduates are trained to evolve new technologies in their own discipline.
3. Graduates are groomed to engage in lifelong learning process by exploring their knowledge independently.
4. Graduates are framed to design and conduct experiments /demos/create models to analyze and interpret data.
5. Graduates ought to have the ability of effectively communicating the findings of Biological sciences= incorporating with existing knowledge.

Programme Specific Outcomes (PSOs):

1. Listening Skills: Students will be able to acquire the ability to accurately receive and interpret messages in the communication process.
2. Oral Communication Skills: Students will demonstrate the skills needed to participate in a conversation that builds knowledge collaboratively: listening carefully and respectfully to others' viewpoints; articulating their own ideas and questions clearly; and situating their own ideas in relation to other voices and ideas. Students will be able to prepare, organize, and deliver an engaging oral presentation.
3. Reading: Students will become accomplished, active readers who appreciate ambiguity and complexity, and who can articulate their own interpretations with an awareness and curiosity for other perspectives.
4. Writing Skills and Process: Students will be able to write effectively for a variety of professional and social settings. They will practice writing as a process of motivated inquiry, engaging other writers' ideas as they explore and develop their own. They will demonstrate an ability to revise for content and edit for grammatical and stylistic clarity. And they will develop an awareness of and confidence in their own voice as a writer.
5. Sense of Genre: Students will develop an appreciation of how the formal elements of language and genre shape meaning. They will recognize how writers can transgress or subvert generic expectations, as well as fulfill them. And they will develop a facility at writing in appropriate genres for a variety of purposes and audiences.
6. Culture and History: Students will gain knowledge of the major

traditions of literatures written in English, and an appreciation for the diversity of literary and social voices within—and sometimes marginalized by—those traditions. They will develop an ability to read texts in relation to their historical and cultural contexts, in order to gain a richer understanding of both text and context, and to become more aware of themselves as situated historically and culturally.

7. Critical Approaches: Students will develop the ability to read works of literary, rhetorical, and cultural criticism, and deploy ideas from these texts in their own reading and writing. They will express their own ideas as informed opinions that are in dialogue with a larger community of interpreters, and understand how their own approach compares to the variety of critical and theoretical approaches.

8. Research Skills: Students will be able to identify topics and formulate questions for productive inquiry; they will identify appropriate methods and sources for research and evaluate critically the sources they find; and they will use their chosen sources effectively in their own writing, citing all sources appropriately

Semester I
18PEN1101

Hours/Week: 7
Credits : 5

Core-I: BRITISH LITERATURE-I (1340-1660)

Course Outcomes:

1. To make the students acquaint with British Literature of this period.
2. To familiarize the students with the major writers of the period.
3. To enable the students to be conversant with the major works of the period.
4. To enable the students criticize and enjoy the works of this period.
5. To familiarize the students with the literary devices and techniques of this period.
6. To empower the students to comprehend the characteristics of Middle English.
7. To enable the students to appreciate the moral, religious and aesthetic components of the prescribed texts.
8. To help the students to get through NET/SET and other competitive examinations

1514
Semester I
18PEN1102

Hours/Week: 6
Credits : 4

Core-2: INDIAN WRITING IN ENGLISH

Course Outcomes:

1. To introduce students to major movements and figures of Indian Literature in English through the study of selected literary texts.
2. To introduce students to all the genres of Indian Literature.
3. To expose students to the important Indian writers of the literary era.
4. To implant a sense of appreciation of the literary text.
5. To make students understand the artistic and innovative techniques employed by Indian writers.
6. To motivate students to appreciate and enjoy the rich cultural background and grandeur of Indian Literary Trends

Semester I
18PEN1103

Hours/Week: 6
Credits : 4

Core-3: AMERICAN LITERATURE

Course Outcomes:

1. To introduce the students to the greatest works of American literature
2. To introduce the students to the myths and themes of American literature
3. To familiarize the students with the socio-political and historical contexts of American Literature
4. To enable the students appreciate the implications of theoretical and critical approaches to American literature.
5. To enable the students develop enhanced cultural awareness of America
6. To familiarize the students with the stylistic devices employed by the greatest American writers

Semester I
18PEN1104

Hours/Week: 7
Credits : 5

Core-4: ENGLISH LITERARY CRITICISM

Course Outcomes:

1. To get students acquainted with literary criticism.
2. To enable the students to understand the literary critical thoughts that are embedded in English literature
3. To make the students learn the type of criticism that influenced the English writers and critics down the ages.
4. To introduce the students literary criticism from the beginning to the twentieth century.
5. To train students to relevantly apply literary criticism to their analysis of literary texts.
6. To enhance the students' appreciation of literature.
7. To equip the students to write competitive examinations.
8. To help the students to look at literature and life from different perspectives

Semester I
18PEN1201A

Hours/Week: 4
Credits : 4

Core Elective-1A: LINGUISTICS AND APPLIED LINGUISTICS

Course Outcomes:

1. To evaluate the practical effectiveness of various methods and approaches
2. To relate methodological choices in teaching language skills to ESL students
3. To introduce students to the important developments in language study.
4. To train students in English Linguistics and Applied linguistics.
5. To train the students in applying the principles of Linguistics and Applied linguistics to the teaching and learning of English.
6. To help students become better language teachers

Semester I
18PEN1201B

Hours/Week: 4
Credits : 4

Core Elective-1B: TRANSLATION: THEORY AND PRACTICE

Course Outcomes:

1. To impart to the students knowledge of and skills of translation in English
2. To help the students learn the nuances of translation
3. To make the students understand the cultural diversity and its impact on translation
4. To impart to the students knowledge of literatures in English translation
5. To guide the students to find the foreign and the Indian ethos enshrined in literatures translated into English
6. To conscientize the students regarding the problems that a translator would face within the social, cultural, political and economical realms

Semester II
18PEN2105

Hours/Week: 6
Credits : 5

Core -5: BRITISH LITERATURE - II (1660-1798)

Course Outcomes:

1. To understand the historical context surrounding literary works including the political, social, religious, and artistic milieu in which the British authors wrote.
2. To paraphrase and understand unfamiliar and difficult language.
3. To identify elements of poetry such as basic rhythms, meters, and rhyme schemes; uses of metaphor; the conventions of the Elegy and other poetic forms.
4. To identify the elements of prose genres (fiction, drama, satire): plot, setting, character, theme, irony, and argument.
5. To make inferences about literature that rest on textual evidence and logic in classroom conversations.
6. To articulate a critical position or interpretation; gather and use textual or critical evidence to support a particular interpretation.
7. To appreciate the artistry of key British writers.

8. To understand the influences of a variety of cultures on the development of British literature

Semester II
18PEN2106

Hours/Week: 5
Credits : 4

Core -6: WORLD CLASSICS IN TRANSLATION

Course Outcomes:

1. To enable the students to understand and appreciate various stylistic devices used by writers across the world
2. To familiarize students with the important historical events and cultural practices of different nations
3. To introduce the students to the many literary trends practiced across the world
4. To enable the students to appreciate the merits of translation
5. To make the students compare the treatment of major themes by writers of various countries
6. To enable the students to engage in criticism of various aesthetic forms and different kinds of society

Semester II
18PEN2107

Hours/Week: 6
Credits : 5

Core -7: INTRODUCTION TO LITERARY THEORIES

Course Outcomes:

1. To get students acquainted with the recent trends and theories of literary criticism.
2. To offer students knowledge on recent literary criticism.
3. To make the students understand different critical theories.
4. To introduce students to important literary critical theories.
5. To enable the students to comprehend the essence of the critical theories.
6. To enable the students to learn strategies for applying critical theories

in teaching literature.

7. To critically analyze the style and writings of different literary theorists.
8. To enable students to develop critical thinking through the prescribed theories

Semester II
18PEN2108

Hours/Week: 5
Credits : 4

Core -8: WRITING AND PROOF-READING SKILLS

Course Outcomes:

1. To impart knowledge and skills to students in connection with writing-related rules and practices
2. To impart knowledge and skills to students in connection with editing-related rules and practices
3. To enable students to apply their knowledge and skills to practical situations in your workplace
4. To enable students to follow best-practice, contemporary guidelines for writing and proofreading
5. To enable students to Identify and overcome the challenges involved in writing and proofreading
6. To empower students to make use of style manuals and style guides

Semester II
18PEN2109

Hours/Week: -
Credits : 2

Self-paced Learning: BASICS OF ENGLISH POETRY

Course Outcomes:

1. To introduce the students to the prosodic features of the composition of poetry
2. To enable the students to define poetry and make them aware of various types of poetry
3. To provide the students with the components of English poetry in

general and to familiarize them with the literary devices and terminology of English poetry.

4. To train the students to identify the form and understand the meaning in poetry
5. To enable the students to memorize the whole poems or certain lines of the poems, which would help them build an innate sense of creativity
6. To help students to be involved in intensive discussions of poetic texts, which would enable them enrich their skills to communicate, to relate the themes of the poetic texts to their real life.

Semester II
18PEN2202A

Hours/Week: 4
Credits : 4

Core Elective-2A:
ENGLISH LANGUAGE TEACHING IN PRACTICE

Course Outcomes:

1. To evaluate the practical effectiveness of various methods and approaches
2. To relate methodological choices in teaching language skills to ESL students
3. To apply different teaching techniques in challenging learning environments
4. To teach English for communication using language games
5. To differentiate between teaching literature and teaching language
6. To use technology to teach English

Semester II
18PEN2202B

Hours/Week: 4
Credits : 4

Core Elective-2B:
WESTERN AESTHETICS

Course Outcomes:

1. To introduce the students to the philosophical enquiry into the origin of our ideas of the sublime and beautiful.
2. To make the students aware of an aesthetic experience and the different kinds of beauty.
3. To make the students familiar with the various principles of art.
4. To make the students conscious of the difference between art and craft.
5. To make the students understand and the aesthetic hypothesis.
6. To inculcate in the students the idea of the beautiful

Semester III
18PEN3110

Hours/Week: 6
Credits : 5

Core-9: BRITISH LITERATURE-III (1798-1914)

Course Outcomes:

1. To enable the students to become familiar with the major writers of the period.
2. To train the students to become conversant with the major works of the period.
3. To help the students to be cognizant of the central features of the period.
4. To prepare the students to use the literary devices and techniques.
5. To equip the students to appreciate the works of the period.
6. To make the students acquainted with the prominence of the period.
7. To enable the students to comprehend the styles of different authors.
8. To help the students to obtain comprehensive knowledge in the realm of literature

Semester III
18PEN3111

Hours/Week: 6
Credits : 5

Core-10:
RESEARCH METHODOLOGY

Course Outcomes:

1. To understand the purpose and the uses of research
2. To effectively use library and computer for their research
3. To choose a specific topic for their postgraduate research project
4. To do an original research systematically
5. To write a research paper using an academic style
6. To document sources as per the MLA system in their research project

Semester III
18SLC3101

Hours/Week: 6
Credits : 5

General Paper on Teaching and Research Aptitude
(NET/SET) - Paper-I

Course Outcomes:

1. To enhance the general and research aptitude of the students
2. To boost the teaching and research abilities of the students
3. To enhance the cognitive abilities of the students such as reading comprehension, analysis, evaluation and understanding of the arguments
4. To make the students gain knowledge of inductive and deductive reasoning
5. To make the students aware of the communication between people, environment and natural resource and their on the quality of life
6. To acquaint the students with education pedagogy and higher education system in India.
7. To updated the knowledge of the students with regard to the Information and communication technology
8. To equip the students with the knowledge of the General Paper on Teaching and Research Aptitude (NET/ SET - Paper-I)

Semester III
18PEN3203A

Hours/Week: 4
Credits : 4

Core Elective-III A:
COMPARATIVE LITERATURE

Course Outcomes:

1. To acquire the knowledge of comparative literature as a tool to understand and criticize regional literatures.
2. To apply Genre, Thematology, Genealogy, Literary influence and Reception studies into texts and non-literary texts.
3. To bring how writers and cultures are unique by comparing texts.
4. To use the scope of comparative literature in their studies.
5. To understand Western and Eastern comparative methods
6. To translate literary pieces written in regional languages into English.

Semester III
18PEN3203B

Hours/Week: 4
Credits : 4

Core Elective-IIIB:
CONTEMPORARY INDIAN LITERATURE TRANSLATED
INTO ENGLISH

Course Outcomes:

1. To make the students know contemporary trends in Indian Literature in English
2. To make the students learn the nuances of translation found in the works prescribed
3. To make the students understand the cultural diversity and its impact on Indian Literature in Translation
4. To make the students gain knowledge of Region Literature in English Translation
5. To make the students follow the Indian ethos enshrined in Indian Literature Translated into English
6. To make the students acquaint with the authors and the texts prescribed

Semester III
18PEN3301

Hours/Week: 4
Credits : 4

IDC (WS):
MEDIA STUDIES

Course Outcomes:

1. To teach the students technical terms in the field of media
2. To teach the students the skills needed to survive in the media world
3. To help the students use Media English
4. To help the students develop innovative ideas
5. To make the students aware of the contemporary trends
6. To facilitate the students practise the media skills

Semester III
18PEN3402

Hours/Week: 4
Credits : 4

IDC (BS):
ENGLISH FOR EFFECTIVE COMMUNICATION

Course Outcomes:

1. to communicate effectively in formal and informal situations
2. to use appropriate words and expressions in speaking and writing
3. to perform various language functions in conversations and writing
4. to make a formal presentation in a workplace environment
5. to moderate discussions in their workplace
6. to write reports and letters in formal style

Semester IV
18PEN4112

Hours/Week: 6
Credits : 5

Core-11: BRITISH LITERATURE-IV (1914-2007)

Course Outcomes:

1. To acquaint the students with twentieth century and contemporary British Literature.
2. To make the students familiar with the major writers of the period.
3. To make the students conversant with the major works of the period.
4. To make the students criticize and enjoy the works of this period.
5. To make the students appreciate the moral, religious and aesthetic

components of the prescribed texts.

6. To make the students get through NET/SET and other competitive examinations.

7. To appreciate the artistry of key British writers.

8. To understand the influences of a variety of cultures on the development of British literature.

Semester IV
18PEN4113

Hours/Week: 6
Credits : 5

Core-12: POSTMODERN STUDIES

Course Outcomes:

1. To help students understand the transition from modernism to postmodernism.

2. To make students learn the tenets of Postmodernism through the works prescribed.

3. To break away from conventional traditions through experimentation with new literary devices, forms, genres, styles etc.

4. To capture the essence of Postmodernism.

5. To critically analyze the style and writings of different postmodern writers.

6. To understand the various concepts and techniques in postmodernism

7. To learn about the postmodern view of life through the different genres of literary texts.

8. To understand how postmodern writers reacted against the precepts of modernism

Semester IV
18PEN4114

Hours/Week: 6
Credits : 5

Core-13: SHAKESPEARE

Course Outcomes:

1. To introduce the students to the great tragedies of Shakespeare.

2. To introduce the students with the Shakespeare's Sources, Theatre and Audience, Women and Fools.
3. To make the students conscious of the various dramatic techniques employed by Shakespeare.
4. To familiarize the students with the various themes of Shakespeare's Sonnets.
5. To empower the students to understand the social, historical and cultural contexts of Shakespeare's works.
6. To make the students understand how characters' actions reflect the social, historical and cultural contexts of Shakespeare's time.
7. To enable the students to appreciate the dramatic conventions and linguistic qualities of scenes and understand their significance to the play as a whole.
8. To help the students to imbibe the moral and philosophical significance of Shakespeare's plays and their relevance for a contemporary life

Semester IV
18PEN4115

Hours/Week: 6
Credits : 4

Core-14: POSTCOLONIAL LITERATURES

Course Outcomes:

1. To acquaint students with the Postcolonial thoughts and writings
2. To make students empathize with the Postcolonial stances.
3. To make the learners discuss, and analyze colonial and postcolonial texts.
4. To make the learners understand how race, class, gender, history, and identity are
5. Presented and problematized in the literary texts
6. To help students understand Postcolonial culture

Semester IV
18PEN4116

Hours/Week: 6
Credits : 4

Core-15: ENGLISH LITERATURE FOR COMPETITIVE EXAMINATIONS: NET/SET/PG-TRB(Online Course)

Course Outcomes:

1. To make the students learn the Historical, Social and Cultural background of the authors and works that have been prescribed.
2. To make the students acquaint with the major and minor writers of every age in British and Non-British Literature.
3. To make the students know the various literary terms that are employed in various genres of literary works.
4. To make the students know of the various schools of poetry and literary movements.
5. To make the students know that literatures and literary movements are but output of influence, imitation and reaction.
6. To make the students learn how to prepare English Literature for Competitive for Competitive Examinations: NET/ SET (JRF/ LS) / PG-TRB examinations.

M. A.
HUMAN RESOURCE MANAGEMENT

Programme Outcomes (POs):

1. Graduates are prepared to be creators of new knowledge leading to innovation and entrepreneurship employable in various sectors such as private, government, and research organizations.
2. Graduates are trained to evolve new technologies in their own discipline.
3. Graduates are groomed to engage in lifelong learning process by exploring their knowledge independently.
4. Graduates are framed to design and conduct experiments /demos/create models to analyze and interpret data.
5. Graduates ought to have the ability of effectively communicating the findings of Biological sciences incorporating with existing knowledge.

Programme Specific Outcomes (PSOs):

1. Groomed with competency in knowledge, skills (Life, Communication and Managerial) and attitude (Professional).
2. Expert in HR functions and modern management techniques
3. Enhanced knowledge in updated Labour Laws to face the Interviews and Competitive Examinations.
4. Sensitized in the changing scenario of social and industrial environment and being competent to start new ventures (Entrepreneurs)
5. Inclined to carry out research in several industrial avenues
6. Proficient in heading the teams with appropriate leadership qualities
7. Trained in the practical area of HR functions and practices through Internship programme and Industrial Visits
8. Efficient in sharing the equipped and enriched knowledge in various fields of HR

Semester I
18PHR1101

Hours/Week: 7
Credits : 5

DYNAMICS OF HUMAN RESOURCE MANAGEMENT

Course Outcomes:

1. Understand and apply key human resource management perspectives.
2. Strengthen organizational effectiveness by applying job description, human resource planning, recruiting and selection factors that meet company human resources requirements.
3. Develop processes and policies to ensure that organizations effectively encourage desired outcome.
4. Incorporate and articulate effective methods of training and developing employees.
5. Recommend to organization management improvements resulting in effective application of HRM processes
6. Align HRM processes to support strategic organizational goals.
7. Develop self leadership strategies to enhance personal and professional effectiveness.
8. Application of terms and conceptual models to specific and especially new contexts

Semester I
18PHR1102

Hours/Week: 6
Credits : 5

MANAGEMENTCONCEPTS&FUNCTIONS

Course Outcomes:

1. Learnt the basic concept of Management
2. Having focused on managerial and operative functions.
3. utilized these concepts in various decisive functions of an organization.
4. Having learnt the effectiveness of management control system.
5. Trained to develop their leadership qualities to fulfill the expectations of the organisation.
6. Inspired by the management scholars through learning their history.
7. Understood the harmony relationship between Line and Staff.
8. Having learnt to implement the management functions in their day to day life to reach their destination

Semester I
18PHR1103

Hours/Week: 7
Credits : 5

ORGANISATIONAL BEHAVIOUR

Course Outcomes:

1. Understand organisational behavioural issues in the context of organisational behaviour theories, models and concepts.
2. Analyse the behaviour of individuals and groups in organisations in terms of the key factors like that influence organisational behaviour.
3. Assess the potential effects of organisational level factors (such as structure, culture and change) on organisational behaviour.
4. Discuss attitude measurement and job satisfaction characteristics.
5. Summarize and discuss perceptions, learning, individual decision and motivation theories.
6. Identify the processes used in developing communication and resolving conflicts.
7. Understand group dynamics and demonstrate skills required for working in groups (team building).
8. Able to explain change management and describe its dimensions and discuss the implementation of organizational change.

Semester I
18PHR1104

Hours/Week: 6
Credits : 5

MANAGERIAL ECONOMICS

Course Outcomes:

1. Groomed with vibrant knowledge of basic economics and their managerial implication in human resources.
2. Being familiar with the fundamental concepts of managerial economics and nurtured with the skill to apply them in industrial avenues.
3. Enhanced knowledge in the areas of demand, supply, pricing, input-output functions and Indian economic policies to succeed competitive / professional examinations.
4. Efficient enough to proceed research studies in the field of economy to support the emerging needs of industrial culture.
5. Proficient in heading teams for decision making through the application of new economic policies of India.
6. Sensitized with the changing spirit of the industrial environment and

competent to venture into new business enterprise based on the new economic principles and policies.

7. Efficient to share the enriched skills and knowledge in managerial economics with the concerned people/professionals.

8. Trained with the practical aspects of managerial economics through HRM department and business expert interface.

Semester I
18PHR1201A

Hours/Week: 4
Credits : 4

Elective (WS):
KNOWLEDGE MANAGEMENT

Course Outcomes:

1. Define and discuss the key components of knowledge management infrastructure and demonstrate a thorough understanding of different types of knowledge assets in an organisation.
2. Explain the key theories and models of knowledge management architecture.
3. Critically apply theory to organizations in order to identify and justify effective knowledge management strategies and activities.
4. Reflect upon interactive knowledge sharing systems, culture and their value to the organisation.
5. Define learning organisations and study the knowledge management practices in Indian Organisations.
6. Create opportunities for developing the individual knowledge competence towards organizational competence

Semester I
18PHR1201B

Hours/Week: 4
Credits : 4

Elective (WS):
HUMAN RESOURCE INFORMATION SYSTEM

Course Outcomes:

1. Understood the nature of and the need for IT enabled managerial practices.
2. Learnt to integrate and strike a balance between the human and technical aspects of effective HRM practices.
3. Explored the students with practical knowledge in computerized HR Accounting.
4. Trained the students to utilize the computerized system in maintaining the records for all the HR functions.
5. Having challenged for the forecasting innovative techniques in HR functions like Pay roll packages.
6. Changed the traditional information system into modern techniques like Paperless HR office

Semester II
18PHR2105

Hours/Week: 7
Credits : 5

LABOUR LAWS - I

Course Outcomes:

1. Competent with updated knowledge in various spheres of Indian Labour Legislation.
2. Efficient enough to face competitive exams with the necessary inputs in labour laws.
3. Proficient to carry research in the labour laws pertaining to industrial environment.
4. Potential to discuss with teams on latest labour legislation in India.
5. Enriched with practical applications of labour laws at various areas of Industrial culture.
6. Sensitized with the changes in the industrial and social environment and capable of applying the updated laws according to the need.
7. Efficient to share the enriched knowledge in labour laws with the concerned people.
8. Expert in integrating labour legislation with developments among human resources in industrial avenues

Semester II
18PHR2106

Hours/Week: 7
Credits : 5

INDUSTRIAL RELATIONS AND COLLECTIVE BARGAINING

Course Outcomes:

1. Groomed with the theoretical and practical knowledge in industrial relations
2. Full-fledged expert in the techniques and process of collective bargaining.
3. Efficient enough to handle the disciplinary proceeding and grievance measures according to the changing scenario of social and industrial environment.
4. Proficient to share the gained and enriched knowledge, skill and attitude with the concerned people.
5. Competent to deal the trade unions by applying the latest labour legislations.
6. Trained to exhibit positive attitude for research activities in the dynamic areas of industrial relations.
7. Being catalyst to bring change in managerial attitude towards worker's participation in management.
8. Potential enough with practical aspects of industrial relations and collective bargaining

Semester II
18PHR2107

Hours/Week: 7
Credits : 5

RESEARCH METHODOLOGY

Course Outcomes:

1. Acquire good knowledge of major concepts relevant to conducting an independent research
2. Gain understanding on the nature, strength and weaknesses of various research designs and measurements and data collection methods;
3. Develop necessary critical thinking skills in order to evaluate different research approaches utilised in Various sector
4. Apply a range of quantitative and / or qualitative research techniques to Human Resource management problems / issues
5. Understand and apply research approaches, techniques and strategies in the appropriate manner for managerial decision making

6. Understand multiple methods for collecting data and the benefits and shortfalls of each method.
7. Demonstrate knowledge and understanding of data analysis and interpretation in relation to the research process
8. Able to demonstrate skills required for writing the presenting research reports.

Semester II
18PHR2109

Hours/Week: -
Credits : 2

TALENT MANAGEMENT

Course Outcomes:

1. Having understood talent management as a pivotal managerial practice in the highly competitive business environment of today.
2. Enhance the students towards the identification and development of their own talents so as to cope with the challenging demands of securing and sustaining suitable placements.
3. Trained to develop talent management information system competencies.
4. Efficient enough to understand the system for the talent acquisition and the retention of the talents.
5. Utilizing the talents properly to the right situation to achieve their destination.
6. Reinforcing the right talented people with rewards.

Semester II
18PHR2202

Hours/Week: 4
Credits : 4

Core Elective: MANAGERIALEFFECTIVENESS

Course Outcomes:

1. Gained knowledge and understanding about effectiveness and qualities of a successful manager.

2. Able to understand oneself better and plan accordingly for the future.
3. Equipped with the right attitudes and skills towards achieving greater levels of managerial effectiveness.
4. Have developed the seven essential habits of highly effective people and are able to practice in their life to be more effective.
5. Proficient in different types of business correspondence.
6. Have acquired the basic career skills and enhanced employability skill.

Semester III
18PHR3110

Hours/Week: 4
Credits : 3

ORGANISATIONAL DEVELOPMENT (Online Course)

Course Outcomes:

1. Define various terms relating to organizational development & change.
2. Apply theories and current research concerning individuals, groups, and organizations to the process of change.
3. Identify organizational situations that would benefit from OD interventions.
4. Analyse the differences between insider and outsider approaches to consulting and OD interventions .
5. Analyze/diagnose ongoing activities within an organization and design and plan the implementation of selected OD interventions.
6. Understand various components of OD and application of Action Research Model

Semester III
18PHR3111

Hours/Week: 4
Credits : 3

TOTAL QUALITY MANAGEMENT

Course Outcomes:

1. Having understood the concept and principles of TQM in today's context.

2. Learnt to apply these concepts and principles in developing the human resources for the organisational effectiveness.
3. Explored the students with Practical knowledge in Statistical Process Control and TQM Tools.
4. Enriched the students with TQM system adopted by other countries.
5. Being competent enough to enhance the quality of the HR functions to support for the quality of the other departments.
6. Being aware of the well known experts and their contributions towards TQM

Semester III
18PHR3112

Hours/Week: 4
Credits : 3

LABOUR LAWS - II

Course Outcomes:

1. Competent with updated knowledge in various spheres of Indian and TamilNadu Labour Legislation.
2. Proficient to carry research in the labour laws pertaining to industrial environment.
3. Enriched with practical applications of labour laws at various areas of Industrial culture.
4. Sensitized with the changes in the industrial and social environment and capable of applying the updated laws according to the need.
5. Efficient to share the enriched knowledge in labour laws with the concerned people.
6. Expert in integrating labour legislation with developments among human resources in industrial avenues

Semester III
18PHR3113

Hours/Week: -
Credits : 2

INTERNSHIP TRAINING (Summer Placement)

Course Outcomes:

1. To have practical exposure on the different functions of Human Resource.
2. To equip the students with practical knowledge and to motivate them to learn the implementation of the Labour Laws as per the government regulations.
3. To learn leadership skills, problem solving skills, and decision making skills through interaction with the HR managers of the industry.
4. To develop the report writing skills what they have learnt in IPT programme.

Unit-I

Orientation about the Organisation – Recr

Semester III
18SMS3101

Hours/Week: 6
Credits : 5

CommonCore: HUMAN RESOURCE MANAGEMENT

Course Outcomes:

1. Being competent with knowledge and skill of human resource management.
2. Groomed with proficiency in the latest techniques related planning and development of human resources in an industry.
3. Nurtured with the recent strategic HRM practices entitled to succeed competitive examinations.
4. Potential enough to carry research activities in the areas of human resource management as per the need of the hour.
5. Sensitized in the changing scenario of HR practices and being competent to start new ventures (Entrepreneurs)
6. Proficient in carrying research activities as per the dynamics of human resource climate of the industry.
7. Equipped with enhanced practical knowledge and skill in the specialization of human resource through industrial interface (in plant training and frequent industrial visits)
8. Efficient to train subordinate by sharing the equipped and enriched knowledge in various fields of HR

Semester III
18PHR3203

Hours/Week: 4
Credits : 4

COMPENSATION MANAGEMENT

Course Outcomes:

1. Gained knowledge on the different types of wages and the importance of equity in wage and salary administration.
2. Have become aware of the issues related to compensation or rewarding human resources in various forms of organizations
3. Familiarized on the computation of wage and salary.
4. Learnt about the different machineries involved in wage fixation in our country.
5. Developed skills in designing, analyzing and restructuring reward management systems, policies and strategies.
6. Learnt the different incentive payment plans introduced by the management researchers

Semester III
18PHR3301

Hours/Week: 4
Credits : 4

IDC: ORGANISATIONAL BEHAVIOUR

Course Outcomes:

1. Understand organisational behavioural issues in the context of organisational behaviour theories, models and concepts.
2. Assess the potential effects of organisational level factors (such as structure, culture and change) on organisational behaviour.
3. Summarize and discuss perceptions, learning, individual decision and motivation theories.
4. Identify the processes used in developing communication and resolving conflicts.
5. Understand group dynamics and demonstrate skills required for working in groups (team building).
6. Able to explain change management and describe its dimensions and discuss the implementation of organizational change

Semester III
18PHR3302

Hours/Week: 4
Credits : 4

IDC: COUNSELLING AND GUIDANCE

Course Outcomes:

1. Competent enough to understand the need and importance of counselling in this fast changing complex world.
2. Familiarized on the different approaches and techniques of counselling and its appropriate application.
3. Ability to understand the role of family, school and community in counselling and guidance.
4. Sensitized on the different problem situations those require counselling.
5. Are aware of the use of Psychological testing in counselling and guidance.
6. Enlightened on the use of counseling in different settings

Semester IV
18PHR4114

Hours/Week: 7
Credits : 4

MANAGERIAL COUNSELLING

Course Outcomes:

1. Aware of the sources of emotions and learn how to deal with human emotions.
2. Knowledge on counselling tools to bring best in other people.
3. Understanding different schools of counselling and developing one's own style of counseling
4. Analyse the problems and find a workable solution.
5. Gain the art of listening and effective communication
6. Awareness about different types of psychological tests in vogue

Semester IV
18PHR4115

Hours/Week: 7
Credits : 5

PERFORMANCE MANAGEMENT

Course Outcomes:

1. Being comprehensive with professional knowledge of performance and its managerial tactics.
2. Expertise in the advanced managerial techniques pertaining to the performance appraisal / evaluation programme.
3. Nurtured with the performance measurements process comprising of traditional, modern and recent methods.
4. Potential enough to carry research activities in the areas of defensive and sensitive employees towards their performance feedback.
5. Proficient in handling under performers as well as resistant performers.
6. Equipped with enhanced practical knowledge and skill in the specialization of performance measurement through industrial interface (in plant training and frequent industrial visits)
7. Efficient to train subordinate to set 'SMART' goals and to build positive attitude towards the blooming need of social environment (to become entrepreneur).
8. Sensitized with the performance measurement issues and challenges both individually and in teams according to the haphazard changes in the industrial sphere

Semester IV
18PHR4116

Hours/Week: 7
Credits : 5

CORPORATE SOCIAL RESPONSIBILITY

Course Outcomes:

1. Understand the concept and need for CSR (assignment, seminar, guest lectures and association meetings)
2. Navigate the role of MNCs as well as Indian Companies that are MNCs.
3. Sensitise on the value orientation of 2% of the Net Profit to be shared

with community of people.

4. Comprehend the ethical theories and practice them to be corporate citizens.
5. Place business ethics as parameter.
6. Empower Civil Society Organisation.
7. Regulate Government as a prime player in business.
8. Skills in developing projects and placement.

Semester IV
18PHR4117

Hours/Week: 7
Credits : 4

ENTREPRENEURSHIP DEVELOPMENT

Course Outcomes:

1. Understand the basic development of entrepreneurship as a profession.
2. Understand the systematic process to select and screen a business idea
3. Write a business plan describing a new business venture.
4. Understand marketing strategies for small businesses.
5. Identify capital resources for new ventures and small businesses.
6. Have a basic knowledge of human resource management for small business

M.A. HISTORY

Programme Outcomes (POs):

1. Graduates are prepared to be creators of new knowledge leading to innovation and entrepreneurship employable in various sectors such as private, government, and research organizations.
2. Graduates are trained to evolve new technologies in their own discipline.
3. Graduates are groomed to engage in lifelong learning process by exploring their knowledge independently.
4. Graduates are framed to design and conduct experiments /demos/create models to analyze and interpret data.
5. Graduates ought to have the ability of effectively communicating the findings of Biological sciences incorporating with existing knowledge.

Programme Specific Outcomes (PSOs):

1. Life skill, ethics and social responsibilities.
2. Knowledge creators.
3. Scope for higher studies and innovation in research.
4. Skill of analysing and interpreting data.
5. Skill in field work and understanding problems and finding solutions.
6. Participatory and administrative skill.
7. Technological and communication skill.
8. Skill in acquiring jobs and making entrepreneurship.

Semester I
18PHS1101

Hours/Week: 7
Credits : 5

SOCIAL AND CULTURAL HISTORY OF ANCIENT INDIA (UP TO AD 712)

Course Outcomes:

1. To develop historical consciousness in the minds of students
2. To impart knowledge on the Indian Heritage
3. To train the students to face the competitive examinations

4. To develop knowledge and understanding of ancient India
5. To impart knowledge on the Indian societies and events
6. To develop lifelong interest for ancient Indian history
7. To inculcate historical understanding on the process of Indian society
8. To analyse Ancient Indian civilization

Semester I
18PHS1102

Hours/Week: 7
Credits : 5

SOCIAL AND CULTURAL HISTORY OF TAMILNADU - I
(From Pre-History to AD 1675)

Course Outcomes:

1. To analyze the Ancient Tamil Civilization
2. To reveal the achievements of Kalabras and Pallavas
3. To discuss the uniqueness of Chola's Society
4. Collecting remains of Archaeological evidences in Tamil Nadu
5. Preparing a chart showing the chronological order of Ancient Tamil Nadu
6. Conducting group discussion on Ayyanaar and Aaseevagam
7. To enable students to gain an indepth knowledge about the contribution of the Pandyas to Tamil polity and culture.
8. To trace the emergence of Muslim and Vijayanagar rule in Tamil Nadu

Semester I
18PHS1103

Hours/Week: 6
Credits : 5

HISTORYOFWORLD CIVILIZATIONS
(Excluding India)

Course Outcomes:

1. To analyses the development of Human made stone tools.
2. To understand the dynamics of stone age culture.
3. To summarize the effects of Neolithic revolution in Humankind history.
4. To comprehend the features of Bronze age civilizations.

5. To bring out the social and cultural changes Bronze age.
6. To examine the trends of linguistic and racial identities.
7. To recapitulate the ideas and movements of Nomadic groups.
8. To examine the causes and impacts Greek and Roman culture in World history.

Semester I
18PHS1104

Hours/Week: 6
Credits : 5

HISTORYOFSCIENCEANDTECHNOLOGY
(Online Course)

Course Outcomes:

1. To study the scientific and technical inventions of ancient civilizations
2. To explore the Indian astronomy in ancient times
3. To probe the Indian medicine in ancient times
4. To explore the engineering technology of India
5. To create awareness of Indian medicine
6. To illustrate the technological growth in nineteenth century
7. To estimate the services of scientists in developing India
8. To illustrate the technological growth of modern India

Semester I
18PHS1201A

Hours/Week: 4
Credits : 4

Core Elective-I (A)
INDIAN GEOGRAPHY

Course Outcomes:

1. To identify with climate and weather of Indian subcontinent.
2. To familiarize with Mineral sources of India.
3. To analyze the major reasons of Deforestation and the need of Conservation process.
4. To gain knowledge of Cultivation trends in India.
5. To make known classification and distribution of Industries in India.

6. To analyze Government policies and Programmes on Environmental protection

Semester I
18PHS1201B

Hours/Week: 4
Credits : 4

Core Elective-I (B)
ARCHIVES KEEPING

Course Outcomes:

1. To know the practice of archives keeping
2. To elucidate the different types of documentation procedures
3. To conduct Field trip to Shembaganur Jesuit Madurai Province Archives, Madras State Archives and Tiruchirappalli District Record Centre
4. Assignments by using government records & Archival materials
5. To Exercise graduate – level research , Analytical and Writing Skills.
6. To apply Archival proficiencies by creating examples of professional documents

Semester II
18PHS2105

Hours/Week: 6
Credits : 5

SOCIALAND CULTURALHISTORYOFMEDIEVALINDIA
(AD 712 TO AD 1707)

Course Outcomes:

1. To develop historical consciousness in the minds of students.
2. To impart knowledge on the cultural contribution of muslim rulers.
3. To train the students to face the competitive examinations.
4. To develop knowledge and understanding of medieval India.
5. To provide moral values given by different religion.
6. To develop lifelong interest for medieval Indian history
7. To inculcate historical skills.
8. To analyse medieval Indian society.

Semester II
18PHS2106

Hours/Week: 6
Credits : 5

SOCIAL AND CULTURAL HISTORY OF TAMILNADU - II
(AD 1675 TO AD 2000)

Course Outcomes:

1. To understand the contribution of Marthas to Tamilagam
2. To learn the values for which the Socio- Religious Reform Movements emerged in Tamil Nadu
3. To discuss the uniqueness of Chola's Society
4. Preparing portraits of women and men social reformers
5. Preparing a chart showing the works of different political parties
6. Conducting group discussion on emergence of Dravidian Movement
7. To provide a detail Survey of different facts of Modern Tamil Nadu.
8. To bring out the role of Tamil Nadu in evolution of Administration

Semester II
18PHS2107

Hours/Week: 6
Credits : 5

HISTORY OF WORLD - I
(AD 1453 TO AD 1800)

Course Outcomes:

1. To make the students understand world history
2. To facilitate the students to understand the concepts on world history
3. To inculcate the spirit of universal brotherhood
4. To analyse different issues on world history
5. To critically evaluate different events in world history
6. To comprehend the influence of Renaissance in making of world history
7. To figure out the impactful events in the Transition of world History.
8. To familiarize with Napoleon Code and its impact in modern Europe

Semester II
18PHS2108

Hours/Week: 4
Credits : 3

HERITAGE CONSERVATION

Course Outcomes:

1. To incorporate conservation principles.
2. To apply the conservation practices to maintain those heritage sites.
3. To analyse the conservation science, techniques and technology.
4. To examine the conservation management for worthy protection of heritage sites.
5. To evaluate the conservation techniques and practices exercised.
6. To stimulate and encourage entrepreneurship in the field of Heritage conservation.

Semester II
18PHS2109

Hours/Week: -
Credits : 2

Self-paced Learning: DRAVIDIAN MOVEMENT IN TAMILNADU

Course Outcomes:

1. To understand the origin of the concept Dravidian
2. To learn the contributions of Dravidian Movement
3. To inculcate the spirit of Self-Respect Movement
4. Collecting speeches and writings of the leaders of Dravidian Movement and their contributions
5. Organizing Group Discussion of Dravidian and Aryan debates
6. To enrich the students' skill of knowledge and confidence.

Semester II Hours/Week: 4
18PHS2202A Credits : 4

Core Elective-IIA:
HUMANRIGHTS

Course Outcomes:

1. To know various human rights violations in the present society.
2. To assess the human rights issues in the context of globalization
3. To develop the insight of initiating meaningful discussion on human rights violations
4. To acquire the skill of enlightening the human rights violation through government and non government agencies.
5. To familiarize the different types of Human rights violations in India.
6. To publicize the Human rights violations through Media.

Semester II
18PHS2202B

Hours/Week: 4
Credits : 4

Core Elective-IIB:
ECONOMIC HISTORY OF MODERN INDIA

Course Outcomes:

1. To analyze the transition of economic system in India
2. To comprehend the theory of Drain wealth and its impact in Indian Economy
3. To examine the Revenue settlement policy of British India
4. To study the impact of liberalization privatization and globalization on Indian Economy
5. To bring out the transitional history of Indian Agrarian Economy into Industrial Economy.
6. To familiarize with the Planned Economy of Modern India

Semester II
18PSS2301

Hours/Week: 4
Credits : 4

IDC: SOFT SKILLS

Course Outcomes:

1. Students are taught the various nuances of grooming such as, good manners and etiquettes and they are trained to practice them in the class rooms.
2. Students are empowered with public speaking skills via extempore speeches and prepared speeches, presented before the class and assessed by the trainer as well as the companions which eventually helps build self confidence of the students.
3. Students learn the different types of resumes and different types of interview skills and write and print their own resumes and present before the interview panel for their mock interview.
4. Students actively learn the ten parameters of group discussion, perform on the stage with their colleagues, which is videotaped, reviewed and evaluated.
5. As students go through their teenage, self discovery becomes a tool to develop their personality facilitated with scientific psychological personality tests.
6. Students are guided to knowing their SWOT (Strengths, Weaknesses, Opportunities and Threats) and setting their short term and long term goals for their lives

Semester III
18PHS3110

Hours/Week: 6
Credits : 5

HISTORY OF MODERN INDIA (AD 1707 - AD 1947)

Course Outcomes:

1. To analyses the causes of native political failures against company rule.
2. To understand the dynamics of rural and urban economy of company rule.
3. To summarize the effects of economic implications of British rule.
4. To comprehend the resistance demonstrated by natives against alien rule.
5. To bring out the social and cultural changes during British India.
6. To examine the trends of linguistic and racial identities.
7. To recapitulate the ideas and movements of Indian Freedom struggle.
8. To examine the causes and impacts of Partition and its aftermath

Semester III
18PHS3111

Hours/Week: 6
Credits : 5

HISTORY OF WORLD - II (AD 1800 - AD 1945)

Course Outcomes:

1. To help students understand the world history.
2. To facilitate students understand the changing trends of world during world wars.
3. To make them realize the actual peace process undertaken to safeguard peace.
4. To enable students critically analyse the cause of fascist ideology for world wars
5. To help students view life in different perspective of European Nationalism
6. To understand the impacts of Great Depression in world Economy
7. To comprehend the causes and process of Cold war.
8. To study the imperatives of the Disarmament policy for world Peace

Semester III
18SLC3101

Hours/Week: 6
Credits : 5

General Paper on Teaching and Research Aptitude (NET/SET) - Paper-I

Course Outcomes:

1. To enhance the general and research aptitude of the students
2. To boost the teaching and research abilities of the students
3. To enhance the cognitive abilities of the students such as reading comprehension, analysis, evaluation and understanding of the arguments
4. To make the students gain knowledge of inductive and deductive reasoning
5. To make the students aware of the communication between people, environment and natural resource and their on the quality of life

6. To acquaint the students with education pedagogy and higher education system in India.
7. To updated the knowledge of the students with regard to the Information and communication technology
8. To equip the students with the knowledge of the General Paper on Teaching and Research Aptitude (NET/ SET - Paper-I)

Semester III
18PHS3203A

Hours/Week: 4
Credits : 4

Core Elective-III A:
GENDER STUDIES IN INDIA

Course Outcomes:

1. To know the status of women that reflects the progress of a civilization and culture of society
2. To gain the experiential knowledge of social reformers towards the emancipation of women
3. To create importance of women status
4. To establish gender equality
5. To illustrate importance of women education
6. To probe the importance of National Perspective plan

Semester III
18PHS3203B

Hours/Week: 4
Credits : 4

Core Elective-III B:
GENERAL STUDIES FOR COMPETITIVE EXAMINATIONS

Course Outcomes:

1. To understand the demographic data of India
2. To assess and improve the analytical capacity
3. To disseminate the values and principles of Indian Constitution
4. To make the students to develop critical ability

5. To familiarize the map and physical geography of India
6. To organize a seminar on contemporary Issues

Semester III
18PHS3301

Hours/Week: 4
Credits : 4

IDC (WS):
INDIAN POLITY

Course Outcomes:

1. To study the salient features of the Indian governance
2. To analyse the Working of the Constitution and Indian Politics
3. To discuss the Separation and Distribution of Powers
4. To picture the Organization of State
5. To evaluate the Political Organization
6. To familiarize the Management of Public and Civil Affairs

Semester III
18PHS3302

Hours/Week: 4
Credits : 4

IDC (BS):
INDIAN CONSTITUTION

Course Outcomes:

1. To study the salient features of the Indian Constitution
2. To inculcate the spirit of the constitution among the students
3. To analyse the historical background in Making of the Constitution
4. To experiment the structure of the Constitution
5. To demonstrate the Indian Administrative Set up
6. To examine the other Constitutional Bodies

Semester IV
18PHS4112

Hours/Week: 6
Credits : 4

SOCIO-CULTURAL HISTORY OF INDIA
(Since 1947)

Course Outcomes:

1. To understand the causes of plight and vulnerable section of Indian society.
2. To comprehend the resistance demonstrated by natives against alien rule.
3. To overview the economic progress attained since independence.
4. To examine the positive and negative of New Economic Policy.
5. To recapitulate the burning issues like fundamentalism and corruption.
6. To outline the state activism and plight of citizens.

Semester IV
18PHS4113

Hours/Week: 6
Credits : 4

MODERN INDIAN ADMINISTRATION

Course Outcomes:

1. To develop skills in participating Panchayatraj institution.
2. To analyse the Indian Governance
3. To demonstrate the functions of Central Government
4. To discuss the responsibilities of State Government
5. To differentiate the administrative structure of the Union Territories
6. To experience the exercise of the Local administration

Semester IV
18PHS4114 Credits : 4

Hours/Week: 6

INTERNATIONAL RELATIONS

Course Outcomes:

1. To highlight the Theories on International Relations
2. To approach analytically the challenges of International Relations
3. To disseminate the Challenges and responses of International Relations
4. To analyse various institutions started in the world to maintain peace.
5. To evaluate the peace making process of the international peace lovers.
6. To approach the countries that have real challenges to make good relations.

Semester IV
18PHS4115

Hours/Week: 6
Credits : 4

HISTORIOGRAPHY

Course Outcomes:

1. To compare and contrast the different trends in historical writing
2. To analyze the importance of philosophy of history
3. To look for historical sources and to acquire the ability to differentiate between the primary and secondary sources
4. To acquire skill of methodology to write research articles
5. To develop the analytical skill of viewing different schools of thought in historiography
6. To equip the skill of scientific enquiry in analyzing historical events

Semester IV
18PHS4116

Hours/Week: 6
Credits : 4

ARCHAEOLOGY

Course Outcomes:

1. To assess the different scientific techniques associated with archaeology
2. To create awareness and skills on the excavation procedures
3. To update the information on recent archaeological excavation

4. To comprehend the evolution of Indian Archaeology
5. To familiarize with excavations principles and methods
6. To develop documentation process on archaeological excavations and new findings

M.Sc. MATHEMATICS

Programme Outcomes (POs):

1. Graduates are prepared to be creators of new knowledge leading to innovation and entrepreneurship employable in various sectors such as private, government, and research organizations.
2. Graduates are trained to evolve new technologies in their own discipline.
3. Graduates are groomed to engage in lifelong learning process by exploring their knowledge independently.
4. Graduates are framed to design and conduct experiments /demos/create models to analyze and interpret data.
5. Graduates ought to have the ability of effectively communicating the findings of Biological sciences incorporating with existing knowledge.

Programme Specific Outcomes (PSOs):

1. Analytic skills and Critical thinking.
2. Computational and Data Analysis skills
3. Aptitude skills that will help to take up research in pure and applied mathematics
4. Reasoning skills required to learn advance mathematics
5. Probing attitude and a search for deeper knowledge in science
6. The relevance and applications of Mathematics in scientific phenomenon
7. Positive approach towards Higher Education in Mathematics
8. Employability Skills that will enable the students to explore career in Teaching and Research in Mathematics

Semester I
18PMA1101

Hours/Week: 7
Credits : 5

REAL ANALYSIS

Course Outcomes:

1. Construction of Real Numbers
2. Fundamentals of Pure Mathematics.

3. Inherit the knowledge of Set Theoretic approach.
4. Techniques in sequences
5. Sufficient conditions for convergence of series
6. Basic Knowledge of Topology
7. Properties of Real valued continuous functions
8. Fundamentals of Differentiable functions

Semester I
18PMA1102

Hours/Week: 7
Credits : 5

ALGEBRA

Course Outcomes:

1. To introduce the Algebraic Structures like Ring and Field
2. To study Polynomial Rings and its effect in Galois Theory
3. Properties of Finite Field
4. To give foundation in group theory
5. To train the students in problem-solving as a preparatory to NET/SET
6. Theoretic Background of Algebraic concepts
7. Problem solving techniques in algebra
8. Introduction to advance concepts in algebra

Semester I
18PMA1103

Hours/Week: 6
Credits : 5

GRAPH THEORY

Course Outcomes:

1. To study the concepts of Connectivity and vertex and edge connectivity and its applications
2. To introduce the concept of colouring and its implication in planar graphs
3. To introduce the notion of Eulerian and Hamiltonian graphs
4. To give a rigorous introduction to the basic concepts of Graph Theory.
5. To give applications of Graph Theory in other disciplines

6. Applications to real life problems
7. Introduction to advance topics in graph theory
8. Algorithms in graph theory

Semester I
18PMA1104

Hours/Week: 6
Credits : 5

CLASSICAL DYNAMICS

Course Outcomes:

1. To give a detailed knowledge about the mechanical system of particles.
2. To study the applications of Lagrange's equations and Hamilton's equations as well as the theory of Hamilton-Jacobi Theory
3. Understanding Separable Theory.
4. Integrals of Motion.
5. Understanding the theory of Variational principles.
6. Hamilton Jacobi Theory
7. Applications into Practical problems
8. Abstract Physical concepts

Semester I
18PMA1201A

Hours/Week: 4
Credits : 4

Core Elective: STOCHASTIC PROCESSES

Course Outcomes:

1. To understand the stochastic models for many real life probabilistic situations.
2. To learn the well known models like birth-death and queueing to reorient their knowledge of stochastic analysis.
3. To learn the transition probabilities and its classifications.
4. To understand the random walk associated with real life situation to solve.
5. To learn the real life queueing problems by comparing the conventional

queueing models.

6. Applications into real life problems

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Semester I

18PMA1201B

Hours/Week: 4

Credits : 4

Core Elective:
DIFFERENTIAL GEOMETRY

Course Outcomes:

1. To explain the various intrinsic concepts of Differential Geometry.
2. To understand the theory of Differential Geometry.
3. To introduce difference surfaces and their uses.
4. To study Euler's theorem in Differential Geometry.
5. To appreciate the application of the Gauss equation
6. Applications into real life problems

Semester II

18PMA2105

Hours/Week: 6

Credits : 5

LINEAR ALGEBRA

Course Outcomes:

1. To give the students a thorough knowledge of the various aspects of Linear Transformations.
2. Understanding Relation between Matrices and Linear Transformation
3. Understanding Elementary operations
4. Polynomials of Matrices
5. To train the students in problem-solving as a preparatory to NET/SET
6. Advance concepts in Linear Algebra
7. Knowledge of Matrix theory
8. Techniques of Diaganalisation

Semester II
18PMA2106

Hours/Week: 4
Credits : 4

REAL ANALYSIS - II

Course Outcomes:

1. Knowledge of Riemann integrals and its properties
2. Give knowledge for any advanced learning in Pure Mathematics.
3. Convergence of a sequences and series of functions
4. Basics of special functions
5. To train the students in problem-solving as a preparatory to NET/SET
6. Multivariate analysis

Semester II
18PMA2107

Hours/Week: 6
Credits : 5

COMPLEX ANALYSIS

Course Outcomes:

1. To be familiar with Cauchy's Integral Formula to apply Contour Integration.
2. To learn the various intrinsic concepts and the theory of Complex Analysis.
3. To study the concept of Analyticity, Complex Integration..
4. To be familiar with the concept of Complex Integration so as to apply Cauchy's Theorem.
5. Knowledge of Infinite Products
6. Knowledge of Residues
7. Advance concepts in complex analysis
8. Knowledge of Harmonic functions

Semester II
18PMA2108

Hours/Week: 6
Credits : 5

ORDINARY DIFFERENTIAL EQUATIONS

Course Outcomes:

1. To study the method of solving Bessel's and Legendre differential equations.
2. To introduce the notion of stability of a solution of ODE.
3. To study the Boundary Value Problems.
4. Knowledge of oscillation theory and Boundary value problems.
5. To introduce existence and uniqueness theorems in Differential equations.
6. Problem solving techniques in Differential equations
7. Application of power series
8. Stability of Differential equations

Semester II
18PMA2109

Hours/Week: -
Credits : 2

Self-paced Learning: HISTORY OF MATHEMATICS

Course Outcomes:

1. Knowledge of History of Decimals and Limits.
2. Acquaintance with the development of Algebra.
3. Familiarity of Invention of Differential Calculus.
4. The life of Eratosthenes and Dirichlet .
5. The life of Henri Poincare
6. The life of Emmy Noether.

Semester II
18PMA2301

Hours/Week: 4
Credits : 4

IDC-II (WS): NUMERICAL METHODS USING MATLAB

Course Outcomes:

1. To introduce the Mathematical software MATLAB for high-performance numerical computations and visualization.
2. To learn MATLAB built-in functions provided to solve all type of scientific problems.
3. Drawing 2D and 3D Plots
4. Solving Matrix Problems
5. Solving Linear systems
6. Solving Differential equations

Semester III
18PMA3110

Hours/Week: 6
Credits : 5

MEASURE AND INTEGRATION

Course Outcomes:

1. To generalize the concept of integration using measures.
2. To develop the concept of analysis in abstract situations.
3. To learn measure theory
4. To understand the concepts of measurable function
5. To connect integral of derivative with differentiation of an integral.
6. Advance concepts in measure theory
7. Knowledge of decomposition theorems
8. Knowledge of Absolute continuity

Semester III
18PMA3111

Hours/Week: 6
Credits : 5

TOPOLOGY

Course Outcomes:

1. Understanding metric spaces as a motivation to topology
2. Continuous functions and their properties in topological spaces
3. Understanding Basis as a collection of basic open sets

4. Understand compactness and connectedness in topological spaces
5. Understand separation axioms.
6. Problem solving techniques in topology
7. Advance concepts in topology
8. Sufficient conditions for metrizable of a topological space

Semester III
18SCS3101A

Hours/Week: 6
Credits : 5

Interdisciplinary Core:
DESIGN AND ANALYSIS OF ALGORITHMS

Course Outcomes:

1. To impart the students the knowledge of design and analysis of algorithms
2. To give the basis for the core of computer science.
3. To give importance to finding the complexity (order) of algorithms.
4. To learn the linked lists and trees
5. To understand the searching and sorting methods.
6. Techniques in search and sort method

Semester III
18PMA3202A

Hours/Week: 4
Credits : 4

Core Elective:
ALGEBRAIC NUMBER THEORY

Course Outcomes:

1. To expose the students to the charm, niceties and nuances in the world of numbers.
2. To highlight some of the Applications of the Theory of Numbers.
3. Students can earn knowledge in primitive roots
4. To highlight the knowledge on Quadratic residues

5. To get the depth knowledge in Jacobi's symbols
6. Techniques in number theory

Semester III
18PMA3202B

Hours/Week: 4
Credits : 4

Core Elective:
OPTIMIZATION TECHNIQUES

Course Outcomes:

1. To understand the theory behind optimization techniques.
2. To introduce the local theory of optimization.
3. To study the global theory of optimization.
4. To apply Kuhn-Tucker Theorem.
5. To highlight some of the applications of optimization techniques.
6. Applications into real life problems

Semester III
18PMA3203A

Hours/Week: 4
Credits : 4

Core Elective: AUTOMATA THEORY

Course Outcomes:

1. To make the students understand the nuances of Automata and Grammar.
2. To make them understand the applications of these techniques in computer.
3. To study context free grammar
4. To learn finite automata and lexical analysis
5. To understand basic parsing techniques.
6. Basic Knowledge of parsing Techniques

Semester III
18PMA3203B

Hours/Week: 4
Credits : 4

Core Elective:
FUZZY ANALYSIS

Course Outcomes:

1. To make the students understand the nuances of Fuzzy Analysis.
2. To make them understand the applications of these techniques in real life problems
3. Knowledge of Fuzzy operations
4. Knowledge of fuzzy union and intersection
5. Fuzzy measures and probability measures
6. Fuzzy graphs and Fuzzy relations

Semester III
18PMA3303

Hours/Week: 4
Credits : 4

IDC-III (BS): OPERATIONS RESEARCH

Course Outcomes:

1. To introduce the notion by Transportation problem.
2. To study Assignment and LPP.
3. To introduce the concept of PERT/CPM.
4. To enlighten the students in the field of Operations Research which has many applications in management techniques.
5. To help the students to find optimum solution in business management problems.
6. Applications into real life problems

Semester IV
18PMA4112

Hours/Week: 6
Credits : 5

FUNCTIONAL ANALYSIS

Course Outcomes:

1. To introduce the concept of Functional Analysis
2. To study Hann Banach Theorem and its applications.
3. Knowledge of Banach spaces.
4. To introduce Inner Product Spaces.
5. To understand the operator theory in Hilbert Spaces.
6. Advance concepts in analysis
7. Infinite dimensional spaces
8. Knowledge of operators

Semester IV
18PMA4113

Hours/Week: 6
Credits : 5

PARTIAL DIFFERENTIAL EQUATIONS

Course Outcomes:

1. Understanding the origin of partial differential equations
2. Understanding nonlinear partial differential equations
3. Integral surfaces passing through a given curve.
4. Understanding different methods of solving .
5. Applying higher order equations in physics
6. Analysing Linear Hyperbolic equations
7. The method of integral transforms
8. Understanding Laplace equations and its applications

Semester IV
18PMA4114

Hours/Week: 6
Credits : 5

CALCULUS OF VARIATION, INTEGRAL EQUATION AND TRANSFORMS

Course Outcomes:

1. Know functionals and the construction of Euler's equation.
2. Be able to understand variational methods for solving differential

equations.

3. Be able to analyse variational problems with moving boundaries.
4. Know different integrals equations and methods of solving them.
5. Be able to understand Green's function in reducing boundary value problems to integral equations.
6. Understanding Hilbert Schmidt theory
7. Know methods of finding infinite Fourier transforms and Fourier integrals
8. Applications of Fourier transforms

Semester IV
18PMA4115

Hours/Week: 4
Credits : 4

Skill Based:
PROBLEM SOLVING IN ADVANCED MATHEMATICS

Course Outcomes:

1. Problem Solving Techniques in Real Analysis
2. Problem Solving Techniques in Complex Analysis
3. Problem Solving Techniques in Algebra
4. Problem Solving Techniques in Linear Algebra
5. Problem Solving Techniques in Differential Equations
6. Skills required to clear NET/SET/GATE Examinations

M. Sc. PHYSICS

Programme Outcomes (POs):

1. Graduates are prepared to be creators of new knowledge leading to innovation and entrepreneurship employable in various sectors such as private, government, and research organizations.
2. Graduates are trained to evolve new technologies in their own discipline.
3. Graduates are groomed to engage in lifelong learning process by exploring their knowledge independently.
4. Graduates are framed to design and conduct experiments /demos/create models to analyze and interpret data.
5. Graduates ought to have the ability of effectively communicating the findings of Biological sciences incorporating with existing knowledge.

Programme Specific Outcomes (PSOs):

1. Research – Acquire recent knowledge towards research
2. Entrepreneurship and Employability
3. Exploring problem solving
4. Adopt new technology
5. Projects and model design
6. Effective communicating the findings
7. Experimental skill
8. Higher Education towards social relavent.

Semester I
18PPH1101

Hours/Week: 6
Credits : 6

CLASSICAL MECHANICS

Course Outcomes:

1. Acquire knowledge about conservation laws and constraints.
2. Apply Lagrangian formulation to solve problems in mechanics
3. Acquire knowledge about central force problem
4. Understand Kepler problem

5. Acquire knowledge about Hamilton's formulation
6. Apply Hamilton's formulation to solve problems in mechanics
7. Acquire knowledge to derive Euler's equations and to apply them for rigid body dynamics
8. Understand the concepts of relativistic mechanics

Semester I
18PPH1102

Hours/Week: 6
Credits : 6

MATHEMATICAL PHYSICS

Course Outcomes:

1. Understand the methods and solutions of special functions and differential equations.
2. Acquire knowledge about Fourier and Laplace transforms
3. Solve physical problems using Fourier series, Fourier and Laplace transforms
4. Understand the concept of Data interpretation and error analysis
5. Acquire knowledge about Binomial, Poisson and Gaussian distributions.
6. Understand the concept of complex analysis and various theorems.
7. Acquire skill to solve physics problems using complex analysis.
8. Acquire skill to solve the problems in Quantum mechanics using Mathematical tools

Semester I
18PPH1103

Hours/Week: 6
Credits : 6

ANALOG AND DIGITAL ELECTRONICS

Course Outcomes:

1. Acquire knowledge about analog and digital electronic devices and circuits.
2. Acquire knowledge about sensors and transducers
3. Apply circuit theory to design analog and digital circuits
4. Design op-amp circuits

5. Understand analog and digital signals and conversion techniques
6. Design timing circuits
7. Analyse and design combinational logic circuits
8. Analyse and design sequential logic circuits

Semester I
18PPH1301

Hours/Week: 4
Credits : 4

PHYSICS FOR COMPETITIVE EXAMINATIONS

Course Outcomes:

1. Understand the principle of mechanics, properties of matter, heat and thermodynamics, light, sound, electricity, magnetism and electronics.
2. Analyze, understand and solve the problems in heat and thermodynamics.
3. Apply the fundamental principles of light and light wave to solve the problems
4. Understand laws and solve the problems in electricity and magnetism and basics of electronics.
5. Explore the problems in physics and apply the laws to solve it.
6. Apply the principles and laws of physics and solve the problems in competitive exams

Semester I
18PPH1401

Hours/Week: -
Credits : 2

Extra Credit Course:
MEDICAL PHYSICS

Course Outcomes:

1. The concept of forces, pressure and the importance of temperature in human body
2. The physics principles involved in respiration and cardiovascular system
3. How the electric signals generate in human body and the working of

EMG and ECG.

4. The application of sound and light in medicine and medical imaging.
5. The use of X-rays and radioactivity for diagnosis and treatment.

Semester II
18PPH2105

Hours/Week: 6
Credits : 6

QUANTUM MECHANICS

Course Outcomes:

1. Acquire conceptual knowledge in learning QM through Dirac's Matrix Formalism an alternate approach of Schrodinger's Differential Equation Formalism
2. Understand the techniques of Operators; Eigen values & Eigen Functions; Degenerate & Non-degenerate Systems; the Theorems & Postulates used in QM
3. Analyze the differences, implications and descriptions of micro physical world from macro physical world under different potentials and scaling
4. Apply the same formalism to understand the time independent, time dependent conservative hard core physical problem which includes the orbital, spin, total angular momenta and iso-spin
5. Apply integral / residual approach to simple problems using Variational Principle, JWKB Approximations for degenerate and degenerate cases
6. Apply the theory of perturbation for the transition probability between states under different situations and the interaction with field
7. Compute to systems of similar nature through solving them with appropriate techniques
8. Acquire the required skill with necessary intricacies to attempt and compete in the Competitive Examinations

Semester II
18PPH2106

Hours/Week: 6
Credits : 6

ELECTROMAGNETIC THEORY

Course Outcomes:

1. Understand the basics of Electrostatics
2. Solve boundary value problems in electrostatics
3. Understand the basics of Magnetostatics
4. Solve problems on magnetic vector potential
5. Acquire knowledge on field equations and conservation laws
6. Analyse the behaviour of EM waves in conducting surface through absorption, dispersion and reflection
7. Acquire the knowledge of the various modes of propagation of EM waves in waveguides
8. Understand the basis of radiation and radiation reaction

Semester II
18PPH2107

Hours/Week: 6
Credits : 6

CONDENSED MATTER PHYSICS

Course Outcomes:

1. Acquire knowledge on crystal structure
2. Apply XRD to analyze crystal structure
3. Acquire knowledge about lattice vibrations
4. Understand thermal properties of solids
5. Apply free electron theory for conductivity studies in metals
6. Acquire knowledge about different phenomena of superconductors
7. Understand the properties of semiconductors and dielectrics
8. Acquire knowledge about properties and phase change phenomena in Magnetic materials

Semester II
18PPH2109A

Hours/Week: -
Credits : 2

Self-paced Learning: PHYSICS OF THIN FILM AND CRYSTAL GROWTH

Course Outcomes:

1. Know various methods to prepare thin films.
2. Know the measurement of thickness, other properties of thin films.
3. Understand the nucleation and growth of thin films.
4. Know the theories of nucleation of crystals, understand their mechanisms and differentiate different types of nucleation.
5. Know the growth of single crystals by various techniques.
6. Analyze the properties and characteristics of crystals by different techniques

Semester II
18PPH2109B

Hours/Week: -
Credits : 2

Self-paced Learning:
ULTRASONICS - FUNDAMENTALS, SOURCES,
MEASUREMENT&APPLICATIONS

Course Outcomes:

1. Know and understand the fundamental properties and behavior of ultrasonic waves.
2. Understand the relationship between Piezoelectric effect and ultrasonic waves.
3. Differentiate, classify and analyze different piezoelectric materials
4. Understand the various methods of detecting and measuring ultrasonic waves.
5. Know and Classify the applications of ultrasonics.
6. Understand the application of ultrasonics in nondestructive testing.

Semester II
18PSS2301

Hours/Week: 4
Credits : 4

IDC: SOFT SKILLS

Course Outcomes:

1. Students are taught the various nuances of grooming such as, good manners and etiquettes and they are trained to practice them in the

class rooms.

2. Students are empowered with public speaking skills via extempore speeches and prepared speeches, presented before the class and assessed by the trainer as well as the companions which eventually helps build self confidence of the students.
3. Students learn the different types of resumes and different types of interview skills and write and print their own resumes and present before the interview panel for their mock interview.
4. Students actively learn the ten parameters of group discussion, perform on the stage with their colleagues, which is videotaped, reviewed and evaluated.
5. As students go through their teenage, self discovery becomes a tool to develop their personality facilitated with scientific psychological personality tests.
6. Students are guided to knowing their SWOT (Strengths, Weaknesses, Opportunities and Threats) and setting their short term and long term goals for their lives

Semester III
18PPH3110

Hours/Week: 4
Credits : 4

STATISTICAL MECHANICS AND THERMODYNAMICS

Course Outcomes:

1. Acquire knowledge about different laws of thermodynamics
2. Understand about different thermodynamic Potentials and their importance to deduce reciprocity relations.
3. Knowledge about Liouville's theorem and its importance
4. Applications of MB distribution law.
5. Applications of BE and FD distribution laws.
6. Application of statistical laws to study transport phenomena
7. Acquire knowledge about phase transitions of first and second type
8. Understand Bragg-Williams Approximation and its importance.

Semester III
18PPH3201(A)

Hours/Week: 4
Credits : 4

MATERIALS SCIENCE - I

Course Outcomes:

1. Acquire knowledge about phase diagrams
2. Understand different synthesis techniques of Nano materials
3. Understand the phenomenon of second and third harmonic generation in nonlinear materials
4. Acquire knowledge on different types of nonlinear materials
5. Acquire knowledge about different applications of ceramics
6. Understand the properties of polymers

Semester III
18PPH3201(B)

Hours/Week: 4
Credits : 4

MATHEMATICAL METHODS OF COMPUTATIONAL PHYSICS

Course Outcomes:

1. Solve mathematical problems involving vectors and tensors
2. Competently use vector and tensor algebra as a tool in the field of applied sciences and related fields
3. Determine the types of elements and symmetry operations and constructing the character tables based on the principles of the group theory
4. Apply symmetry considerations to solve problem within molecular physics, solid state physics and particle physics
5. Solve a differential equation using an appropriate numerical method and root finding methods
6. Constructing a polynomial, like Newton Gregory method for equally spaced points and Lagrange Methods for unequally spaced points.

Semester III
18SPS3101A

Hours/Week: 6
Credits : 5

Interdisciplinary Core:
SPECTROSCOPY AND STATISTICAL THERMODYNAMICS

Course Outcomes:

1. Students learn and understand the concept of Molecular spectroscopy
2. The concept of FT-IR is well understood
3. The concepts of Raman Spectroscopy is well understood
4. Students learn and understand the concepts of NMR spectroscopy
5. The concepts of probability distribution is understood
6. The concept of statistical thermodynamics is understood
7. Students learn and understand the concept of partial molar properties
8. The application of statistical thermodynamics is understood

Semester III
18SPS3101B

Hours/Week: 6
Credits : 5

IDC: SPECTROSCOPY

Course Outcomes:

1. Understand the aspects of rotational spectroscopy and its techniques.
2. Understand the theory and principles of vibrational spectroscopy and its techniques.
3. Comprehend the basics of Raman and their instrumentation techniques.
4. Understand the physics behind NMR and ESR spectroscopy and its instrumentation.
5. Perceive the theory and principles of electronic and X-ray spectroscopy.
6. Understand Mossbauer spectroscopic techniques and hyperfine spectral lines.
7. Understand phosphorescence and fluorescence.
8. Analyze the structure of compounds by various spectroscopic techniques

Semester IV
18SPS3101C

Hours/Week: 6
Credits : 5

SENSORS AND TRANSDUCERS

Course Outcomes

1. Understand the working principles of various transducers.
2. Characterize and measure the non - electrical quantities
3. Acquire knowledge of measurement techniques of thermal conductivity
4. Enhance the knowledge on integrated sensors.
5. Able to understand the usage of electrolytic sensors
6. Learn about biosensors and MEMS based sensors
7. Design the signal conditioning circuits used in bio- instrumentation
8. To analyze the operations of various sensors used in industries and commercial applications

Semester III
18PPH3202(A)

Hours/Week: 4
Credits : 4

ADVANCED INSTRUMENTATION TECHNIQUES

Course Outcomes:

1. Understand the various types of errors in experiments
2. Analyse the errors in statistical approach
3. Acquire knowledge and skill to study the acoustical parameters of the liquids
4. Ability to analyze the structure of the elements by powder, single crystal XRD, G-XRD data.
5. Determine the elements present in the sample
6. Analyse the mechanical parameters of the sample by Hardness tests

Semester III
18PPH3202(B)

Hours/Week: 4
Credits : 4

PROGRAMMING USING PYTHON

Course Outcomes:

1. Understand the basics, structure and functions of PYTHON
2. Understand the structured types
3. Understand and Apply object oriented programing for physics problems
4. Understand and apply Tkinter API for physics application GUI program
5. Learn and apply NumPy
6. Learn and apply SciPy

Semester III
18PPH3302

Hours/Week: 4
Credits : 4

IDC-3 (BS): MODERN PHOTOGRAPHY

Course Outcomes:

1. Acquire knowledge on parts of cameras, types of cameras and interchangeable lenses.
2. Understands the importance of exposure and pictorial composition
3. Create, select, and apply appropriate techniques and editing tools for editing and printing
4. Learn to produce a good quality photo using adobe photo software
5. Acquire the knowledge of different parts of video cameras and its accessories
6. Learn to operate the video cameras and use the video editing software

Semester III
18PPH3402

Hours/Week: -
Credits : 2

Extra Credit Course-II: (MOOC) FIBER OPTIC COMMUNICATION

Course Outcomes:

1. Understand the principle and structure of optical fibers.
2. Understand the working principle of fiber optical sources and couplers and apply it in the optical communication systems.
3. Apply the fundamental principles of optics and light wave to design optical fiber communication systems.

4. Understand different analog and digital transmission systems.
5. Understand and apply the concepts of coherent optical modulation and detection techniques.
6. Explore concepts of designing and operating principles of modern optical communication systems and networks

Semester IV
18PPH4112

Hours/Week: 6
Credits : 6

NUCLEAR, PARTICLE AND RADIO ASTRONOMY

Course Outcomes:

1. Understand the basic structure, properties of nucleus and deuteron.
2. Acquire the knowledge of various nuclear decays and radioactivity.
3. Know the different type of nuclear reactions.
4. Apply the knowledge of nuclear reactions for producing fission and fusion energy.
5. Analyze the properties of various fundamental particles, their decay modes and the interactions.
6. Understand symmetry properties & Quark model of elementary particles.
7. Understand Cosmic rays.
8. Understand concepts of Radio astronomy.

Semester IV
18PPH4113

Hours/Week: 6
Credits : 6

DESIGN OF MICROCONTROLLER AND ARDUINO PHYSICS INSTRUMENTS

Course Outcomes:

1. Understand the architecture of Microcontroller
2. Learn the architecture of Arduino and its features
3. Understand the structure and features of Arduino IDE and apply it to programs
4. Acquire the knowledge about the signal communication protocols

5. Acquire required skill to Develop the program
6. Design Arduino instruments for physical parameters
7. Understand Internet of Things
8. Design IOT devices with Arduino

Semester IV
18PPH4203(A)

Hours/Week: 4
Credits : 4

Core Elective:
MATERIAL SCIENCE-II

Course Outcomes:

1. Acquire knowledge about the development of high Temperature superconductors
2. Understand the applications of high Tc super conductors
3. Acquire knowledge on solar cell fabrication and characterization
4. Apply fuel cells and carbon nano tubes for energy storage
5. Understand different phenomena in luminescence materials
6. Understand the properties of alloys and composites used in our day to day life.

Semester IV
18PPH4203(B)

Hours/Week: 4
Credits : 4

Core Elective: ADVANCED QUANTUM MECHANICS

Course Outcomes:

1. Acquire conceptual knowledge in the phenomena of scattering, interactions of different types of single and many particle systems, their behavior under relativistic phenomenon
2. Understand the techniques followed in choosing the appropriate wave functions, type of interactions, energy association, spin responses
3. Analyse the differences, implications and descriptions of the different methodologies applied in the study of scattering, relativistic behavior of particles

4. Apply the same formalism to understand hard core physical problem which includes the interaction of orbital, spin, total angular momenta with different fields, creation of resonance effect, experimental outcome
5. Apply integral / residual approach to simple problems using Born's Approximation, Partial Wave Approximation, Green's Function
6. Apply the theory of Matrices / Tensors to the behavior of elementary particles due to relativistic corrections under different situations

DEPARTMENT OF TAMIL

M.A. TAMIL

PROGRAMME OUTCOMES (POs)

1. Graduates are prepared to be creators of new knowledge leading to innovation, entrepreneur and employable in various sectors such as Private, Government and Research organizations.
2. Graduates are trained to evolve/ adopt new technologies in their own discipline.
3. Graduates are groomed to engage in lifelong learning process by exploring knowledge independently
4. Graduates are framed to design and conduct experiments/ demonstrate/ create models to analyze and interpret data.
5. Graduates ought to have the ability of effectively communicating the findings of Management Studies to incorporate with existing knowledge.

PROGRAMME SPECIFIC OUTCOMES (PSOs)

On the completion of M.A. Tamil, the Graduates will be able to

1. Acquire the depth Knowledge of Tamil Literature and Grammar
2. Understand the art of criticism
3. Write the competitive examination
4. Develop the multi-disciplinary knowledge
5. Improve the communicative skills
6. Enhance their creative skills
7. Identify the human values
8. Realize the changes in the culture over the period

COURSE OUTCOMES (COs)

18PTA1101 CONTEMPORARY LITERATURE

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

1. Understand the recent trends of Tamil literature and literary personalities
2. Realize the contemporary literary genres
3. Understand the social thoughts expressed by contemporary literature
4. Analyzing the contemporary literature
5. Acquire the skills for writing the competitive examination
6. Realize the Techniques and the impact of literary theories in contemporary literature

18PTA1102 THOLKAPPIYAM- ORTHOGRAPHY

2. Realize the usage of Tamil in computer
3. Acquire the typing skills in Tamil
4. Understand the usage of Tamil software
5. Get the job opportunity based on computer
6. Know the multi-disciplinary knowledge based on Tamil Computing

18PTA2105 SANGAM LITERATURE

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

1. Acquire the knowledge the of Sangam literature
2. Understand the explanation of Sangam Intrinsic and extrinsic grammar
3. Find out the importance of sangam literature
4. Understand the history of ancient Tamil people
5. Know the introduction to Ethical literature
6. Understand the knowledge of Thirukkural

18PTA2106 THOLKAPPIYAM- ETYMOLOGY

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

1. Understand the structure of Tholkappiyam- Etymology and the the Interpretation
2. Know the types of words and structure of sentences
3. Understand the application of Case markers and the nick names
4. Identify the different types of Nouns
5. Understand the various types of Verbs
6. Acquire the knowledge of Interjection and syllables
7. Know the characteristics of Adjectives
8. Found the usage of Infinitive verb and Non- infinitive verb

18PTA2107 SOCIAL TRANSFORMATIVE LITERATURE

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

1. Understand the development of Social Transformative Literature in Tamil
2. Realize the life of marginalized people
3. Identify the social factors and the background of the social Transformative Literature
4. Find out the impact of society on literature
5. Develop the Social Transformative thoughts among the students
6. Criticize the literature based on literary theories

18PTA2108 MINOR LITERATURE

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

1. Understand the role of minor literature in the history of Tamil literature
2. Identify the classification of minor literature

3. Realize the importance of the grammar books that define minor literature
4. Know the structure of minor literature
5. Acquire the skills to create minor literature
6. Understand the development of minor literature over the period

18PTA2109 SELF-PACED LEARNING -MODERN LITERATURE

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

1. Develop their reading skills
2. Criticize the creative literature based on literary theories
3. Identify the famous books in Tamil
4. Understand the different genre of modern literature
5. Acquire the skills to create modern literature
6. Develop their Creativity

18PTA2202A UGC- NATIONAL ELIGIBILITY TEST : TAMIL

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

1. Get the eligibility for Lecturship in UGC- NET Examination
2. Succeed in the various examination conducted by TNPSC
3. Understand the basic Grammatical concepts
4. Find out the ancient tradition and the calibre of Tamil Language
5. Realize the development of Tamil literature since sangam age
6. Distinguish Tamil literature from other language literature

18PTA2202B TOURISM STUDIES

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

1. Understand the basic ideas about Tourism
2. Know the Life styles of various people
3. Understand the growth of a nation through tourism
4. Realize the contribution of Tamilnadu to tourism
5. Understand the importance of Culture and tradition
6. Develop the skills required for the jobs in the Department of Tourism

18PSS2301 IDC: SOFT SKILLS

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

1. Students are taught the various nuances of grooming such as, good manners and etiquettes and they are trained to practice them in the class rooms.
2. Students are empowered with public speaking skills via extempore speeches and prepared speeches, presented before the class and assessed by the trainer as well as the companions which eventually helps build self confidence of the students.

3. Students learn the different types of resumes and different types of interview skills and write and print their own resumes and present before the interview panel for their mock interview.
4. Students actively learn the ten parameters of group discussion, perform on the stage with their colleagues, which is videotaped, reviewed and evaluated.
5. As students go through their teenage, self discovery becomes a tool to develop their personality facilitated with scientific psychological personality tests.
6. Students are guided to knowing their SWOT (Strengths, Weaknesses, Opportunities and Threats) and setting their short term and long term goals for their lives.

18PTA3110

EPICS

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

1. Learn the content and structure of the Epics
2. Identify the changes occurred in the content of epics over the period
3. Enjoy the literary feelings through epics
4. Find out the social situation through the epics
5. Compare the various epics
6. Realize the reconstructive ideas

18PTA311

THOLKAPPIYAM- PORULATHIKARAM-I

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

1. Learn the content and the structure of Tholkappiyam- Porulathikaram
2. Know the difference between intrinsic and extrinsic grammar
3. Realize the materialistic tradition of Tamils
4. Appreciate the marriage life of the ancient Tamils
5. Understand the Literary theories proposed by Tholkappiyar
6. Acquire the skills to write the competitive examinations

18SLC3101

GENERAL PAPER ON TEACHING & RESEARCH APTITUDE

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

1. Succeed in the Paper-I of UGC- NET Examination
2. Face the examination with hope
3. Learn for the examination through self-study
4. Understand the importance of ICT tools
5. Acquire the knowledge necessary for Paper-I
6. Acquire the skills for writing the competitive examination
7. Get the depth knowledge of their discipline
8. Train others to write the competitive examination

18PTA3203A

PG- TRB TAMIL

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

1. Succeed in PG- TRB Examination
2. Succeed in the various competitive examination conducted by TNPSC
3. Understand the grammatical concepts
4. Realize the tradition of Tamil language
5. Understand the development of Tamil language over the period
6. Develop their creativity

18PTA3203B

SCIENTIFIC TAMIL

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

1. Understand the fundamentals and the history of Scientific Tamil
2. Realize the importance of the concept, structure, technical terms used in scientific Tamil
3. Analyse the usage the words with scientific approaches
4. Understand the development of Branches of Science in Tamil
5. Identify the intellectual techniques used by ancient Tamils
6. Analyse the linguistics theories with the assistance of scientific Tamil

18PTA3301

IDC(WS)- TNPSC Tamil

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

1. Succeed in the examination conducted by TNPSC
2. Understand the calibres of Tamil language and Tamil tradition
3. Know the ancient grammatical concepts of Tamil language
4. Realize the impact of Folklore
5. Understand the religious concepts of Saivism and Vaishnavism
6. Identify the development of Tamil language over the period

18PTA3302

IDC(BS)- ART OF FILM

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

1. Realize the methodologies used for script writing
2. Acquire the skills to standardise the script writing
3. Bring the international scripts to Tamil language
4. Explain the various scripts used in international films to others
5. Understand the techniques used in the script writing
6. Find out the difference between Short films, Documentary and Art film

18PTA4112

GENERAL LINGUISTICS

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

1. Understand the development of a language and the importance of linguistics

2. Apply the concepts of linguistics with Tamil
3. Realize the changes occurred in a language over a period
4. Understand the classification of Dravidian languages
5. Learn the methodologies for Teaching Learning process
6. Find out the similarities and dissimilarities among the Dravidian language

18PTA4113 THOLKAPPIYAM- PORULATHIKARAM:II

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

1. Learn the ethical values expressed by Tholkappiyam -Porulathikaram
2. Understand the materialistic Culture
3. Realize the eight types of expression
4. Know the usage of simile
5. Learn the parts of a poem
6. Develop the creativity by learning prosody

18PTA4114 LEXICOGRAPHY AND TRANSLATION

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

1. Understand the importance of lexicography
2. Find out the features of lexicography in the field of lexicography
3. Identify the difference between the dictionaries and the Nigands
4. Realize the usage of Lexicography
5. Understand the linguistic resources of Tamil language
6. Know the grammatical structure of languages

18PTA4115 RESEARCH METHODOLOGY AND APPLIED GRAMMAR

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

1. Learn the research methodologies
2. Present the project based on the research methodology
3. Present research articles in the seminars
4. Get the courage to participate in the seminars
5. Collect the data required for their research
6. Realize the importance of Research topic and Field study

18PTA4116 A COMPARATIVE STUDY ON CLASSICAL LANGUAGES

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

1. Compare the Tamil classical literature with the literature of other classical languages
2. Find out the values occurred in Tamil classical literature
3. Understand the importance of world level classical languages
4. Identify the role of Tamil in the classical languages
5. Identify the literary trends of the classical languages

6. Understand the changes occurred among the languages

18PTA4117 COMPREHENSIVE EXAMINATION

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

1. Understand the special features of classical languages
2. Understand the importance of Sangam literature and devotional literature
3. Realize the role of epics and the types of minor literature
4. Update the knowledge of recent trends of modern literature
5. Identify the importance of Art of Drama
6. Learn the Christian literature and the usage of dictionaries

18PTA4118 PROJECT WORK

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

1. Criticize the literary work
2. Analyse the grammar and literature
3. Apply the social thoughts on the literature
4. Know the research methodologies
5. Write the research articles
6. Solve the research problem with the research techniques

Semester II
18PSS2301

Hours/Week: 4
Credits : 4

IDC: SOFT SKILLS

Course Outcomes:

1. Students are taught the various nuances of grooming such as, good manners and etiquettes and they are trained to practice them in the class rooms.
2. Students are empowered with public speaking skills via extempore speeches and prepared speeches, presented before the class and assessed by the trainer as well as the companions which eventually helps build self confidence of the students.
3. Students learn the different types of resumes and different types of interview skills and write and print their own resumes and present before the interview panel for their mock interview.
4. Students actively learn the ten parameters of group discussion, perform on the stage with their colleagues, which is videotaped, reviewed and

evaluated.

5. As students go through their teenage, self discovery becomes a tool to develop their personality facilitated with scientific psychological personality tests.

6. Students are guided to knowing their SWOT (Strengths, Weaknesses, Opportunities and Threats)and setting their short term and long term goals for their lives

UNDER GRADUATE PROGRAMMES

Department of Botany

Programme Outcomes (POs):

1. Undergraduate students are to be passionately engaged in initial learning with an aim to think differently as agents of new knowledge, understanding and applying new ideas in order to acquire employability/ self-employment.
2. Undergraduate students are trained to take up higher learning programmes.
3. Undergraduate students are made to be competent and socially responsible citizen of India.
4. Undergraduate students are to be exposed to technical, analytical and creative skills.
5. Undergraduate students are to be imparted with a broad conceptual background in the Biological sciences / Computing sciences / Languages and culture / Management studies / Physical sciences.

Programme Specific Outcomes (PSOs):

1. Graduates will develop the basic knowledge needed to make substantial contributions to the conservation and sustainable exploitation of the planet.
2. Will learn about of role of genetics which play a role in shaping the future of medicine, health care and food production.
3. Identify and analyze the morphological and anatomical features of plants and plant structures as they enable plant function and reveal plant evolutionary history.
4. Gather, critically assess and utilize primary scientific literature to research a topic.
5. Use interdisciplinary approaches to work on biological problems.
6. Work safely and effectively in the laboratory to generate reproducible and reliable results.
7. Acquire knowledge on various techniques of breeding economically important crops.
8. Exploiting the potentiality of micro organisms for the welfare of human beings by genetic engineering principles.

Semester I
17UBO130201

Hours/Week:5
Credit: 3

ALGAE AND BRYOPHYTES

Course Outcomes

1. To understand the salient features of algae and Bryophytes
2. To comprehend the structure and reproduction of various genera mentioned in the syllabus
3. To acquire the basic knowledge of the evolutionary relationship between algae and bryophytes
4. To understand the economical importance of algae and bryophytes
5. To learn the mass culture technique of commercially important algae
6. To conserve them in their natural environment.

Semester I
17UBO130202

Hours/Week: 5
Credit: 3

FUNGI, PLANT PATHOLOGY AND LICHENS

Course Outcomes

1. To understand the general characteristics of fungi and lichens
2. To acquire knowledge on the structure and reproduction of genera mentioned in syllabus
3. To acquire basic skills on etiology and control of various plant diseases.
4. To understand the disease cycle caused by the pathogens
5. To understand the ecological importance of lichens
6. To learn the economic importance of fungi and lichens.

Semester I
17UBO130203

Hours/Week: 3
Credit: 2

LABORATORY COURSE-I
(Algae, Fungi, Bryophytes, Plant Pathology and Lichens)

Course Outcomes

1. To study the internal structures of lower plant groups.
2. To compare the external and internal structure of the plants.

Semester I
17UBO130401

Hours/Week: 4
Credit: 3

Allied: ZOOLOGY-I
(General Zoology)

Course Outcomes

1. To acquire basic knowledge on animal organization
2. To study the morphology and physiology of various organs of animals
3. To acquire knowledge on differences between the functions of various organs of animals and human beings
4. To study the salient features of all phyla of animal kingdom
5. To understand the mode of action of various hormones
6. To understand blood and its composition and mechanism of blood Clotting.

Semester I
17UBO130402

Hours/Week: 2
Credit: 2

Allied:
LABORATORY COURSE-I
(Zoology-I)

Course Outcomes

1. To dissect the various system of earthworm and pila.
2. To study the different tissues of human blood.

Semester I
17UFC141001

Hours/Week:2
Credits: 2

ESSENTIALS OF HUMANITY

Course Outcome

1. To ensure creating awareness among the youth on human values.
2. To ensure educating the youth, the basic principles of value education.
3. To ensure the process of analyzing, appreciating and personalizing values as our own.
4. To ensure that students develop various dimensions of human personality.
5. To ensure the youth empowering the gender sensitization, gender differences and gender roles.
6. To ensure preparing the students for the smooth transfer from the stage of teenage to earlier adulthood.

Semester II
17UBO230204

Hours/Week: 4
Credit: 3

PTERIDOPHYTES, GYMNOSPERMS AND PALEOBOTANY

Course Outcome

1. To understand the salient features of pteridophytes and gymnosperms
2. To trace the evolutionary relationship between pteridophytes and gymnosperms
3. To study the morphology, anatomy and reproduction of various genera mentioned in the syllabus
4. To acquire knowledge on fossils and fossilization process
5. To study the geological time scale along with some fossil representatives
6. To study the economic importance of pteridophytes and gymnosperms.

Semester II
17UBO230205

Hours/Week: 4
Credit: 3

ANATOMY AND EMBRYOLOGY

Course Outcome

1. To understand various types of tissues present in plants
2. To acquire knowledge about the tissues of stem, root and leaves
3. To understand the primary and secondary structure of dicots and monocots with reference to root, stem and leaves

4. To acquire basic knowledge of the structure and development of male and female gametophytes in plants
5. To acquire knowledge on the structure and development of dicot and monocot embryos
6. To study apomixis and polyembryony and their significances.

Semester II
17UBO230206

Hours/Week: 3
Credit: 2

LABORATORY COURSE-II
(Pteridophytes, Gymnosperms, Anatomy & Embryology)

Course Outcome

1. To learn morphological and anatomical features of Pteridophytes and Gymnosperms.
2. To learn anomalous secondary thickening in dicots and monocots

Semester II
17UBO230403

Hours/Week: 4
Credit: 3

Allied: ZOOLOGY-II
(Agricultural Entomology)

Course Outcomes

1. To acquire knowledge on classification of insects
2. To study the morphology and physiology of common selective insects
3. To understand the economical important insects
4. To study the destructive insects and the methods of pest control
5. To learn about integrated pest management
6. To study the pest of stored food materials and their control.

Semester II
17UBO230404

Hours/Week: 2
Credit: 2

Allied:
LABORATORY COURSE-II
(Zoology-II)

Course Outcomes

1. To study the classification of insects
2. To study beneficial and harmful insects and various control measures

of harmful insects.

Semester II
17UFC241002

Hours/Week: 2
Credits: 2

FUNDAMENTALS OF HUMAN RIGHTS

Course Outcome

1. To ensure acquiring the knowledge about the historical background of human rights.
2. To ensure sensitizing the young the values of human rights.
3. To ensure the importance of human rights in the Indian context.
4. To ensure learning the fundamental duties in the constitution of India.
5. To ensure educating the youth in respecting and protecting the rights of every other human being.
6. To ensure teaching the youth on the vulnerabilities of women and children.

Semester III
17UBO330207

Hours/Week: 5
Credit: 3

TAXONOMY OF ANGIOSPERMS

Course Outcome

1. To observe the variations among in angiosperms
2. To understand the basic principles guiding the plant classification
3. To acquire knowledge on morphology and nomenclature
4. To describe and identify plants in technical terms
5. To study the salient features of various families mentioned in the syllabus
6. To understand the economic and medicinal importance of plants.

Semester III
17UBO330208

Hours/Week: 3
Credit: 2

PLANT BREEDING AND EVOLUTION

Course Outcome

1. To understand the aim and objectives of plant breeding
2. To acquire knowledge on various techniques of plant breeding
3. To acquire knowledge on methods of breeding economically important

crops

4. To learn hybridization and its applications
5. To understand the process of evolution
6. To learn the various theories pertaining to biological evolution.

Semester III
17UBO330209

Hours/Week: 3
Credit: 2

LABORATORY COURSE-III
(Taxonomy of Angiosperms and Plant Breeding)

Course Outcomes

1. To study the vegetative and floral characteristics of various families mentioned in the theory.
2. To learn plant breeding techniques.

Semester III
17UBO330405A

Hours/Week: 4
Credit: 3

Allied:
CHEMISTRY FOR BIOLOGISTS - I

Course outcome

1. To understand various chemical reactions involved in biological process
2. To acquire knowledge on the concepts of chemistry in biological system
3. To study the structure and properties of different types of bonds
4. To understand the classification and importance of biopolymers
5. To acquire knowledge on various techniques in organic chemistry
6. To apply the concept of chemistry in biological system.

Semester III
17UBO330405B

Hours/Week: 4
Credit: 3

Allied:
BIOMETRICS AND COMPUTER APPLICATIONS-I

Course outcome

1. To learn the basics of statistics in biological context
2. To acquire basic knowledge on statistical principles in designing biological experiments
3. To acquire knowledge on mathematical modeling

4. To learn mean, media and mode
5. To find out statistical tools and means to explore a population
6. To study the standard deviation.

Semester III
17UBO330405B

Hours/Week: 2
Credit: 2

Allied:
COMPUTER LAB (EXCEL)

Course Outcomes:

1. To find out the mean and variance of samples.
2. To test the fitness of result by various statistical test.

Semester IV
17UBO430210

Hours/Week: 5
Credit: 4

CELL BIOLOGY AND GENETICS

Course outcome

1. To understand the organization of cells
2. To understand the structure and organization of various cell organelles
3. To understand cell cycle and methods of cell division
4. To study the structure of DNA and RNA
5. To understand the principles and applications of genetics
6. To acquire the basic knowledge on genomics and proteomics.

Semester IV
17UBO430211

Hours/Week: 5
Credit: 4

MOLECULAR BIOLOGY

Course Outcome

1. To understand the basic structure of biomolecules and their mode of action
2. To understand the types of DNA molecules and their mechanism of replication
3. To study the process of transcription and translation
4. To study the regulation of gene expression in prokaryotes and eukaryotes
5. To comprehend the molecular mechanism of gene regulation

6. To differentiate the regulation of gene expression between the prokaryote and eukaryote.

Semester IV
17UBO430212

Hours/Week: 3
Credit: 2

LABORATORY COURSE- IV
(Cell Biology, Genetics and Molecular Biology)

Course outcome

1. To understand the chemistry of plant components and products so as to exploit chemistry in the improvement and production of phytochemicals.
2. To import knowledge in some basic techniques necessary to handle the above objective.

Semester IV
17UBO430407A

Hours/Week: 4
Credit: 3

Allied:
CHEMISTRY FOR BIOLOGISTS - II

Course outcome

1. To understand the chemistry of plant components.
2. To study the functional role of phytochemicals
3. To understand the plant based drugs and their curative roles
4. To elucidate various phytochemicals by natural methods
5. To experiment qualitative analysis of organic substances
6. To learn various chromatography techniques

Semester III & IV
17UBO430406A

Hours/Week: 2
Credit: 2

Allied:
CHEMISTRY PRACTICAL FOR BIOLOGISTS

Course Outcome

1. To estimate various minerals by volumetric analysis.
2. To identify various biomolecules by standard biochemical methods.

Semester IV

Hours/Week: 4

17UBO430407B

Credit: 3

Allied:
BIOMETRICS AND COMPUTER APPLICATIONS- II

Course Outcome

1. To understand the various applications of statistics
2. To acquaint latest developments in field of information technology
3. To study the communicative tools in the field of information technology
4. To enable the students to analyze and handle biological data
5. To understand the testing of hypothesis using null hypothesis
6. To understand co-relation and regression, and their applications.

Semester IV
17UBO430408B

Hours/Week: 2
Credit: 2

Allied:
COMPUTER LAB - II
(Statistical Software Package)

Course Outcome

1. To find out the mean and variance of samples.
 2. To test the fitness of result by various statistical test.
- Detailed study:
1. Finding Mean and Variance.
 2. Finding correlation coefficient, Rank Correlation.
 3. T- test
 4. F-test
 5. Chi-square test
 6. Non-parametric tests.

Semester IV
17UFC441004A

Hours/Week: 2
Credits: 2

FORMATION OF YOUTH-II

Course Outcome

1. To ensure preparing the students to live in harmony with nature.
2. To ensure the youth the significance of public health and the related issues.
3. To ensure sensitizing the youth about addictions and their

consequences.

4. To ensure educating the youth on disaster management and First-Aid.
5. To ensure enlightening on the developmental issues and challenges of youth today.
6. To ensure the value of counselling for attaining positive mental health.

Semester V
17UBO530213

Hours/Week: 6
Credits: 3

BIOPHYSICS AND BIOSTATISTICS

Course Outcome

1. To understand the physical principles applicable to biological systems
2. To learn the emerging field of biophysics with reference to bioenergetics
3. To understand photobiology and its biological significance
4. To learn the principles of statistics and their applications in biology
5. To understand measures of central value and standard deviation
6. To learn various probability tests of significance.

Semester V
17UBO530214

Hours/Week: 5
Credits: 3

ECOLOGY AND CLIMATE CHANGE

Course Outcome

1. To understand the fundamentals of ecology
2. To learn various ecosystems and their components
3. To learn various biogeochemical cycles and their significance
4. To understand techniques of community studies
5. To learn the center of origin of cultivated plants
6. To understand various factors and concepts of climate change

Semester V
17UBO530215

Hours/Week: 3
Credits: 2

LABORATORY COURSE-V **(Biophysics, Biostatistics, Ecology and Climate Change)**

Course Outcome

1. To separate cell and tissue components by various techniques.
2. To analyze the physico-chemical characteristics of water and soil.

3. To study the vegetation by various methods.

Semester V
17UBO530216

Hours/Week: 5
Credits: 3

MICROBIOLOGY AND IMMUNOLOGY

Course Outcome

1. To study micro organism and their activities
2. To exploit the potentiality of microbes in industry, agriculture and environmental issues
3. To learn culture techniques of microbes
4. To study various human diseases caused by microbes and their control
5. To understand various types of food spoilage and their methods of food preservation
6. To understand human immune system and learn the origin, structure and function of immunoglobulins.

Semester V
17UBO530217

Hours/Week: 3
Credits: 2

LABORATORY COURSE-VI (MICROBIOLOGY & IMMUNOLOGY)

Course Outcome

1. To learn various techniques of isolation and enumeration of microorganisms from various sources.
2. To learn the various immunological tests.

Semester V
17UBO530218

Hours/Week: -
Credits: 2

Self-Paced Learning: ECONOMIC BOTANY (Partially Online-Course)

Course Outcome

1. To understand the economically important crops
2. To study the morphology and uses of medicinal plants
3. To acquire the importance of medicinal plants for human welfare
4. To acquire scientific knowledge on preparation of valuable economic

plant products

5. To produce beverages and narcotics from specific plants
6. To study plants used for the preparation of latex, dye, resin, gum and fibres.

Semester V
17UBO530301A

Hours/Week: 4
Credits: 4

Core Elective:
BIOPESTICIDES

Course Outcome

1. To understand the types and mode of action of biopesticides
2. To understand plants as source of natural pesticides
3. To learn mass production techniques of microbial biopesticides
4. To learn insects as biopesticides
5. To learn virus as biopesticide
6. To understand the various types of biopesticide formulations.

Semester V
17UBO530301B

Hours/Week: 4
Credits: 4

Core Elective:
MEDICINAL BOTANY

Course Outcome

1. To understand the different Indian systems of medicine
2. To learn classifications of natural drugs
3. To study collection, cultivation and preparation of natural drugs
4. To understand drugs obtained from various parts of the plants
5. To study the process of drug adulteration
6. To learn various types of drug evaluation and quality control of drugs.

Semester V
17UBO540601

Hours/Week: 2
Credits: 2

Skill Based Elective:
MUSHROOM CULTURE

Course Outcome

1. To acquire knowledge on various types of mushrooms.

2. To understand cultivable species of mushrooms.
3. To learn the culture techniques of edible mushrooms.
4. To understand the various recipe prepared from mushrooms.
5. To learn the preservation and storage of mushrooms.
6. To study the economic importance of mushrooms.

Semester V

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17USS540701A 2 - 2

Inter Departmental Courses (IDC):

SOFT SKILLS

Course Outcomes

1. To augment the level of confidence in articulation of the students in their communication.
2. To ensure that the students learn to speak and interact with one another as social beings
3. To equip them and train to present the best of themselves as job seekers.
4. To equip with conversation techniques, presentation skills and grooming
5. To prepare them write their own resume and enhance their interview skills required by employers
6. To ensure that the students learn the parameters of group dynamics a key component of conversation

Semester V

Hours/Week: 2

17USS540701B

Credits: 2

Inter Departmental Courses (IDC):

NATIONAL CADET CORPS

Course Outcomes

1. NCC 'C' and 'B' certificates are very much useful and increase credit marks in UPSC and SSB examinations..
2. They learnt discipline punctual and leadership quality.
3. They got physical fitness for Army and Police selection.
4. They learnt general knowledge and political issue.
5. They got trained for social service and volunteers for disaster.
6. They will be the best citizens of India.

Semester VI

Hours/Week: 5

17UBO630220

Credits: 3

PLANT PHYSIOLOGY

Course Outcome

1. To learn the underlying principles of various physiological process of plants
2. To study mineral nutrition in plants
3. To understand the mechanism of photosynthesis
4. To understand the mechanism of respiration
5. To learn the various plant growth substances and their physiological effects
6. To study seed dormancy and photoperiodism.

Semester VI
17UBO630221

Hours/Week: 3
Credits: 2

Laboratory Course-VII: Plant Physiology

Course Outcome

1. To study the effect of environmental factors on various physiological process.
2. To measure the enzyme activities on specific substrates.

Semester VI
17UBO630222

Hours/Week: 5
Credits: 3

GENETIC ENGINEERING AND BIOTECHNOLOGY

Course Outcome

1. To understand the principles of genetic engineering
2. To study the mechanism of generating rDNA
3. To learn the types and application of cloning vectors
4. To study the different types of gene transfer methods
5. To acquire knowledge on the principles and applications of plant tissue culture
6. To learn the principles and application of Intellectual Property Rights.

Semester VI
17UBO630223

Hours/Week: 4
Credits: 3

BIOCHEMISTRY

Course Outcomes

1. To understand the structure and properties of biomolecules

2. To study the classification, properties and functions of carbohydrates
3. To study the classification, properties and functions of lipids
4. To study the classification, properties and functions of proteins
5. To learn the characteristics, classifications and mode of action of enzymes
6. To study the classification, properties and significance of secondary metabolites.

Semester VI
17UBO630224

Hours/Week: 3
Credits: 2

LABORATORY COURSE-VIII
(Genetic Engineering, Biotechnology and Biochemistry)

Course Outcome

1. To learn the preparation and sterilization of culture media.
2. To learn the procedure for tissue culture.
3. To estimate biomolecules using qualitative and quantitative methods.

Semester VI
17UBO630225

Hours/Week: -
Credits: 2

COMPREHENSIVE EXAMINATION

Course Outcomes:

1. Analyze the basic concepts of OOP and apply it in problem solving.
3. Apply the fundamental principles of digital electronics and memories to problems.
4. Relate Java and its advance concepts in application programs.
5. Review the basic concept of Computer System and Operating System Structure with simple examples.
6. Review concepts of PHP with MySQL in simple problems.

Semester VI
17UBO630226

Hours/Week: -
Credits: 2

GROUP PROJECT

Course Outcome

1. To acquire work skills in the field of biology.

2. To learn preliminary skills on research.

Semester VI
17UBO630302A

Hours/Week: 4
Credits: 4

Core Elective:
BIO-INSTRUMENTATION

Course Outcomes:

1. To understand the principle, procedure and application of various microscopes
2. To study the principle, types and operation of centrifuges
3. To study the principle, types and operation of chromatography
4. To study the principle, types and operation of colorimeter
5. To learn tracer techniques and their application in biology
6. To initiate students in the field of instrumentation and research

Semester VI
17UBO630302B

Hours/Week: 4
Credits: 4

Core Elective:
BIONANOTECHNOLOGY

Course Outcomes:

1. To learn the basic knowledge of nanoscience
2. To learn the properties and dimensions of nanoparticles
3. To synthesis green nanoparticles
4. To understand the mechanism of action of nanoparticles
5. To characterize nanoparticles using various techniques
6. To study the interaction between nanoparticles and living organism.

Semester VI
17UBO630303A

Hours/Week: 4
Credits: 4

Core Elective:
BIOLOGICAL TECHNIQUES

Course Outcomes:

1. To understand the various techniques in biology
2. To learn the principles and application of microscopy
3. To learn the technique of fixation, mounting and embedding of biological

materials

4. To study the types of various staining
5. To prepare skeleton preparation, taxidermy and squash techniques
6. To learn vermiculture and animal rearing.

Semester VI
17UBO630303B

Hours/Week: 4
Credits: 4

Core Elective:
WOOD TECHNOLOGY

Course Outcomes:

1. To acquire knowledge on developmental anatomy of woody plants
2. To impart knowledge on properties of wood
3. To understand the techniques of wood seasoning and wood preservation
4. To study the agents responsible for wood deterioration
5. To understand the principles underlying paper and pulp preparation
6. To study the natural defects of wood.

Semester VI
17UBO640602

Hours/Week: 2
Credits: 2

Skill-Based Elective:
HERBAL TECHNOLOGY

Course Outcomes:

1. To understand the importance of medicinal plant wealth in India
2. To understand the role of medicinal plants in human health care
3. To understand the techniques of herbal decoction preparation
4. To understand the techniques of herbal powder preparation
5. To understand the techniques of herbal oil preparation
6. To understand the techniques of herbal tea, soup and natural cosmetics preparation.

Department of BBA

Programme Outcomes (POs):

1. Undergraduate students are to be passionately engaged in initial learning with an aim to think differently as agents of new knowledge, understanding and applying new ideas in order to acquire employability/ self-employment.
2. Undergraduate students are trained to take up higher learning programmes.
3. Undergraduate students are made to be competent and socially responsible citizen of India.
4. Undergraduate students are to be exposed to technical, analytical and creative skills.
5. Undergraduate students are to be imparted with a broad conceptual background in the Biological sciences / Computing sciences / Languages and culture / Management studies / Physical sciences.

Programme Specific Outcomes (PSOs):

1. Critical thinking and Decision making skills
2. Problem solving skills
3. Communication and presentation skills
4. Leadership and team work skills
5. Entrepreneurial skills
6. Internship and project work exposure
7. Managerial and accounting package skills
8. Ethical and social responsibility

Semester I
17UBU130201

Hours/Week: 6
Credits:4

MANAGEMENT PRINCIPLES

Course Outcomes

1. Understand the fundamentals concept of management.
2. Learn the concepts and competence of planning
3. Acquire the knowledge of Organization and & staffing.
4. Understand the importance of effectiveness of directing & coordination
5. Analyze the importance, process & types of controlling.
6. To learn about the managerial idea , in the field of Management

Semester I

Hours/Week: 7

17UBU130202

Credits:7

FINANCIAL ACCOUNTING

Course Outcomes

1. To learn fundamental aspects of accounting
2. To acquire accounting knowledge from Journal to Final accounts
3. Students also learn the preparation of financial statement
4. To acquire the latest updates on financial knowledge and practice
5. To develop the financial management skills and to become a finance manager in future
6. To enable the students to acquire accounting skills

Semester I

17UBU130401

Hours/Week: 6

Credits:6

Allied-I:MANAGERIAL ECONOMICS

Course Outcomes

1. Knowing the role & responsibilities of Managerial Economists.
2. Import the knowledge of forecasting.
3. Knowledge of types of cost.
4. Application of cost control & cost reduction.
5. Understand the different market condition
6. Understand different market structure.
7. Knowledge of the concept and method of National Income.
8. Acquire the knowledge of Business Cycle.

Semester I

17UFC141001

Hours/Week:2

Credits: 2

ESSENTIALS OF HUMANITY

Course Outcomes

1. To ensure creating awareness among the youth on human values.
2. To ensure educating the youth, the basic principles of value education.
3. To ensure the process of analyzing, appreciating and personalizing values as our own.
4. To ensure that students develop various dimensions of human personality.
5. To ensure the youth empowering the gender sensitization, gender differences and gender roles.
6. To ensure preparing the students for the smooth transfer from the stage

of teenage to earlier adulthood.

Semester II
17UBU230203

Hours/Week:5
Credits:4

HUMAN RESOURCE MANAGEMENT

Course Outcomes

1. To impart knowledge in Human resource planning and Development
2. Ensure Human resources at International level
3. To develop decision making skills
4. Human resources concepts and practice in organization
5. Ensure Human resources for future managers
6. To learn the basic idea about Human resources management

Semester II
17UBU230204

Hours/Week:6
Credits:4

COST ACCOUNTING

Course Outcomes

1. Import the knowledge of cost accounting
2. To help the student to apply cost accounting practice.
3. Understand the cost accounting concepts and practice in the industries
4. Acquire the different types of cost accounting knowledge
5. Application of material, labour and other expenses cost in the production sector
6. To acquire the current knowledge about the cost accounting.

Semester II
17UBU230402

Hours/Week:6
Credits:5

Allied II: ORGANIZATIONAL BEHAVIOUR

Course Outcomes

1. To get the current knowledge about Organization
2. To identify and learn the fundamental concepts of Organization behavior
3. To make the students learn the application of the organization concepts
4. To learn leadership skills
5. To acquire the cross cultural management concepts
6. To acquire the knowledge about organizational change and Development
7. To learn the organisational behaviour and the culture of the organization in the present scenario.

8. To acquire the knowledge about in the recent development of organizational behaviour.

Semester II
17UFC241002

Hours/Week: 2
Credits: 2

FUNDAMENTALS OF HUMAN RIGHTS

Course Outcomes

1. To ensure acquiring the knowledge about the historical background of human rights.
2. To ensure sensitizing the young the values of human rights.
3. To ensure the importance of human rights in the Indian context.
4. To ensure learning the fundamental duties in the constitution of India.
5. To ensure educating the youth in respecting and protecting the rights of every other human being.
6. To ensure teaching the youth on the vulnerabilities of women and children.

Semester III
17UBU330205

Hours/Week: 4
Credits: 2

ACCOUNTING PACKAGES FOR MANAGERS

Course Outcomes

1. Imparting basic knowledge of computerized accounting
2. Enabling how to prepare voucher.
3. How to maintain the cost.
4. Maintaining inventories.
5. Application of MS excels
6. To acquire the current knowledge about accounting packages

Semester III
217UBU330206

Hours/Week:
Credits: 2

Practical:

FINANCIAL ADVANCED ACCOUNTING PACKAGES

Course Outcomes

1. Practicing the creation of voucher ledger.
2. Preparation of Final Account

3. Application of Tax procedure
4. Preparing of salary slips or Pay Roll
5. To acquire the Excel Calculation
6. To get overall practical knowledge in accounting packages

Semester III
17UBU330207

Hours/Week: 5
Credits: 4

MARKETING MANAGEMENT

Course Outcomes

1. Students gain knowledge about the basic concepts of marketing
2. They gain better understanding of modern approaches in marketing
3. Students develop analytical skills to tackle the challenges and latest development in Marketing Management
4. Awareness of buyer's behavior becomes better among students
5. Concepts of sales promotion and E-marketing gains familiarity and better understanding
6. To identify the concepts of marketing research

Semester III
17UBU330403

Hours/Week: 6
Credits: 5

Allied III: OPERATIONS RESEARCH FOR MANAGER

Course Outcomes

1. Select an optimum solution with profit maximization
2. Formulate a real-world problem as a mathematical programming approach
3. Proficiency with tools like optimization, simulation, inventory and applications of those tools in industry and in contexts involving uncertainty and scarce or expensive resources
4. Application of how to reduce the cost under Transportation.
5. Assigning jobs scientifically and preparation of EOQ and application of the method in Inventory management
6. Proficiently allocating scarce resources to optimize and maximize profit
7. Determine critical path analysis to solve real life project scheduling time and timely delivery and use CPM and Pert for timely project scheduling projects execution and completion
8. To understand and reinforce the analytical skills already learned and further increase the managerial responsibility for operations tasks.

Semester IV
17UBU430208

Hours/Week: 5
Credits: 4

MATHEMATICS AND STATISTICS FOR MANAGERS

Course Outcomes

1. Understand the basic concepts in Mathematics and statistics
2. To know the basic calculation about matrices
3. To impart the knowledge to the student about statistical tools and its application
4. To learn the Time series and index numbers
5. To get an idea about the application of statistics
6. To learn and apply the Time series and index numbers

Semester IV
17UBU430209

Hours/Week: 4
Credits: 3

BUSINESS LAW

Course Outcomes

1. To enable the students to understand the essential elements of Indian Contract Act 1872
2. To impart the knowledge of contract of sales
3. Know the different negotiable instrument Act 1881 & Partnership Act 1932
4. Acquire the knowledge of law of Insurance
5. Understand be concept of company Amendment Act 2013.
6. To learn the basic business law concepts and apply in the practice in the business

Semester IV
17UBU430301A

Hours/Week: 4
Credits: 4

Core Elective-I (WD):
CORPORATE ACCOUNTING FOR MANAGERS

Course Outcomes

1. Acquire the knowledge pertaining to share of a company
2. To make the students know how to prepare Financial Statement of JSC
3. Import the knowledge of valuing share and Goodwill of a company.
4. Understand the procedure for holding company Accounts.

5. Acquire the knowledge of new format of banking company A\C
6. To practice the corporate Accounting concepts

Semester IV
17UBU430301B

Hours/Week: 4
Credits: 4

Core Elective I (WD):
TAXATION FOR MANAGERS

Course Outcomes

1. Acquire the knowledge of basic concept of taxation
2. To enable the student to prepare income from Salary FORM 16
3. Enable the students to prepare income from business and income from hour property
4. To enable the student acquire practicability in calculation of capital gain & Income from other sources.
5. Understand the latest introduction of GST Amendment Act 2017
6. To learn the importance of Tax for the managers.

Semester IV
17UBU430404

Hours/Week: 6
Credits: 5

Allied-IV
ENTREPRENEURIAL DEVELOPMENT

Course Outcomes

1. To induce entrepreneurial thoughts to the students
2. To ensure the qualities of entrepreneurs in the mind set of the students
3. To motivate the students to become entrepreneur
4. To start up the business plan and project
5. Acquire the knowledge of current business opportunities
6. To know the present concepts, idea and government policy in the field of entrepreneurship
7. To know SME's registration process
8. To develop entrepreneurial skills

Semester V
17UBU530211

Hours/Week: 6
Credits: 4

RESEARCH METHODS IN BUSINESS

Course Outcomes

1. Students can get adequate theoretical and practical background of Business research
2. Students can get the perception of scientific inquiry of the any problem / issue
3. Students can do the management / marketing research
4. Students can get analytical mind
5. Knowledge on how to do conduct a case analysis
6. To write a systematic report and to prepare a oral presentation

Semester V
17UBU530212

Hours/Week:
Credits: 4

MANAGEMENT ACCOUNTING

Course Outcomes

1. Understand different financial statement of a company
2. Apply basic ratio of a company.
3. Preparing the procedure of fund flow and cash flow
4. How to prepare different budgets.
5. Understand the concept end analysis of marginal costing.
6. To understand the concepts and develop the decision making process

Semester V
517UBU530213

Hours/Week:
Credits: 3

INDUSTRIAL RELATIONS

Course Outcomes

1. Students can adequate theoretical and practical background on the history of Industrial relations.
2. Students can get knowledge about trade unionism and its importance in an industry
3. Students can get knowledge on managing conflicts and how to conduct a negotiation
4. Students are known about International Labour Organization and its functions and roles
5. Students can get exposure the influence of Globalization on IR
6. To acquire the confidence to be a HR Manage

Semester V
417UBU530302A

Hours/Week:
Credits: 4

Core Elective-II (WS):
PROJECT MANAGEMENT

Course Outcomes

1. To understand the project management concepts
2. To impart knowledge on Project identification & Appraisal
3. To help the students to identify feasible projects
4. To know the methods of financing such projects and controlling its cost
5. To learn and understand about project evaluation
6. To know about how to prepare project in Business

Semester V
17UBU530302B

Hours/Week: 4
Credits: 4

Core Elective-II (WS):
LOGISTICS & SUPPLY CHAIN MANAGEMENT

Course Outcomes

1. To understand about Logistics & Supply chain management concepts
2. To learn the importance on logistic and supply chain management in the current business Scenario
3. To identify various dimensions of financial supply chain management
4. To learn the perspective of E-Finance and its Legal Aspects
5. To Understand the Global logistics concepts
6. Students have get some idea about Logistics and supply chain management Planning

Semester V
17UCC530302

Hours/Week: 4
Credits: 4

Core Elective-II:
E-COMMERCE

Course Outcomes

After completing this course the student will be able to:

1. Know the evaluation of E-commerce

2. Identify different technologies and models for electronic commerce
3. Learn the various approaches to safe E-Commerce
4. Familiarize with E-cash and payment schemes and security
5. To study the different features and characteristics in E-Commerce.
6. To analyse the improved efficiency of cloud computing in this computer modern world.

Semester V
17UCO530302B

Hours/Week: 4
Credits: 4

Core Elective (WS):
BUSINESS CORRESPONDENCE

Course Outcomes

After completing this course, students will be able to :

1. Imbibe meaning of Business Communication and the general principles of communication.
2. Identify different types of organisational communications.
3. Learn the mechanical structure of letters and drafting of others forms of communications viz. Orders, Memo, Agenda, and Minutes.
4. Familiarise with vocabulary used in business communication, often misspelt and correct usage.
5. Understand the mechanism of writing business reports.
6. Draft different kinds of business letters and communications.

Semester V
17UBU530214A

Hours/Week: 2
Credits: 2

Self paced learning (POC)
ADVERTISING & SALES PROMOTION

Course Outcomes

1. Related basic concepts in Advertising with practical situation becomes a habit of learning exercise among students
2. They become very familiar with all major concepts relating to advertising and Sales promotion
3. Marketing Communication Industry is mapped with consumer behavior and media for overall knowledge enhancement by student
4. Students to cultivate more creative and innovation
5. Overall awareness of Advertising and sales promotion technique among

students

6. To learn Advertisement and sales promotion practical situations and to give more insights about this subjects

Semester V
17UBU530214B

Hours/Week: --
Credits: 2

Self-paced Learning (POC)
BUSINESS COMMUNICATION

Course Outcomes

1. All basic concepts of communication are imparted to students theoretically and practical orientation
2. They realize the significance of Business Communication in managing the day to day affairs of the business
3. Living in an information Era-students enrich their knowledge & skills about various methods and process in communication
4. Practical Exercises on verbal, non-verbal, formal, informal and all other forms of communication enhances the students knowledge
5. Holistic development of the student
6. To know the communication methods and process

Semester V
17UBU530214B

Hours/Week: --
Credits: 2

Self-paced Learning (POC)
BUSINESS COMMUNICATION

Course Outcomes

1. All basic concepts of communication are imparted to students theoretically and practical orientation
2. They realize the significance of Business Communication in managing the day to day affairs of the business
3. Living in an information Era-students enrich their knowledge & skills about various methods and process in communication
4. Practical Exercises on verbal, non-verbal, formal, informal and all other forms of communication enhances the students knowledge
5. Holistic development of the student
6. To know the communication methods and process

Semester V
217UBU540601A

Hours/Week:
Credits: 2

Skill Based Electives I: (BS)
TRAINING AND DEVELOPMENT

Course Outcomes

1. To know about the various events
2. To understand the techniques and competencies required to plan for events
3. To manage the events like men, material, money and minutes
4. To ensure the relationship in the customers
5. To acquire the knowledge and competencies required to promote, implement and conduct Special Events
6. To learn practical knowledge about event management

Semester V
17UBU540601B

Hours/Week: 2
Credits: 2

Skill Based Electives I: (BS)
EVENT MANAGEMENT PRACTICES

Course Outcomes

1. Understand how to create an event that achieves specific objectives for the client
2. Have an understanding of the various event elements and how to costeffectively employ them
3. Apply the principles of professionalism and ethics to event management
4. Apply accounting and financial knowledge and business administration skills to the operation of events.
5. Create, plan , and implement effective programming for events.
6. Identify and apply discipline-specific practices that contribute to the local and global community through social responsibility and economic commitment.

Semester V
17USS540701A

Hours/Week: 2
Credits: 2

Inter Departmental Courses (IDC):
SOFT SKILLS

Course Outcomes

1. To augment the level of confidence in articulation of the students in their communication.
2. To ensure that the students learn to speak and interact with one another as social beings
3. To equip them and train to present the best of themselves as job seekers.
4. To equip with conversation techniques, presentation skills and grooming
5. To prepare them write their own resume and enhance their interview skills required by employers
6. To ensure that the students learn the parameters of group dynamics a key component of conversation

Semester V
17USS540701B

Hours/Week: 2
Credits: 2

Inter Departmental Courses (IDC):
NATIONAL CADET CORPS

Course Outcomes

1. NCC 'C' and 'B' certificates are very much useful and increase credit marks in UPSC and SSB examinations..
2. They learnt discipline punctual and leadership quality.
3. They got physical fitness for Army and Police selection.
4. They learnt general knowledge and political issue.
5. They got trained for social service and volunteers for disaster.
6. They will be the best citizens of India.

Semester VI
17UBU630215

Hours/Week: 6
Credits: 4

INVESTMENT MANAGEMENT

Course Outcomes

1. To enable the students to understand the nature, scope and structure of International Business
2. To make the student ensure the international Business Environment
3. To impart basic knowledge and skills on International Business Policy Practices to students
4. To learn and understand the foreign Direct investment concepts
5. To understand the activities of international economic institution
6. To know about international agreement

Semester VI
17UBU630215

Hours/Week: 6
Credits: 4

INVESTMENT MANAGEMENT

Course Outcomes

1. To enable the students to understand the nature, scope and structure of International Business
2. To make the student ensure the international Business Environment
3. To impart basic knowledge and skills on International Business Policy Practices to students
4. To learn and understand the foreign Direct investment concepts
5. To understand the activities of international economic institution
6. To know about international agreement

Semester VI
17UBU630217

Hours/Week: 7
Credits: 4

INTERNATIONAL BUSINESS

Course Outcomes

1. To enable the students to understand the nature, scope and structure of International Business
2. To make the student ensure the international Business Environment
3. To impart basic knowledge and skills on International Business Policy Practices to students
4. To learn and understand the foreign direct investment concepts
5. To understand the activities of international economic institution
6. To know about international agreement

Semester VI
17UBU630303A

Hours/Week: 4
Credits: 4

Core Elective-III (WS): SERVICE MARKETING

Course Outcomes

1. Better exposure to students about the evolution and growth of service marketing sector
2. They gain expert knowledge on marketing of the wide variety of service also available

3. Concepts of service design and expanded service marketing mix becomes familiar to students offer better employability skills to students
4. Emerging Business sector like Healthcare, Hospitality, Tourism, Education, Logistics and Entertainment Industries
5. Students are more inclined to tackle challenges and opportunities in banking and financial service sector
6. To enable students to gain knowledge on marketing on various services.

Semester VI
17UBU630303B

Hours/Week: 4
Credits: 4

Core Elective-III (WS):
STRATEGIC MANAGEMENT

Course Outcomes

1. The students will come to know the various strategies used by the firms at different instances.
2. The students will inherit the strategic decision making skills
3. The students will have the knowledge of various business models
4. The students will understand the role of strategic management in business
5. The students will analyze how strategic implementation takes place in organizations
6. The students will evaluate the strategies operated in different firms

Semester VI
17UCC630303

Hours/Week: 4
Credits: 4

Core Elective-III (WS):
TOTAL QUALITY MANAGEMENT

Course Outcomes

After completing the course, the student will be able to

1. Understand the importance of product and service quality
2. Identify various quality management principles and process
3. Know about the tools of quality
4. Acquire knowledge about the techniques of total quality management
5. Learn the methodology of quality system
6. Identify the TQM implementation in manufacturing and service sectors.

Semester VI
17UCO630303A

Hours/Week: 4
Credits: 4

Core Elective-III:
RETAIL MANAGEMENT

Course Outcomes:

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

1. Know various forms of retailing business techniques in India.
2. Gain knowledge on the store location, practical analysis of site and trading.
3. Acquire in depth knowledge of inventory management.
4. Appreciate critical elements of retail stores operations.
5. Equip with skills critical for Physical distribution and store keeping strategies.
6. Equip with Entrepreneurial and research oriented skills required to establish and run retail stores.

Semester VI
17UCO630303B

Hours/Week: 4
Credits: 4

Core Elective (WS):
PRINCIPLES OF EVENT MANAGEMENT

Course Outcomes:

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

1. Understand the importance of event management as a managerial skill.
2. Identify event management procedure.
3. Learn the nuts and bolts of conducting an event.
4. Appreciate the significances of Public Relation in event management.
5. Plan and execute various corporate events.
6. Write a detailed report on corporate events.

Semester VI
17UBU640602A

Hours/Week: 2
Credits: 2

Skill-Based Elective:
PRACTICAL STOCK TRADING

Course Outcomes

1. To impart the practical knowledge of stock trading
2. To learn and understand primary and Secondary Market
3. Students will have the knowledge of Trading Mechanism of stock Exchange
4. Students can learn the practical stock trading knowledge
5. Practical learning about in the field of Capital and Money Market
6. Students can learn Derivative market concept

Semester VI
17UBU640602B

Hours/Week: 2
Credits: 2

Skill-Based Elective:
MANAGEMENT AND BUSINESS CASES

Course Outcomes

1. To enable the basic concepts in management with practical situations.
2. To understand the business and management cases
3. The student will analyze management cases and try to analyze cases
4. To know about practical knowledge in case studies
5. To know and understand the General Management Issues
6. To learn the recent management practices

Semester VI
17UCC640601

Hours/Week: 2
Credits: 2

Skill-Based Elective:
PRACTICAL BANKING

Course Outcomes:

1. To impart practical knowledge on e-banking
2. To know the recent development in e banking system.
3. After completing this course, the student will be able to learn the concepts of banking.
4. To know the different banking services to the society.
5. Gain knowledge about the commercial banks
6. Understand the basic ideas and latest development of banking activities.

Semester VI
17UCO640602A

Hours/Week: 2
Credits: 2

Skill Based Elective-2 (Within School):
BASIC ACCOUNTING PRACTICES

Course Outcomes:

After completing this course, the student will be able to ...

1. Understand basic principles of Accounting
2. Identify accounts and apply golden rules for the financial transactions.
3. Pass journal entries and post them in ledger
4. Prepare subsidiary books
5. Prepare trial balances
6. Prepare Final accounts and balance sheet

Semester VI
17UCO640602B

Hours/Week: 2
Credits: 2

Skill Based Elective-2 (WS):
PRACTICAL ADVERTISING

Course Outcomes:

1. Have the basic knowledge in various concepts of advertising.
2. Acquaint with the modern methods and avenues of Advertising.
3. Aware of various media of Advertising and their significances.
4. Possess the skills required for creating an advertisement copy.
5. Gain exposure in various Emotional appeals of advertising and its Importance.
6. Know the significance of portraying advertisement slogans with captions.

Department of B.Com(C.A)

Programme Outcomes (POs):

1. Undergraduate students are to be passionately engaged in initial learning with an aim to think differently as agents of new knowledge, understanding and applying new ideas in order to acquire employability/ self-employment.
2. Undergraduate students are trained to take up higher learning programmes.
3. Undergraduate students are made to be competent and socially responsible citizen of India.
4. Undergraduate students are to be exposed to technical, analytical and creative skills.
5. Undergraduate students are to be imparted with a broad conceptual background in the Biological sciences / Computing sciences / Languages and culture / Management studies / Physical sciences.

Programme Specific Outcomes (PSOs):

1. Critical and Analytical Thinking Skills.
2. Problem Skills and Teamwork Skills.
3. Communication and Presentation Skills.
4. Knowledge and Employability Enhancement.
5. Information Technology/Techniques.
6. Ethics and Social Responsibility.
7. Entrepreneurial Skills and Leadership Skills.
8. Research Orientation and Internship and Practical Exposure.

Semester I
17UCC130201

Hours/Week: 6
Credits: 4

FINANCIAL ACCOUNTING – I

Course Outcomes:

1. Learn fundamental concepts of accounting.
2. Acquire accounting skills.
3. Learn aspects of financial accounting.
4. Prepare accounts for non- trading concerns.
5. Differentiate single entry from double entry system.
6. Prepare the Self Balancing Ledger

Semester I
17UCC130202

Hours/Week: 2
Credits: 2

COMPUTER FUNDAMENTALS

Course Outcomes:

After completing this course the student will be able to

1. Learn sound basics of organization of digital computer, system software.
2. Learn the basics of computer basics
3. Gain the knowledge on types of Networks and E-Mail concepts.
- 4 Gain the knowledge in MS Office to drafting the documents
5. Develop the skill set to solve the real time problems in MS Office
6. Acquire the knowledge of system software

Semester I
17UCC130203

Hours/Week: 2
Credits: 2

Practical:
COMPUTER FUNDAMENTALS

1. Creating leave letter using MS-Word.
2. Creating resume using MS-Word
3. Creating Class time table using Table facilities in MS-Word
4. Mail merge.
5. Creating students mark list using MS-Excel.
6. Move, Copy, Insert operations in rows and columns.
7. Using statistical, mathematical and financial functions in MS-Excel.
8. Creating MS-PowerPoint slide.
9. Imply different effects in MS-PowerPoint slide.
10. E-Mail concepts.
11. Managing Address Book

Semester I
17UCC130401

Hours/Week: 6
Credits: 5

Allied:
BUSINESS ECONOMICS

Course Outcomes:

After completing this course the student will be able to:

- * Learn basic principles and concepts of Business Economics
- * Be familiar knowledge on demand analysis

- * Accumulate knowledge on law of supply, production and Market Structure
- * Understand on the economic system and Fiscal policy.
- * Gain the importance of GDP, National Income and Balance of Trade.
- * To have knowledge on socially relevant business environment.
- * To impart the students with the basic roles and responsibilities of business economist.
- * To provide knowledge on the general economic environment.

Semester I
17UFC141001

Hours/Week:2
Credits: 2

ESSENTIALS OF HUMANITY

Course Outcome

1. To ensure creating awareness among the youth on human values.
2. To ensure educating the youth, the basic principles of value education.
3. To ensure the process of analyzing, appreciating and personalizing values as our own.
4. To ensure that students develop various dimensions of human personality.
5. To ensure the youth empowering the gender sensitization, gender differences and gender roles.
6. To ensure preparing the students for the smooth transfer from the stage of teenage to earlier adulthood.

Semester II
17UCC230204

Hours/Week: 6
Credits: 4

FINANCIAL ACCOUNTING - II

Course Outcomes:

After completing this course the student will be able to

- * Understand knowledge on admission, retirement and death of Partnership
- * Learn on dissolution of Partnership
- * Gain knowledge on Hire purchase Business systems.
- * Learn the branch and departmental accounts
- * Gain the knowledge on Insurance claims.
- * Gain knowledge on Insolvency of Partnership

Semester II
17UCC230205

Hours/Week: 4
Credits: 2

MULTIMEDIA

Course Outcomes

After completing this course the student will be able to

- * Demonstrate basic skills using Photoshop software and the peripherals.
- * Demonstrate the use of layers to effectively manipulate an image.
- * Demonstrate an ability to use a range of tools and filters in Photoshop.
- * Acquire the knowledge on animation.
- * Explain and utilize components to create interactivity.
- * Understand sound and sound formats in flash movies.

Semester II
17UCC230402

Hours/Week: 5
Credits: 4

Allied: MARKETING

Course Outcomes:

After completing this course the student will be able to

- * To describe the basic principles and practices of marketing
- * To perceive awareness on the different stages of a product and its development.
- * To recognize the benefits and uses of brand loyalty and labeling.
- * To identify the pricing process for a product and how it reflects on company's marketing.
- * To construct how AGMARK is legally enforced by the agricultural produce.
- * To determine how advertising and personal selling is used to perform specific measurable task within the marketing framework.
- * To influence the consumers to by the product, sales promotion plays a major role.
- * To identify the different channels of distribution between the producer and consumer.

Semester II
17UFC241002

Hours/Week: 2
Credits: 2

FUNDAMENTALS OF HUMAN RIGHTS

Course Outcome

1. To ensure acquiring the knowledge about the historical background of

human rights.

2. To ensure sensitizing the young the values of human rights.
3. To ensure the importance of human rights in the Indian context.
4. To ensure learning the fundamental duties in the constitution of India.
5. To ensure educating the youth in respecting and protecting the rights of every other human being.
6. To ensure teaching the youth on the vulnerabilities of women and children.

Semester III
17UCC330207

Hours/Week: 6
Credits: 4

CORPORATE ACCOUNTING

Course Outcomes:

After completing this course the student will be able to:

- * Make accounting entries for the issue of shares, redemption of shares and valuation goodwill
- * Prepare Company Final Accounts
- * Understand the knowledge on Internal and External Reconstruction
- * Gain exposure on Holding Company accounts.
- * Acquire knowledge on liquidation.
- * Able to understand the operations of the company.

Semester III
17UCC330208

Hours/Week: 3
Credits: 2

Core Elective: **FUNDAMENTALS OF C- PROGRAMMING**

Course Outcomes:

After completing this course the student will be able to:

1. Understand the concept fundamentals of C programming.
2. Construct C programming structure
3. Learn decision making statements to solve the problem.
4. Implement different operations on arrays.
5. Ability to develop function-oriented programs and solve the given problem.
6. Describe the pointers, structures and unions.

Semester III
17UCC330403A

Hours/Week: 6
Credits: 5

Allied:
ELEMENTS OF MATHEMATICS

Course Outcomes

1. Learning the fundamentals of Mathematics.
2. Understanding the permutation and combination.
3. Understanding the basic meaning in the areas of elementary function and financial mathematics.
4. Solving problems related to simple integration and applications.
5. Learning the theory of Mathematics.
6. Problems on indices and powers.
7. Concepts of intergraSemester III L P C

17UCC330403A

Hours/Week: 6
Credits: 5

Allied:
ELEMENTS OF MATHEMATICS

Course Outcomes

1. Learning the fundamentals of Mathematics.
2. Understanding the permutation and combination.
3. Understanding the basic meaning in the areas of elementary function and financial mathematics.
4. Solving problems related to simple integration and applications.
5. Learning the theory of Mathematics.
6. Problems on indices and powers.
7. Concepts of integration and differentiation
8. Applications of Matrices
ion and differentiation
8. Applications of Matrices

Semester III
17UCC330403B

Hours/Week: 6
Credits: 5

Allied:
BUSINESS MATHEMATICS

Course Outcomes:

1. Learning basic Mathematics problems
2. Understanding basic terms in the areas of business Calculus and financial Mathematics.
3. Solving problems related to integration and applications.
4. Learning the concept of the element of matrix.
5. Applying the Mathematical skills to various business problems for the optimal.
6. Problems in Input and Output model
7. Basic knowledge of AP and GP
8. Basic knowledge of whole numbers, fraction and logarithm.

Semester IV
17UCC430210

Hours/Week: 5
Credits: 3

MANAGEMENT ACCOUNTING

Course Outcomes:

After completing this course the student will be able to:

1. Appreciate various tools and techniques of Management accounting and its importance in decision making.
2. Prepare Fund flow statement and cash flow statement
3. Apply capital budgeting methods to evaluate capital expenditure proposals
4. Drafts various kinds of budgets for a business concern.
5. Understand the techniques of Marginal and Absorption costing
6. To learn the knowledge on the analytical aspects of costs.

Semester IV
17UCC430211

Hours/Week: 2
Credits: 2

VISUAL BASIC

Course Outcomes:

After completing this course the student will be able to:

1. Learn the fundamentals of Visual Basic
2. know the control and tools of Visual Basic
3. Develop the application in Visual Basic
4. Gain the knowledge on the creation of Forms
5. Run and Debug the application
6. Acquire the knowledge of debugging methods.

Semester IV
17UCC430301A

Hours/Week: 4
Credits: 4

Core Elective-1:
AUDITING

Course Outcomes:

After completing this course the student will be able to:

1. Be proficient with the general principles of auditing
2. Know Vouching principles and procedures
3. Learn the process of verification and valuation of the assets and liabilities
4. Be aware of the rights, duties, roles and qualification of auditors in joint stock companies
5. Understand the concepts of auditing from online perspective.
6. Gain knowledge about EDP Auditing

Semester IV
17UCC430301B

Hours/Week: 4
Credits: 4

Core Elective-1:
MANAGING INNOVATION

Course Outcomes

After completing this course the student will be able to:

1. Be proficient with the general principles of innovation
2. Knows innovation in creativity
3. Familiarize about success of innovation
4. To reap in the economic benefits of new technological inventions by commercializing them on time
5. To accomplish technology transfer
6. To reduce new product development time.

Semester IV
17UCC430404A

Hours/Week: 6
Credits: 4

Core Elective-1:
ELEMENTS OF STATISTICS

Course Outcomes

1. Measures in central tendency and standard deviation
2. Measures of Skewness and Correlation Analysis

3. Method of constructing indices and least squares
4. Basic concepts of probability
5. Using SPSS
6. Application of correlation analysis
7. Knowledge of Time Series Analysis
8. Application of Central Tendency

Semester IV
17UCC430404A

Hours/Week: 6
Credits: 5

Allied Optional:
BUSINESS STATISTICS

Course Outcomes

1. Understanding the concept of measure of central tendency.
2. Solving problems related to measure of dispersion.
3. Trained to solve the problems related to association.
4. Applying the index number techniques in business.
5. Using the SPSS software for statistical measures.
6. Application of skewness and correlation Analysis
7. Application of Central Tendency
8. Fundamentals of Statistics

Semester V
17UCC530213

Hours/Week: 7
Credits: 4

COST ACCOUNTING

Course Outcomes:

After completing this course the student will be able to:

1. To understand the principles and the procedure of cost accounting
2. To Acquire the knowledge on cost effective operational efficiency when they become employees/ entrepreneurs.
3. To Understand the basic principles behind the quantitative approaches to deciding how much inventory to keep.
4. To acquire the practical knowledge on pay roll preparation and various types of incentives schemes
5. To gain knowledge on Application of material, labour and other expenses cost in the production sector
6. Able to Use the process costing system to prepare and analyze production reports

Semester V
17UCC530214

Hours/Week: 6
Credits: 4

BUSINESS LAW

Course Outcomes:

After completing this course the student will be able to:

1. Acquire the basic knowledge on laws governing business and companies.
2. To familiarize the students with the basics of Indian contract act.
3. To enable the students to understand the principles of special contract.
4. To help the students to learn the concept of bailment and pledge.
5. To know the recent development in company law.
6. Gain a practical knowledge on various business deals and corporate legal framework.

Semester V
17UCC530215

Hours/Week: 3
Credits: 2

DATA BASE MANAGEMENT SYSTEM

Course Outcomes

After completing this course the student will be able to:

1. Comprehend the Concepts of Database and Data Models.
2. Learn the Relational Algebraic operations
3. Perform various Queries in SQL
4. Gain knowledge of the fundamentals of PL/SQL Programming Language
5. Acquire practical knowledge in writing and executing PL/SQL Programs
6. To know the linkage between database and programming language

Semester V
17UCC530217

Hours/Week: 4
Credits: 3

BANKING THEORY LAW AND PRACTICE

Course Outcomes:

After completing this course, the student will be able to

1. Learn the concepts of banking.
2. Gain knowledge about the commercial banks
3. Understand the basic ideas and latest development of banking activities.
4. Understand of negotiable instrument
5. Acquire the concept of modern banking

6. Updating the recent development in E-Banking services

Semester V
17UCC530302

Hours/Week: 4
Credits: 4

Core Elective-II (WS):
E-COMMERCE

Course Outcomes:

After completing this course the student will be able to:

1. Know the evaluation of E-commerce
2. Identify different technologies and models for electronic commerce
3. Learn the various approaches to safe E-Commerce
4. Familiarize with E-cash and payment schemes and security
5. To study the different features and characteristics in E-Commerce.
6. To analyse the improved efficiency of cloud computing in this computer modern world.

Semester V
17UBU530302A

Hours/Week: 4
Credits: 4

Core Elective-II (WS):
PROJECT MANAGEMENT

Course Outcomes

1. Gain knowledge of projects
2. Learn how to make project investment decisions
3. Understand the importance of project planning
4. Learn different types of project appraisal methods
5. Acquire information about project cost control methods
6. Understand the importance of leadership in the project management
7. Identify the importance of risk analysis
8. Familiarize with managing a project with technological development

Semester V
17UBU530302B

Hours/Week: 4
Credits: 4

Core Elective (WS):
LOGISTICS & SUPPLY CHAINMANAGEMENT

Course Outcomes

1. To understand about Logistics & Supply chain management concepts
2. To learn the importance on logistic and supply chain management in the current business Scenario
3. To identify various dimensions of financial supply chain management
4. To learn the perspective of E-Finance and its Legal Aspects
5. To Understand the Global logistics concepts
6. Students have get some idea about Logistics and supply chain management Planning

Semester V
17UCO530302A

Hours/Week: 4
Credits: 4

Core Elective (WS):
HUMAN RESOURCE MANAGEMENT

Course Outcomes:

After completing this course, students will be able to :

1. Gain exposure on the principles and practices of Human resource management.
2. Understand various aspects of recruitment.
3. Assimilate various dimensions of training and development.
4. Knows significant features of Job evaluation techniques and compensation policies and procedures.
5. Be familiar with various factors influencing motivation and different mechanisms available for grievance handling.
6. Work as HR personnel in organizations.

Semester V
17UCO530302B

Hours/Week: 4
Credits: 4

Core Elective (WS):
BUSINESS CORRESPONDENCE

Course Outcomes:

After completing this course, students will be able to :

1. Imbibe meaning of Business Communication and the general principles of communication.
2. Identify different types of organisational communications.
3. Learn the mechanical structure of letters and drafting of others forms of communications viz. Orders, Memo, Agenda, and Minutes.
4. Familiarise with vocabulary used in business communication, often misspelt and correct usage.

5. Understand the mechanism of writing business reports.
6. Draft different kinds of business letters and communications

Semester V
17UCC530218A

Hours/Week:--
Credits: 2

Self-Paced Course-IV (POC):
BUSINESS ENVIRONMENT

Course Outcomes:

1. To impart basic knowledge about Business environment and its strategy.
2. To identify the problem of political system and cultures prevailing.
3. To create awareness on economic system and the population growth in different levels.
4. To understand the variables of Demographic environment, remedies and suggestions provided for family planning.
5. To reflect on the types of financial market and its Technological development.
6. To determine hoe socio-cultural environment view the society and to identify its elements.

Semester V
17UCC530218B

Hours/Week: 4
Credits: 4

Self-Paced Course-IV (POC):
EVENT MANAGEMENT

Course Outcomes:

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

1. Understand the importance of event management as a managerial skill
2. Identify event management procedure
3. Learn the nuts and bolts of conducting an event
4. Appreciate the significances of Public Relation in event management
5. Plan and execute various corporate events
6. Learn to carry out activities during an event

Semester V
17UCC530218C

Hours/Week: --
Credits: 2

Self-Paced Course-IV (POC):
TRAINING AND DEVELOPMENT

Course Outcomes:

1. To impart the knowledge of Training and Development
2. To give a knowledge about training and learning
3. To impart the knowledge of methods of training
4. To give a knowledge on evaluation of training
5. To learn about the Management Development and Training
6. To learn about the employees performance appraisal methods

Semester V
17UCC540601

Hours/Week: --
Credits: 2

Skill Based Elective (BS): COMPUTER APPLICATIONS IN BANKING**Course Outcomes:**

1. To impart practical knowledge on e -banking
2. To know the recent development in e banking system.
3. After completing this course, the student will be able to
4. Gain knowledge about the commercial banks
5. Understand the basic ideas and latest development of banking activities.
6. Learn the concepts in banking.

Semester V
17USS540701A

Hours/Week: 2
Credits: 2

**Inter Departmental Courses (IDC):
SOFT SKILLS****Course Outcomes**

1. To augment the level of confidence in articulation of the students in their communication.
2. To ensure that the students learn to speak and interact with one another as social beings
3. To equip them and train to present the best of themselves as job seekers.
4. To equip with conversation techniques, presentation skills and grooming
5. To prepare them write their own resume and enhance their interview skills required by employers
6. To ensure that the students learn the parameters of group dynamics a key component of conversation

Semester V
17USS540701B

Hours/Week: 2
Credits: 2

**Inter Departmental Courses (IDC):
NATIONAL CADET CORPS**

Course Outcomes

1. NCC 'C' and 'B' certificates are very much useful and increase credit marks in UPSC and SSB examinations..
2. They learnt discipline punctual and leadership quality.
3. They got physical fitness for Army and Police selection.
4. They learnt general knowledge find political issue.
5. They got trained for social service and volunteers for disaster.
6. They will be the best citizens of India.

**Semester VI
17UCC630219**

**Hours/Week: 7
Credits: 5**

INCOME TAX

Course Outcomes:

After completing this course, students will be able to :

1. Understand important basic concepts in Income tax and to determine residential status of individuals
2. Compute Taxable salary
3. Compute taxable income from house property
4. Determine taxable profit or gain from business or profession
5. Compute Taxable capital gains and income from other sources
6. Learned to prepare the income statement of an individual
7. Encouraged to learn more about the revision of the income tax
8. Motivated to pay the tax to the government properly.

**Semester VI
17UCC630220**

**Hours/Week: 6
Credits: 4**

INVESTMENT MANAGEMENT

Course Outcomes:

After completing this course, students will be able to :

1. To understand the various investment avenues that benefit individual and nation.
2. To acquire knowledge on various tools and techniques of financial risk management.

3. To reflect hoe fundamental analysis such as industry, company etc influence the economy.
4. To perceive the various trends of technical analysis
5. To identify the variations of put and call option.
6. To determine the functions of OTCE1, in various markets.

Semester VI
17UCC630221

Hours/Week: 4
Credits: 3

FINANCIAL ACCOUNTING PACKAGE - TALLY.ERP 9

Course Outcomes

1. Learn the basic principles and concepts of computerized accounting and Accounting Features.
2. Gain knowledge of Vouchers and types
3. Acquire the knowledge of Cost and Statutory features
4. Understand the concepts and practices of Inventory Management
5. Know the Accounting and Inventory Books.
6. Understand and explain the conceptual framework of accounting.

Semester VI
17UCC630303

Hours/Week: 4
Credits: 4

Core Elective-III (WS): TOTAL QUALITY MANAGEMENT

Course Outcomes

After completing the course, the student will be able to

1. Understand the importance of product and service quality
2. Identify various quality management principles and process
3. Know about the tools of quality
4. Acquire knowledge about the techniques of total quality management
5. Learn the methodology of quality system
6. Identify the TQM implementation in manufacturing and service sectors.

Semester VI
17UBU630303A

Hours/Week: 4
Credits: 4

Core Elective-III (WS):

SERVICES MARKETING

Course Outcomes:

- * To enable students to gain expert knowledge on marketing of various services.
- * To expose the students to the evolution and growth of services marketing sector which is a dominant player besides products marketing.
- * To acquire the knowledge of services market, to design service marketing strategies to be offered to major service sectors like Health care, Hospitality, Tourism, Logistics, Educational and Entertainment Industries.

Semester VI
17UBU630303B

Hours/Week: 4
Credits: 4

Core Elective-III (WS): STRATEGIC MANAGEMENT

Course Outcomes:

This course will enable students

- * To understand the major strategies adapted by the business firms
- * To familiarize the students with the formulation, implementation & evaluation of strategies.
- * To help the students to analyze the business in terms of strategies

Semester VI
17UCC640602

Hours/Week: 4
Credits: 4

Skill Based Elective (WS): PRACTICAL BANKING

Course Outcomes:

1. To impart practical knowledge on e-banking
2. To know the recent development in e banking system.
3. After completing this course, the student will be able to learn the concepts of banking.
4. To know the different banking services to the society.
5. Gain knowledge about the commercial banks
6. Understand the basic ideas and latest development of banking activities

UNDER GRADUATE PROGRAMMES

Department of Chemistry

Programme Outcomes (POs):

1. Undergraduate students are to be passionately engaged in initial learning with an aim to think differently as agents of new knowledge, understanding and applying new ideas in order to acquire employability/selfemployment.
2. Undergraduate students are trained to take up higher learning programmes.
3. Undergraduate students are made to be competent and socially responsible citizen of India.
4. Undergraduate students are to be exposed to technical, analytical and creative skills.
5. Undergraduate students are to be imparted with a broad conceptual background in the Biological sciences / Computing sciences / Languages and culture / Management studies / Physical sciences.

Programme Specific Outcomes (PSOs):

1. Human Values, Ethics and Social Responsibilities in the context of learning Chemistry
2. Communicative Skills and the Creative mind towards learning chemistry
3. Positive approach towards Environment and Ecology from the Chemistry perspective
4. Critical thinking and the Analytical mind, Students develop for the indepth knowledge in Chemistry
5. The relevance of extension of Chemistry in the social context for solving social issues
6. Employability Skills shall enable the students to find jobs in core-chemistry fields
7. Entrepreneurial Skills are developed in students so as to make them start their own industries / business in core-chemistry fields
8. Analytical or Experimental Skills make the students capable of doing research tasks in the field of chemistry.

Semester I
17UCH130201

Hours/Week: 7
Credit: 4

GENERAL CHEMISTRY - I

Course Outcomes

1. Students shall explain the behaviour and interactions between matter and energy at both the atomic and molecular levels.

2. Students shall use standardized names and symbols to represent atoms, molecules, ions and apply on chemical reactions.
3. Students shall predict the atomic structure, chemical bonding or molecular geometry based on accepted models.
4. Students shall apply quantitative reasoning skills to matter and energy and also study the physical or chemical changes that occur.
5. Students shall use accepted models to describe the reactions between gaseous systems and become aware of their physical properties.
6. Students shall demonstrate competence in collecting and interpreting data from their knowledge on analytical techniques.

Semester I
17UCH130401

Hours/Week: 6
Credit: 5

ALLIED MATHEMATICS-I
FOR CHEMISTRY

Course Outcomes

1. Training the students in mastering the techniques of various branches of Mathematics.
2. Motivating the students to apply the techniques in their respective major subjects.
3. Introducing the basic knowledge of differentiation.
4. Understanding the concept of matrices and its applications.
5. Solving the problems in trigonometry.
6. Application of Leibnitz and Cayley
7. Techniques of Linear Equations
8. Techniques in Series summations

Semester II
17UCH230202

Hours/Week: 5
Credit: 3

GENERAL CHEMISTRY- II

Course Outcomes:

1. Students shall understand the chemistry of alkanes
2. Students shall become aware of the fundamental aspects of stereochemistry and its influence on chemical properties
3. Students will learn the chemical aspects of Metallurgy
4. Students shall become aware of the chemistry of radioactive elements
5. Students shall learn the Thermodynamic principles and Thermochemistry aspects
6. Students shall learn to apply the concept of thermodynamics in real life

context.

Semester II
17UCH230402

Hours/Week: 6
Credit: 5

ALLIED MATHEMATICS-II

Course Outcomes

1. Training the students in mastering the techniques of various branches of Mathematics.
2. Motivating the students to apply the techniques in their respective major subjects.
3. Understanding the concept of definite integral.
4. Trained to solve the problems in Laplace transforms.
5. Solve the problems in differential equations.
6. Applications of definite integrals
7. Concepts Homogeneous and non homogeneous equations
8. Applications of Transforms in Differential equations

Semester III
17UCH330205

Hours/Week: 4
Credit: 3

GENERAL CHEMISTRY- III

Course Outcomes

1. Students learn synthetic methodology and chemical modifications of alkenes, dienes and alkynes.
2. Students know the chemical processes involved in polymerization and learn the chemistry of Natural Rubber.
3. Students learn how to use these natural and synthetic polymers.
4. Students understand the efficient way of converting work in to energy and vice versa from the Thermodynamics perspective.
5. Students get to know the energy changes involved in the natural and the industrial processes – that are the applications of Thermodynamics.
6. Students understand the method of enhancing the efficiency of the certain industrial processes.

Semester III
17UCH330206

Hours/Week: 4
Credit: 3

ESSENTIALS OF p-BLOCK ELEMENTS

Course Outcomes

1. Students learn about basic introduction of boron, carbon, nitrogen, oxygen, halogen and noble gas group family elements.
2. Students learn about structure and shape of boron, carbon, nitrogen, oxygen, halogen and noble gas group family elements.
3. Students learn about reducing and oxidizing nature of boron, carbon, nitrogen, oxygen, halogen and noble gas group family elements.
4. Students learn about polymerization and dimerization nature of boron, carbon group family elements.
5. Students learn about acidic, basic, complex formation of nitrogen group family elements and learn about paramagnetic, diamagnetic and coloring nature of nitrogen and oxygen group family elements.
6. Students learn about the formation of hydrides, halides and oxides nitrogen, oxygen, halogen group family elements.

Semester III
17UCH330403A

Hours/Week: 4
Credit: 4

Allied: PHYSICS-I

Course Outcomes:

1. Know the Physics behind sound: its properties and applications.
2. Learn the physics and properties of liquids.
3. Learn the physics and properties of solids
4. Know and understand the experimental and principles of thermal physics.
5. Learn the basics of electricity and magnetism and the components associated with electric circuits.
6. Understand the working of various optical instruments and different image defects.

Semester IV
17UCH430207

Hours/Week: 6
Credit: 5

GENERAL CHEMISTRY- IV

Course Outcomes

1. Students learn industrial sources of aromatic compounds and petroleum refining.
2. Students understand the possible chemical modification of Aromatic compounds.

3. Students know the chemical processes involved in the preparation of alcohols and alkyl halides.
4. Students get to know the chemical conversions and applications of alcohols and alkyl halides.
5. Students learn chemical and physical states of various systems and their coexistence in equilibrium.
6. Students understand the chemical aspects of metallic mixtures composition and properties through phase diagrams.
7. Students get to know the chemical aspects of binary mixtures and their uses through phase diagrams.
8. Students understand the chemical aspects of ternary mixtures and their uses.

Semester IV
17UCH430301A

Hours/Week: 4
Credit: 4

Core Elective-I: CHEMISTRY OF MATERIALS

Course Outcomes

1. Students learn the types of bonds.
2. Students understand and correlate the chemical luminescence and bioluminescence.
3. Students understand the properties and application of ceramics and metallic glasses.
4. Students understand the formation of polymers and to know their uses in everyday life.
5. Students learn the application of biomaterials in various fields.
6. Students learn the biomechanism and processing of biomaterials.

Semester IV
17UCH430301B

Hours/Week: 4
Credit: 4

Core Elective-I **HEALTH AND HYGIENE**

Course Outcome

1. Students pursue about health and hygiene for successful living.
2. Students learn about physical health care.
3. Students understand about mental health, health destroying habits and addictions.
4. Students learn about common diseases.
5. Students understand the treatments for various diseases.

6. Students acquire the knowledge and skill for First Aid and casualty handling.

Semester IV
17UCH430404A

Hours/Week: 4
Credit: 4

Allied:
PHYSICS-II

Course Outcomes

1. Understand the theoretical and experimental concepts of interference, diffraction and propagation of light.
2. Know the structure, behavior and properties of atoms based on vibrational modes.
3. Learn different nuclear models, nuclear properties and its applications.
4. Know and understand the fundamental concepts of relativity.
5. Remember and understand the principles of quantum mechanics.
6. Understand the working of logic gates for application in digital electronics.

Semester V
17UCH530210

Hours/Week: 5
Credit: 4

INORGANIC CHEMISTRY- I

Course Outcomes

1. Students learn about the compounds of d block elements and f block elements.
2. Students learn about extraction of lanthanides and actinides.
3. Students learn production of radioactive actinide elements.
4. Students understand the concept of isomerism in coordination compounds, their structural and magnetic properties.
5. Students study about the theories of coordination compounds.
6. Students learn about types of reactions of complexes and their mechanism and learn about Jahn Teller effect and chelate effect.

Semester V
17UCH530211

Hours/Week: 5
Credit: 4

ORGANIC CHEMISTRY - I

Course Outcomes

1. A comprehensive knowledge and understanding on the carbonyl compounds, organo nitrogen compounds and synthetic polymers and qualitative analytical methods to identify the functional groups.
2. Strong foundation in the mechanistic aspects of reactions and applications and entrepreneurial skills in the manufacturing and processing of the synthetic reagents and polymers.
3. Skilled employable chemists with theoretical bases on dealing with synthetically important chemicals and polymers.
4. Competent organic chemists with adequate knowledge in carbonyl compounds and polymers.
5. Specialized students with in depth knowledge in functional group inter conversions.
6. Responsible and green synthetic organic chemistry graduates with environmental concern.

Semester V
17UCH530212

Hours/Week: 4
Credit: 3

PHYSICAL CHEMISTRY - I

Course Outcomes

1. Students understand the effect of radiation on humans, and they learn the basics of spectroscopy.
2. Students learn the use of ultra violet spectroscopy and the effect of light.
3. Students understand and apply the infrared spectroscopy to chemical compounds.
4. Students learn the basics of electrochemistry and they understand the practical use of electricity and their laws.
5. Students understand the nature of electrolytes and their theories and the concept of emf and its application.
6. Students learn the concept of electrochemical cell and its applications and the concept of ionic mobility and its practical applications.

Semester V
17UCH530302A

Hours/Week: 4
Credit: 3

Core Elective-II **SELECTED TOPICS IN CHEMISTRY-I**

Course Outcomes

1. Students learn about thermo chemistry and its applications.

2. Students learn about acids - bases, pH scale and common ion effect and learn about buffer solution, acid base indicators.
3. Students learn about Colloids their preparation-purification-properties and the concept of solubilisation and the role of micellar catalysis.
4. Students study about radiolysis and industrial application of radiation chemistry.
5. Students learn about chemistry of nano particles.
6. Students learn about types and applications of catenanes –carbon nanotubes.

Semester V
17UCH530302B

Hours/Week: 4
Credit: 3

Core Elective-II
SELECTED TOPICS IN CHEMISTRY-II

Course Outcomes

1. Students learn and categorize the concepts of green chemistry.
2. Students get to know the steps in photo chemistry and the direct and indirect uses of photo chemistry.
3. Students learn about concepts of NMR spectroscopy.
4. Students learn about ESR and its applications.
5. Students learn about NQR and its applications.
6. Students learn about Statistical thermodynamics.

Semester V
17UCH530213

Hours/Week: -
Credit: 2

Self-Paced Learning
ESSENTIALS OF CHEMISTRY

Course Outcomes

1. Students learn and understand the various theories of acids, bases, solvents and their use in day to day life.
2. Students understand the bioactivity of proteins, enzymes, metals, vitamins, hemoglobin and myoglobin.
3. Students study the synthetic uses of synthetic reagents.
4. Students learn about redox reagents and their application in industry.
5. Students understand about polymers, fibers, cements preparation, uses and their applications.
6. Students understand about glass and alloys preparation, uses and their

applications.

Semester V
17UCH540601

Hours/Week: 2
Credit: 2

Interdisciplinary Skill Based Course
FOOD AND NUTRITION

Course Outcomes

1. Students learn and identify the functions of nutrition and design of various aspects of protein energy metabolism.
2. Students know about the steps in nutrition care process.
3. Students acquire knowledge about importance of iodised food.
4. Students improve the awareness of the iodine deficiency disease.
5. Students improve the direct and indirect remedies of nutrition problems.
6. Students develop the social thinking and ability in context of food and its nutrition contents.

Semester VI
17UCH630214

Hours/Week: 5
Credits: 4

INORGANIC CHEMISTRY-II

Course Outcome

1. Students learn about the octet rule and VSEPR theory and are able to predict the structures of simple inorganic compounds.
2. Students learn about properties of ionic compounds; lattice energy, Born-Haber cycle and its applications.
3. Students understand the various theories of metallic bonding, different types of semiconductors and superconductors.
4. Students learn about thermogravimetric analysis, differential thermal analysis and its applications.
5. Students learn about colorimetric analysis and its applications.
6. Students learn about chromatographic techniques such as TLC, GLC, HPLC and their applications industries, research fields and in day to day life.

Semester VI
17UCH630215

Hours/Week: 5
Credits: 4

ORGANIC CHEMISTRY-II

Course Outcome

1. Students learn the chemistry of organometallic compounds.
2. Students learn the basic concepts of UV-Visible, IR, NMR Spectroscopy.
3. Students learn the basic concepts of mass spectrometry.
4. Students learn to assign the structure of the organic molecules using spectral data.
5. Students learn how to use organometallic compounds to make C-C bond.
6. Students learn the application of some named reactions.

Semester VI
17UCH630216

Hours/Week: 6
Credits: 4

PHYSICAL CHEMISTRY-II

Course Outcomes

1. Students learn about solutions, their types, colligative properties, effect of added salt and molecular weight determination.
2. Students learn about solids, their properties, close packing in crystals, and use of X-rays in crystal structure determination.
3. Students understand the concept of polarization, dipole moment and their importance in structure determination.
4. Students study about rate and mechanism of chemical reactions.
5. Students learn about theories of reaction rate.
6. Students learn about types and mechanism of catalysis and adsorption reactions.

Semester VI
17UCH630303A

Hours/Week: 4
Credits: 4

Core Elective: **CHEMISTRY OF BIOMOLECULES**

Course Outcomes

1. Students learn the chemistry of sugars.
2. Students learn the chemistry of amino acids, proteins, nucleic acids, vitamins and antibiotics.
3. Students learn the chemistry of alkaloids and terpenoids.
4. Students learn how to name the biomolecules.
5. Students learn to draw the structures of complicated molecules.

6. Students learn the name reactions in the above specified biomolecules.

Semester VI
17UCH630303B

Hours/Week: 4
Credits: 4

Core Elective:
PHARMACEUTICAL CHEMISTRY

Course Outcomes

1. Students learn how the drugs act on CNS and what cardiovascular drugs are.
2. Students learn the selective and non selective CNS depressants.
3. Students learn to differentiate between pharmacokinetics and pharmacodynamics.
4. Students learn the medicinal terms of drugs.
5. Students learn the use of alkaloids in medicine.
6. Students learn the medicinal terms of diseases.

Semester VI
17UCH640602

Hours/Week: 2
Credits: 2

Skill Based Elective: EVERYDAY CHEMISTRY

Course Outcomes

1. Students understand the chemistry of water.
2. Students study the manufacture of the cements.
3. Students learn about properties of rubber and rocket propellant.
4. Students learn about different types of fuels.
5. Students understand the importance of drugs.
6. Students understand the need of biologically useful chemicals.

Department of B.Com

Programme Outcomes (POs):

1. Undergraduate students are to be passionately engaged in initial learning with an aim to think differently as agents of new knowledge, understanding and applying new ideas in order to acquire employability/ selfemployment.
2. Undergraduate students are trained to take up higher learning programmes.
3. Undergraduate students are made to be competent and socially responsible citizen of India.
4. Undergraduate students are to be exposed to technical, analytical and creative skills.
5. Undergraduate students are to be imparted with a broad conceptual background in the Biological sciences / Computing sciences / Languages and culture / Management studies / Physical sciences.

Programme Specific Outcomes (PSOs):

1. This programme provides opportunities for students to develop Critical and Analytical Skills.
2. After the completion of this programme, students will acquire Communication and Presentation Skills.
3. Students will have opportunity to work together and develop their teamwork Skills.
4. Students will be able to have the basic knowledge on the pertinent concepts, theories of the programme.
5. Learning this programme will facilitate the best use of Information Technology and decision making techniques.
6. The necessity of Ethical and Social Responsibilities will be highlighted to the students through this programme.
7. Skills required to be a successful entrepreneur have been embedded in the programme to make students become entrepreneurs.
8. Internship and Practical Exposure will make the students know and understand the practical nuances in the business and industrial practices.

Semester I
17UCO130201

Hours/Week: 8
Credits: 4

FINANCIAL ACCOUNTING – I

Course Outcomes

After completing this course the student will be able to

1. Familiarise with the fundamental aspects of financial accounting and

- prepare final accounts and balance sheets.
2. Understand the nuances of consignment and joint venture from accounting perspective.
 3. Prepare income and expenditure accounts and balance sheets of non trading concerns.
 4. Ascertain profit or loss for the concerns adopting single entry book keeping system.
 5. Understand the procedures and methods of providing depreciation as per AS 06 from accounting perspective.
 6. Prepare financial statements in accordance with Generally Accepted Accounting principles.

Semester I
17UCO130202

Hours/Week: 5
Credits: 4

BUSINESS ORGANISATION

Course Outcomes

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

1. Define business and its characteristics.
2. Understand different forms of organisation and their features.
3. Explain MNCs, globalisation and their pros and cons.
4. Identify factors that affect location of business into primary and secondary.
5. Understand different forms of business combination and their relative merits.
6. Distinguish ethical unethical business practices.

Semester I
17UCO130401

Hours/Week: 6
Credits: 5

Allied: **BUSINESS ECONOMICS**

Course Outcomes

After completing this course, the students will be able to

1. Explore the basic principles and concepts of business economics.
2. Gain exposure on economic theories related to consumer behaviour.
3. Gain clarity in pricing policies.
4. Get acquainted with theories related to supply, production and competition.
5. classify different kinds of markets.

6. Understand the nuances of monetary and Fiscal policies of government.
7. Predict fluctuations in economy through exposure on inflation and theories and phases of business cycle.
8. Learn to get a clear perspective on Foreign Exchange transactions.

Semester I
17UFC141001

Hours/Week:2
Credits: 2

ESSENTIALS OF HUMANITY

Course Outcome

1. To ensure creating awareness among the youth on human values.
2. To ensure educating the youth, the basic principles of value education.
3. To ensure the process of analyzing, appreciating and personalizing values as our own.
4. To ensure that students develop various dimensions of human personality.
5. To ensure the youth empowering the gender sensitization, gender differences and gender roles.
6. To ensure preparing the students for the smooth transfer from the stage of teenage to earlier adulthood.

Semester II
17UCO230203

Hours/Week: 7
Credits: 4

FINANCIAL ACCOUNTING – II

Course Outcomes

After completing this course the student will be able to

1. Be acquainted with the accounting treatments required for admission, retirement and death of partners in Partnership firms.
2. Understand the accounting procedures involved in the Dissolution of firm under different situations.
3. Be familiar with the nuances of different systems of accounting followed for Branches and Departmental businesses.
4. Assimilate the system of accounting followed in Hire purchase system.
5. Accumulate knowledge and accounting skills required for calculating loss of stock and loss of profit.
6. Know the leasing methods and calculation of royalties.

Semester II
17UCO230204

Hours/Week: 4
Credits: 4

MODERN AND RURAL BANKING

Course Outcomes

After completing this course the student will be able to

1. Have the basic knowledge on Banking Theory Law and Practices.
2. Understand the relationship between Banker and customer.
3. Gain exposure in handling the negotiable instruments.
4. Acquire the knowledge on the functioning of Rural Banking services in India.
5. Know the latest development that takes place in the Banking sector.
6. Transact with the bank with ease and fill up the forms correctly.

Semester II
17UCO230402

Hours/Week: 6
Credits: 5

Allied: MARKETING

Course Outcomes

After completing this course the student will be able to

1. Know the basic principles and practices of marketing.
2. Understand the pricing mechanism of marketing.
3. Articulate Sales Promotional techniques used in modern marketing.
4. Know the basic aspects of the channels of distribution and buyers' behaviours.
5. Be aware of the importance of standards and quality management.
6. Have a complete knowledge of the 7Ps of marketing.

Semester II
17UFC241002

Hours/Week: 2
Credits: 2

FUNDAMENTALS OF HUMAN RIGHTS

Course Outcome

1. To ensure acquiring the knowledge about the historical background of human rights.
2. To ensure sensitizing the young the values of human rights.
3. To ensure the importance of human rights in the Indian context.
4. To ensure learning the fundamental duties in the constitution of India.
5. To ensure educating the youth in respecting and protecting the rights

of every other human being.

6. To ensure teaching the youth on the vulnerabilities of women and children.

Semester III
17UCO330205

Hours/Week: 6
Credits: 4

BUSINESS LAW

Course Outcomes

After completing this course the student will be able to

1. Gain exposure on the frame work of Indian Contract Act.
2. Know the significant aspects of contingent contracts and special contracts.
3. Familiarize with Bailment and Pledge through case studies.
4. Assimilate various kinds of Agencies.
5. Acquaint with the Sale of Goods Act 1930.
6. Comprehend consumer protection laws and the functional aspects of consumer dispute redressal forums.

Semester III
17UCO330206

Hours/Week: 3
Credits: 2

ACCOUNTING PACKAGES

Course Outcomes

After completing this course the student will be able to

1. Understand the basics of accounting packages and create, alter and delete companies, accounting groups and ledgers.
2. Equip with skills of entering transactions in the appropriate accounting vouchers and creation and application of cost centres.
3. Acquaint with creation of inventory masters and use various inventory features.
4. Know to enter transactions with VAT, TDS and TCS and Prepare payrolls and budgets.
5. Configure various masters and vouchers and extract accounting and inventory reports.
6. Work in the real time computerized business environment as an accountant or a store keeper.

Semester III
17UCO330207

Hours/Week: 2
Credits: 2

SOFTWARE LAB FOR ACCOUNTING PACKAGES

Course Outcomes

After completing this course the student will be able to

1. Create, alter and delete companies and groups.
2. Extract profit and loss account and balance sheet through ledger account balances and adjustment entries.
3. Pass entries for transactions in accounting vouchers with or without stock items.
4. Pass entries for transactions requiring special features such as TDS, VAT, TCS, Cost centers and Payrolls.
5. Carry out order processing and maintain accounting records along with inventory records and generate reports.
6. Work as an accountant or a storekeeper in the computerized environment of business organizations.

Semester III
17UCO330403A

Hours/Week: 6
Credits: 5

Allied:
ELEMENTS OF MATHEMATICS

Course Outcomes

1. Learning the fundamentals of Mathematics.
2. Understanding the permutation and combination.
3. Understanding the basic meaning in the areas of elementary function and financial mathematics.
4. Solving problems related to simple integration and applications.
5. Learning the techniques in Simple Mathematics.
6. Problems on indices and powers
7. Concepts of Integration and differentiation
8. Applications of Matrices

Semester III
17UCO330403B

Hours/Week: 6
Credits: 5

Allied:
BUSINESS MATHEMATICS

Course Outcomes

1. Learning basic Mathematics problems.
2. Basic Knowledge of whole numbers, fraction, logarithm
3. Basic Knowledge of A.P and G.P.
4. Understanding basic terms in the areas of business Calculus and financial Mathematics.
5. Solving problems related to integration and applications.
6. Learning the fundamentals of matrix.
7. Problems in input output model
- 8 Applying the Mathematical skills to various business problems for optimization.

Semester IV
17UCO430208

Hours/Week: 5
Credits: 3

CORPORATE ACCOUNTING

Course Outcomes

After completing this course the student will be able to

1. Make accounting entries for the issue of equity and preference shares and redemption of preference shares.
2. Prepare financial statements in accordance with Generally Accepted Accounting Principles.
3. Apply provisions of the Companies Act and accounting standards while preparing financial statements.
4. Be acquainted with accounting procedures for Mergers and acquisitions as per AS14.
5. Prepare consolidated financial statements of Holding company and its subsidiary companies as per AS21.
6. Understand the accounting procedures related to Liquidation.

Semester IV
17UCO430209

Hours/Week: 4
Credits: 2

SECURITY ANALYSIS

Course Outcomes

After completing this course the student will be able to

1. Analyze and evaluate financial markets and investors' behaviour
2. Appreciate the various investment avenues those benefit the individuals and the nation as a whole

3. Understand the functions of stock market and practical aspects of share price movements.
4. Gain exposure on the application of various tools and techniques of risks and return analysis.
5. Be acquainted with the basic technical analysis to predict price movements in stock market.
6. understand and evaluate futures and option contracts.

Semester IV
17UCO430301A

Hours/Week: 4
Credits: 4

Core Elective-I (WD):
FINANCIAL MANAGEMENT

Course Outcomes (CO)

After completing this course the student will be able to

1. Understand the role of financial managers in business corporations.
2. Know the basic concepts and scope of Financial Management.
3. Determine working capital with the given information.
4. Ascertain cost of capital and interpret the effects of leverages on the same.
5. Appreciate the relevance of capital structure theories.
6. Understand the significance of various dividend theories and their effect on prices of shares.

Semester IV
17UCO430301B

Hours/Week: 4
Credits: 4

Core Elective-I (WD):
SECRETARIAL PRACTICES

Course Outcomes:

After completing this course, the students will be able to

1. Be acquainted with significant aspects of joint stock companies and their formation and registration.
2. Appreciate the rights, duties, functions and importance of company secretary in a Joint stock companies.
3. Know various aspects of Board of Directors of Joint stock companies.
4. Well verse with different kinds of meetings conducted in a corporate.
5. Draft notices, minutes, chairman's speech of company meetings.
6. Know the different types of companies and the qualities of a company secretary.

Semester IV
17UCO430404A

Hours/Week: 6
Credits: 5

Allied:
ELEMENTS OF STATISTICS

Course Outcomes:

1. Measures in central tendency and standard deviation
2. Applications of central tendency
3. Measures of Skewness and Correlation Analysis
4. Application of Correlation Analysis
5. Method of constructing indices and least squares
6. Knowledge of Time series analysis
7. Basic concepts of probability
8. Using SPSS

Semester IV
17UCO430404B

Hours/Week: 6
Credits: 4

Allied:
BUSINESS STATISTICS

Course Outcomes:

1. Fundamentals of Statistics.
2. Understanding the concept of measure of central tendency.
3. Application of central tendency.
4. Solving problems related to measure of dispersion.
5. Application of skewness and correlation analysis.
6. Trained to solve the problems related to probability.
7. Applying the index number techniques in business.
8. Using the SPSS software for statistical measures.

Semester V
17UCO530210

Hours/Week: 6
Credits: 4

FUNDAMENTALS OF COST ACCOUNTING

Course Outcomes:

After completing this course, students will be able to :

1. Be familiar with cost accounting principles and concepts and prepare

cost sheets.

2. Calculate issue price of materials and understand significant aspects of inventory management and control.
3. Determine wages payable under different plans.
4. Ascertain, allocate, appropriate and absorb overheads of different departments.
5. Reconcile costing profits with financial profits and integrate cost accounting with financial accounting.
6. Understand and assume the role of a cost accountant in relevance to today's economic scenario.

Semester V
17UCO530211

Hours/Week: 5
Credits: 4

BUSINESS MANAGEMENT

Course Outcomes:

After completing this course, students will be able to :

1. Know the basic concepts, principles and theories of management
2. Execute the meaning, characteristics and process of management
3. Plan and execute an event.
4. Understand the concepts, theories and process of organizing
5. Distinguish centralization and decentralization and different types of departmentation.
6. Understand the elements of direction and practice the appropriate method of leadership.

Semester V
17UCO530212

Hours/Week: 5
Credits: 4

AUDITING

Course Outcomes:

After completing this course, students will be able to :

1. Be proficient with the general principles of auditing.
2. Know the significances of vouching principles and procedures.
3. Understand the process of verification and valuation of the assets and liabilities.
4. Know the statutory rights, duties, roles and qualification of auditors in joint stock companies.
5. Familiarize with the EDP based environment

6. Disseminate the knowledge of online policy on auditing to the society.

Semester V
17UCO530213

Hours/Week: 6
Credits: 4

MANAGEMENT ACCOUNTING

Course Outcomes:

After completing this course, students will be able to :

1. Appreciate various tools and techniques of Management accounting and its importance in decision making.
2. Calculate accounting ratios and interpret them relevantly.
3. Prepare Fund flow statement and cash flow statement as per AS3.
4. Apply capital budgeting methods to evaluate capital expenditure proposals.
5. Draft various kinds of budgets for a business concern.
6. Relate the concept of zero base budgeting with real life decision environment

Semester V
17UCO530302A

Hours/Week: 4
Credits: 4

Core Elective (WS): **HUMAN RESOURCE MANAGEMENT**

Course Outcomes:

After completing this course, students will be able to :

1. Gain exposure on the principles and practices of Human resource management.
2. Understand various aspects of recruitment.
3. Assimilate various dimensions of training and development.
4. Knows significant features of Job evaluation techniques and compensation policies and procedures.
5. Be familiar with various factors influencing motivation and different mechanisms available for grievance handling.
6. Work as HR personnel in organizations.

Semester V
17UCO530302B

Hours/Week: 4
Credits: 4

Core Elective (WS): **BUSINESS CORRESPONDENCE**

Course Outcomes:

After completing this course, students will be able to :

1. Imbibe meaning of Business Communication and the general principles of communication.
2. Identify different types of organisational communications.
3. Learn the mechanical structure of letters and drafting of others forms of communications viz. Orders, Memo, Agenda, and Minutes.
4. Familiarise with vocabulary used in business communication, often misspelt and correct usage.
5. Understand the mechanism of writing business reports.
6. Draft different kinds of business letters and communications.

Semester V
17UEC530302

Hours/Week: 4
Credits: 4

Core Elective-2 (Within School) **PRINCIPLES OF ECONOMICS**

Course Outcome

- * To provide basic and conceptual understanding of economic concepts and principles.
- * To make the students understand the methods and measurement of national income.
- * To acquire knowledge of the key factors of production.
- * To understand the concept of inflation in the present era.
- * To know the basic ideas about the internal and international trade.
- * To know the important theories of international trade and terms of trade.

Semester V
17UBU530302A

Hours/Week: 4
Credits: 4

Core Elective-I (WS): **PROJECT MANAGEMENT**

Course Outcomes

1. To understand the project management concepts
2. To impart knowledge on Project identification & Appraisal
3. To help the students to identify feasible projects
4. To know the methods of financing such projects and controlling its cost
5. To learn and understand about project evaluation

6. To know about how to prepare project in Business

Semester V
17UBU530302B

Hours/Week: 4
Credits: 4

Core Elective-I (WS):
LOGISTICS & SUPPLY CHAIN MANAGEMENT

Course Outcomes

1. To understand about Logistics & Supply chain management concepts
2. To learn the importance on logistic and supply chain management in the current business Scenario
3. To identify various dimensions of financial supply chain management
4. To learn the perspective of E-Finance and its Legal Aspects
5. To Understand the Global logistics concepts
6. Students have get some idea about Logistics and supply chain management Planning

Semester V
17UCC530302

Hours/Week: 4
Credits: 4

Core Elective-II (WS):
E-COMMERCE

Course Outcomes:

After completing this course the student will be able to:

1. Know the evaluation of E-commerce
2. Identify different technologies and models for electronic commerce
3. Learn the various approaches to safe E-Commerce
4. Familiarize with E-cash and payment schemes and security
5. To study the different features and characteristics in E-Commerce.
6. To analyse the improved efficiency of cloud computing in this computer modern world.

Semester V
17UCO530215A

Hours/Week: --
Credits: 2

Self-Paced Course-I (POC):
SOCIAL NETWORKING SERVICES

Course Outcomes:

After completing this course, the students will be able to

1. Gain knowledge on the social networking services and uses.
2. Know the different Social Networking Sites.
3. Deal with various Social Networking Apps.
4. Gain practical insights of Facebook.
5. Understand the comprehensive framework of Twitter and LinkedIn.
6. Gain communication and presentation skills required in social networking.

Semester V
17UCO530215B

Hours/Week: --
Credits: 2

-- 2

Self-Paced Course-II (POC):
ENTREPRENEURSHIP

Course Outcomes:

After completing this course, the students will be able to

1. Understand various concepts, features and kinds of entrepreneurship.
2. Appreciate the significant sources of ideas and techniques used to generate them.
3. Know the procedures of drafting projects and evaluation of the same
4. Advocate with various funding and lending agencies and their schemes
5. Synthesis various forms assistances provided by government and its nodal agencies
6. Be aware of the choice of selection of Small, Medium and Large scale enterprise.

Semester V
17UCO530215C

Hours/Week: --
Credits: 2

Self-Paced Course-III (POC):
SALESMANSHIP AND PERSONAL SELLING

Course Outcomes:

After completing this course, the students will be able to

1. Understand the basic principles and concepts associated with personal selling and Salesmanship.
2. Be enlightened to the motives of buyers.
3. Know the selling process in detail.
4. Be empowered with the nuances of preparing sales reports.
5. Become proficient with sales promotional techniques and methods.

6. Gain familiarity with the promotional mix decisions

Semester V
17UCO530215D

Hours/Week: --
Credits: 2

Self-Paced Course-IV (POC):
BUSINESS ENVIRONMENT

Course Outcomes:

After completing this course, the students will be able to

1. Have an overview of business Environment in India.
2. Understand the present scenario in the relationship between government and business in India.
3. Analyse the recent developments in the economic, fiscal and monetary policies of the government.
4. Know the cultural environment and the impact of foreign culture over Indian Business.
5. Understand the constituents of Financial System and environment.
6. Critically evaluate the business problems different dimensions of environment.

Semester V
17UCO530215E

Hours/Week: --
Credits: 2

Self-Paced Course-V (POC):
INNOVATION MANAGEMENT

Course Outcomes:

1. Understand the basics of innovation.
2. Appreciate the value of creativity.
3. Gain exposure to various theories of innovation.
4. Comprehend the innovation process.
5. Inculcate the nuances of innovation for the success of business.
6. Formulate innovative ideas and develop a project proposal

Semester V
17UCO540601A

Hours/Week: 11
Credits: 2

Skill Based Elective-I:
FUNDAMENTALS OF ACCOUNTING PACKAGES

Course Outcomes:

After completing this course, the students will be able to

1. Understand and navigate through the various Elements of MS Excel interface.
2. Open, save, and enter data in a Worksheet and Workbook.
3. Perform basic operations like opening, saving and editing Worksheets, and Workbook.
4. Enter data in cells and carry out calculations using 'Formulas'.
5. Carry out various arithmetic operations using 'Functions'.
6. Draw charts based on the data in the Excel Worksheet.

Semester V
17UCO540601B

Hours/Week: 11
Credits: 2

Skill Based Elective-2:
BUSINESS APPLICATIONS OF SPREAD SHEET

Course Outcomes:

After completing this course, the students will be able to

1. Pass journal entries and post them to ledger
2. Know to create, alter and delete companies and ledgers
3. Create vouchers for financial transactions
4. Form inventory masters and enter financial transactions with stock items
5. Create orders, inventory vouchers and extract reports.
6. Pass entries using vouchers for given Journal entry problems with or without stock items.

Semester VI
17UCO630216

Hours/Week: 7
Credits: 5

COSTING METHODS AND TECHNIQUES

Course Outcomes:

After completing this course, the students will be able to

1. Know to ascertain cost of products through job and batch costing techniques
2. Prepare the cost sheet based contract costing to know the realized and unrealized profits and to close the contract accounts.
3. Compute the price of services based on service costing
4. Compute the cost of different processes under different circumstances through process costing

5. Understand the basics involved in the preparation of cost sheets for canteens and hotels using a group of costing methods.
6. Prepare the cost sheet for power houses and hospitals
7. Learn the nuances of Marginal costing and identify the appropriate situations for its applications.
8. Choose and apply standard costing in different situations

Semester VI
17UCO630217

Hours/Week: 7
Credits: 4

INCOME TAX, LAW AND PRACTICE

Course Outcomes:

After completing this course, the students will be able to

1. Have knowledge of the basic concepts of Income Tax Act, 1961
2. Analyze the components of taxable salary and compute it.
3. Classify the types of house properties and will be able to compute their taxable annual values.
4. Understand the basic concepts of and provisions relating to income from business or profession
5. Understand, classify and compute taxable capital gains
6. Know the income taxable under the head income from other sources and apply the provisions for deductions to and rates of tax and compute the tax.

Semester VI
17UCO630218

Hours/Week: 4
Credits: 3

INFORMATION TECHNOLOGY

Course Outcomes:

After completing this course, the students will be able to

1. Appreciate the uses of IT and various facets of IT.
2. Equip himself with the practical skills of various forms of Document creation.
3. Be familiar with the basic tenets of Spread sheet preparation.
4. Assimilate himself with advanced skills required for preparing various forms business and financial reports.
5. Know to design and develop presentations required in different circumstances.
6. Solve numerical problems related to business environment through

spread sheet.

Semester VI
17UCO630219

Hours/Week: 2
Credits: 1

COMPUTER PRACTICAL FOR INFORMATION TECHNOLOGY

Course Outcomes:

After completing this course, the students will be able to

1. Create different forms of documents using MS Word.
2. Use mail merge options.
3. Know to use spreadsheet for generating reports.
4. Analyse Financial and statistical data through spread sheet.
5. Generate presentations with animation and other features.
6. solve numerical problems through spread sheet.

Semester VI
17UCO630220A

Hours/Week: 4
Credits: 3

INTERNATIONAL BUSINESS

Course Outcomes:

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

1. Understand the environment of International Business.
2. Give a broad outlook on FDI from Indian perspective.
3. Get a complete exposure on the nuances of Foreign Exchange.
4. Familiarise himself with the risks associated with the risks inherent in Foreign exchange.
5. Read and analyse balance of payments.
6. Critically evaluate the international economic events and their impact in global business.

Semester VI
17UCO630303A

Hours/Week:
Credits: 4

Core Elective-III (WS): **RETAIL MANAGEMENT**

Course Outcomes:

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

1. Know various forms of retailing business techniques in India.

2. Gain knowledge on the store location, practical analysis of site and trading.
3. Acquire in depth knowledge of inventory management.
4. Appreciate critical elements of retail stores operations.
5. Equip with skills critical for Physical distribution and store keeping strategies.
6. Equip with Entrepreneurial and research oriented skills required to establish and run retail stores.

Semester VI
17UCO630303B

Hours/Week: 4
Credits: 4

Core Elective-III (WS):
PRINCIPLES OF EVENT MANAGEMENT

Course Outcomes:

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

1. Understand the importance of event management as a managerial skill.
2. Identify event management procedure.
3. Learn the nuts and bolts of conducting an event.
4. Appreciate the significances of Public Relation in event management.
5. Plan and execute various corporate events.
6. Write a detailed report on corporate events

Semester VI
17UEC630303

Hours/Week: 4
Credits: 4

Core Elective (WS): ENVIRONMENTAL ECONOMICS

Course Outcome

- * To understand the basics of environmental and energy economics
- * To make them aware of environmental and energy issues
- * To know the Environmental impact on economic development
- * To know the importance of Energy Economics
- * To get to know the causes of Industrial pollution
- * To know the details of Environmental policies in India

Semester VI
17UBU630303A

Hours/Week: 4
Credits: 4

Core Elective-III (WS):
SERVICE MARKETING

Course Outcomes

1. Better exposure to students about the evolution and growth of service marketing sector
2. They gain expert knowledge on marketing of the wide variety of service also available
3. Concepts of service design and expanded service marketing mix becomes familiar to students offer better employability skills to students
4. Emerging Business sector like Healthcare, Hospitality, Tourism, Education, Logistics and Entertainment Industries
5. Students are more inclined to tackle challenges and opportunities in banking and financial service sector
6. To enable students to gain knowledge on marketing on various services

Semester VI
17UBU630303B

Hours/Week: 4
Credits: 4

Core Elective-III (WS): STRATEGIC MANAGEMENT

Course Outcomes

1. The students will come to know the various strategies used by the firms at different instances.
2. The students will inherit the strategic decision making skills
3. The students will have the knowledge of various business models
4. The students will understand the role of strategic management in business
5. The students will analyze how strategic implementation takes place in organizations
6. The students will evaluate the strategies operated in different firms

Semester VI
17UCC630303

Hours/Week: 4
Credits: 4

Core Elective-III (WS): TOTAL QUALITY MANAGEMENT

Course Outcomes

After completing the course, the student will be able to

1. Understand the importance of product and service quality
2. Identify various quality management principles and process

3. Know about the tools of quality
4. Acquire knowledge about the techniques of total quality management
5. Learn the methodology of quality system
6. Identify the TQM implementation in manufacturing and service sectors.

Semester VI
17UCO640602A

Hours/Week: 2
Credits: 2

Skill Based Elective-II (WS): BASIC ACCOUNTING PRACTICES

Course Outcomes:

After completing this course, the student will be able to ...

1. Understand basic principles of Accounting
2. Identify accounts and apply golden rules for the financial transactions.
3. Pass journal entries and post them in ledger
4. Prepare subsidiary books
5. Prepare trial balances
6. Prepare Final accounts and balance sheet

Semester VI
17UCO640602B

Hours/Week: --
Credits: 2

**Skill Based Elective-II (WS):
PRACTICAL ADVERTISING**

Course Outcomes:

1. Have the basic knowledge in various concepts of advertising.
2. Acquaint with the modern methods and avenues of Advertising.
3. Aware of various media of Advertising and their significances.
4. Possess the skills required for creating an advertisement copy.
5. Gain exposure in various Emotional appeals of advertising and its Importance.
6. Know the significance of portraying advertisement slogans with captions.

Semester VI
17UEC640602

Hours/Week: --
Credits: 2

**Skill Based Elective-II (WS):
PRACTICAL INSURANCE**

Course Outcomes:

1. This course intends to provide a basic understanding of the insurance mechanism.
2. To know the basic concepts and types of insurance.
3. To acquire the practical knowledge about the insurance companies.
4. To know the practical applications of insurance like premium, surrender and loan availability.
5. To understand the policy conditions of insurance companies.
6. To disseminate knowledge among the students and inculcate theoretical structure about insurance companies.

Semester VI
17UBU640602A

Hours/Week: --
Credits: 2

Skill Based Elective-II (WS):
PRACTICAL STOCK TRADING

Course Outcomes

1. To impart the practical knowledge of stock trading
2. To learn and understand primary and Secondary Market
3. Students will have the knowledge of Trading Mechanism of stock Exchange
4. Students can learn the practical stock trading knowledge
5. Practical learning about in the field of Capital and Money Market
6. Students can learn Derivative market concept

Semester VI
17UBU640602B

Hours/Week: --
Credits: 2

Skill Based Elective-II (WS):
MANAGEMENT AND BUSINESS CASES

Course Outcomes

1. To enable the basic concepts in management with practical situations.
2. To understand the business and management cases
3. The student will analyze management cases and try to analyze cases
4. To know about practical knowledge in case studies
5. To know and understand the General Management Issues
6. To learn the recent management practices

Semester VI
17UCC640602

Hours/Week: --
Credits: 2

Skill Based Elective-II (WS):
PRACTICAL BANKING

Course Outcomes:

1. To impart practical knowledge on e-banking
2. To know the recent development in e banking system.
3. After completing this course, the student will be able to learn the concepts of banking.
4. To know the different banking services to the society.
5. Gain knowledge about the commercial banks
6. Understand the basic ideas and latest development of banking activities.

Department of Computer Science

Programme Outcomes (POs):

1. Undergraduate students are to be passionately engaged in initial learning with an aim to think differently as agents of new knowledge, understanding and applying new ideas in order to acquire employability/ self-employment.
2. Undergraduate students are encouraged to take up higher learning programmes.
3. Undergraduate students are made to be competent and socially responsible citizen of India.
4. Undergraduate students are to be exposed to technical, analytical and creative skills.
5. Undergraduate students are to be imparted with a broad conceptual background in the Biological sciences / Computing sciences / Languages and culture / Management studies / Physical sciences.

Programme Specific Outcomes (PSOs):

1. Possess basic knowledge on core concepts of Computer Science.
2. Ability to solve problems using programming languages and software tools.
3. Capable of analyzing, designing, developing, testing and implementing software systems.
4. Attain holistic knowledge in Mathematics, Electronics, Computer Science courses.
5. Possess social and ethical values.
6. Empowered with analytical mind and critical thinking.
7. Ability to communicate the technical aspects of systems with peers and customers.
8. Possess employability and entrepreneurship skills.

Semester I
17UCS130201

Hours/Week: 5
Credits: 3

PROBLEM SOLVING USING C

Course Outcomes

After learning this course, the learner would have acquired

- * Knowledge on problem solving using the computer
- * Knowledge on constructs of C Language
- * Skills in writing C programmes

- * Ability to use the functions efficiently
- * Skill on memory management and use of printers
- * Ability to design and use structures

Semester I
17UCS130202

Hours/Week: 5
Credits: 3

DIGITAL COMPUTER FUNDAMENTALS

Course Outcomes:

After learning this course, the learner will be able to

- * Understand the Digital number system and their conversions
- * Identify the operations of logic Gates and simplify the Boolean expressions using K-Map
- * Comprehend the fundamental principles of simple Arithmetic Circuits
- * Know the design and operations of Data Processing Circuits
- * Realize the design of sequential logic circuits such as Flip Flops, Registers and Counters and its applications
- * Gain the knowledge about the memory elements like RAM, ROM, and Magnetic Disk memories.

Semester I
17UCS130401

Hours/Week: 6
Credits: 5

Allied: MATHEMATICS-I

Course Outcomes

- * Solving simultaneous linear equations using matrices.
- * Understanding the importance of solving differential equations in industry related problems.
- * Ability to solve the problems in series.
- * Understand the application of Laplace transform.
- * Apply Fourier series to express a continuous functions.

Semester II
17UCS230204

Hours/Week: 4
Credit: 3

PROGRAMMING IN C++

Course Outcomes

After learning this course, the learner will be able to

- * Learn the basic concepts in C++ Programming
- * Understand the principles of Object Oriented Concepts
- * Be skillful in writing C++ code using classes objects and functions
- * Know the Core concepts of OOPS such as Constructors and Inheritance
- * Understand the concept of streams and file management in C++
- * Be skillful in writing small projects in C++ Programming

Semester II
17UCS230205

Hours/Week: 4
Credits: 3

DISCRETE MATHEMATICS

Course Outcomes

After learning this course, the learner will be able to

- * understand the various definitions and operations of graphs
- * learn the computer representations of graph
- * know the applications of graph theory
- * understand the various algorithms on graph problems
- * be aware of the concepts of mathematical logic
- * understand discrete structures

Semester II
17UCS230402

Hours/Week: 6
Credits: 5

Allied: **MATHEMATICS-II**

Course Outcomes

- * Solving algebraic equations using different methods.
- * Apply the techniques of forward and backward interpolation in industry related problems.
- * Solving differential equations application of this technique in competitive exams.
- * Solving real life problems using probability.
- * Compare the data values and finding the correlation.

Semester III
17UCS330207

Hours/Week: 4
Credits: 3

DATABASE SYSTEMS

Course Outcomes

After learning this course, the learner would have

- * Understood the fundamental concepts of database systems & use the

features available in a DBMS package

- * Known the organization of File and its addressing schemes
- * Analyzed database requirements and determine the entities involved in the system and their relationship to one another.
- * Acquired knowledge on Normalization
- * Developed the logical design of the database using data modeling concepts such as Entity Relationship diagrams.
- * Familiarity on SQL queries, functions, cursors and triggers

Semester III
17UCS330208

Hours/Week: 4
Credits: 3

SYSTEMS ANALYSIS AND DESIGN

Course Outcomes:

After learning this course, the learner will able to

1. Describe different life cycle models and explain the contribution of the system
2. Discuss various approaches to systems analysis and design and explain their strengths and weaknesses
3. Evaluate the tools and techniques of systems analysis and design that may be used in a given context
4. Use appropriate methods and techniques to produce a system design for an given scenario
5. Understand the various file organizations
6. Acquire a clear view about post implementation and maintenance of a system.

Semester III
17UCS330403A

Hours/Week: 6
Credits: 4

Allied: **APPLIED PHYSICS - I**

Course Outcomes

- * To acquire the knowledge of current electricity an types of resistors and capacitors.
- * To understand the basic principles of electromagnet ism an magnetic materials and circuits
- * To study the basic principles of Lasers an optical fibres.
- * To understand the Principle and application of Holography.
- * To learn about alternating currents and principle of a transformer

Semester IV
17UCS430210

Hours/Week: 5
Credits: 3

DATA STRUCTURES AND ALGORITHMS

Course Outcomes

After learning this course, the learner will able to

- * Have fundamental knowledge on data structures.
- * Perform various operations on stack
- * represent queue and its structures.
- * Work with Trees and Tree Traversals
- * Work with various standard algorithms.
- * Develop an application using data structures.

Semester IV
17UCS430301A

Hours/Week: 4
Credits: 4

Core Elective-I (WD):
MICRO COMPUTER ARCHITECTURE

Course Outcomes

After learning this course, the learner would have

1. Collected knowledge on Intel 8085 architecture and its addressing modes
2. Understood and the concepts of 8-bit processors
3. Got the fundamental knowledge of 16-bit processors.
4. Familiarity on interfaces and interrupts of Intel 8085
5. Acquired knowledge on assembly programming
6. Known the architecture and functionalities of 8086

Semester IV
17UCS430301B

Hours/Week: 4
Credits: 4

Core Elective-I (WD):
DESIGN AND ANALYSIS OF ALGORITHMS

Course Outcomes

After learning this course, the learner would have

1. To give the basis for the core of computer science.
2. To understanding the fundamental concepts in data structure
3. To learnt the basic knowledge of linked lists concepts in data structure

and simplification of expressions and trees.

4. To give importance to finding the complexity (order) of algorithms.
5. To work with assured ability to have knowledge of linked list and tree concepts.
6. To have working knowledge of backtracking and algebraic problems.

Semester IV
17UCS430301C

Hours/Week: 4
Credits: 4

Core Elective-I (WD):
BUSINESS PROCESS OUTSOURCING

Course Outcomes

After learning this course, the learner would have

1. Essential knowledge on Business Process Outsourcing industry
2. Learnt the working environment functions for BPO business models and its governance
3. Learnt about the legal issues of Outsourcing Industry
4. Acquired an idea about service level agreement and value chain
5. Identified the service quality issues in Business Outsourcing industry
6. Understood the challenges and dynamics of each BPO process component to help better manage operations

Semester IV
17UCS430404A

Hours/Week: 4
Credits: 4

Allied:
APPLIED PHYSICS - II

Course Outcomes

- * To understand the different switches and the supporting devices of a computer.
- * To acquire knowledge of semiconductor diodes and transistors.
- * To understand various communication systems.

Semester V
17UCS530213

Hours/Week: 5
Credits: 4

DISTRIBUTED TECHNOLOGIES

Course Outcomes

After learning this course, the learner would have

1. Ability to appreciate the features of .NET framework.
2. Ability to setup the ASP.NET development environment.
3. Ability to create ASP.NET applications.
4. Ability to appreciate the features of ADO.NET.
5. Ability to handle disconnected data access technologies in ADO.NET objects for data manipulations.
6. Ability to develop modular applications by using object oriented methodologies.

Semester V
17UCS530214

Hours/Week: 5
Credits: 4

LAMP

Course Outcomes

After learning this course, the learner would have

1. Knowledge to install Linux Operating System
2. Idea about basic administration activities on Linux environment
3. Developed and Tested simple PHP programs and Understood PHP builtin-functions
4. Learnt to create database and tables and perform database operations
5. Hosted a website in the Web Server
6. Familiarity to create web application using LAMP

Semester V
17UCS530302A

Hours/Week: 4
Credits: 4

Core Elective-II (WS): **XML**

Course Outcomes

After learning this course, the learner will be able to

1. Understand the Style sheet creation and its applications
2. Identify the exact uniform resource locator for proper communication throughout web
3. Recognize exact path and location to develop the web site for communication.
4. Know the concepts and design with respect to the requirement.
5. Realize the design of sequential development and its applications.
6. Gain the knowledge about the enough commercial benefits by using XML

Semester V
17UCS530302B Credit: 4

Hours/Week: 4

Core Elective-II (WS):
RUBY ON RAILS

Course Outcomes:

After learning this course, the learner would have

- * Learnt the syntax and semantics of Ruby programming language
- * Knowledge on expressions and operators
- * Understood methods, objects and classes
- * Known how closure and meta-programming techniques are used
- * Acquired idea on Ruby platform, environment and its security
- * Learnt how to build quality web application

Semester V
17UCS530217

Hours/Week: -
Credits: 2

SPL (POC):
PYTHON PROGRAMMING

Course Outcomes

After learning this course, the learner would have

1. acquired the fundamental knowledge on Python programming
2. understood the nuances of this language and hence the learner becomes skillful in python programming
3. known the usage of modules and packages in python
4. familiarity with the file concept in python
5. been skillful experimenting the concepts of OOPs with python language
6. become capable of solving problems using Python

Semester V
17UCS540601A

Hours/Week: 2
Credits: 2

Skill-Based Elective (BS):
DESKTOP PUBLISHING TOOLS

Course Outcomes

After learning this course, the learner would have

1. Learnt about DTP and Word Processing concepts
2. Knowledge on creating simple designs

3. Gained knowledge about the Desktop Publishing Tools (equivalent to) PageMaker and CorelDraw
4. Identified the templates for business designs
5. Become familiar in designing Brochures and Invitations.
6. Become capable of designing print graphics for Press Media.

Semester VI
17UCS630218

Hours/Week: 5
Credits: 3

COMPUTER NETWORKS

Course Outcomes

After learning this course, the learner would have

- * understand the basic concepts of computer networks and know the fundamentals of data communication
- * identify the functionalities of OSI reference model and compare with TCP/IP model
- * comprehend the protocols and standards of ethernet, SNA model and digital network architecture
- * learn the fundamental principles of LAN and WLAN
- * realize the design of client / server computing and explain the architecture and protocols of different networks.
- * understand web technology and practice in distributed applications

Semester VI
17UCS630219

Hours/Week: 5
Credits: 3

OPERATING SYSTEMS

Course Outcomes

1. To understand the services provided by the OS and the design of an operating system.
2. To understand the structure and organization of the file system.
3. To understand what a process is and how processes are synchronized and scheduled.
4. To understand the different approaches to memory management.
5. Demonstrate an understanding of different I/O techniques in operating system.
6. Students should be able to use system calls for managing processes, memory and the file system.

Semester VI

Hours/Week: 5

17UCS630220

Credits: 3

OPERATIONS RESEARCH

Course Outcomes

After learning this course, the learner will be able to

1. formulate real life problems as LP model and finding an optimized solution
2. know the concept of solving transportation problems and assignment problem with business solutions
3. know the primal dual relationship as producer and consumer relationship in business
4. identify the activities, schedule the project and finding time of completion.
5. understand the need of inventory and models for different products
6. perform inventory analysis in selected product methods.

Semester VI

Hours/Week: 4

17UCS630303A

Credits: 4

Core Elective-III (WS):

COMPUTER GRAPHICS

Course Outcomes

After learning this course, the learner will be able to

1. formulate the design process and principles.

2. assimilate the graphics and their transformations.
3. generate primitives, interactive graphics and raster graphics.
4. work with the concepts of Graphic packages and Geometric models.
5. create applications for interactive graphics
6. design the three-dimensional graphics

Semester VI

Hours/Week: 4

17UCS630303B

Credits: 4

Core Elective-III (WS):

WEB GRAPHICS

Course Outcomes

After learning this course, the learner will be able to

1. appreciate the concepts of multimedia.
2. work with animations, tweening and interactive elements.
3. design shapes in multimedia.
4. adopt skills to make multimedia applications.
5. produce a presentation using multimedia tools.
6. develop animations with various multimedia packages.

Department of BCA

Programme Outcomes (POs):

1. Undergraduate students are to be passionately engaged in initial learning with an aim to think differently as agents of new knowledge, understanding and applying new ideas in order to acquire employability/ self-employment.
2. Undergraduate students are trained to take up higher learning programmes.
3. Undergraduate students are made to be competent and socially responsible citizen of India.
4. Undergraduate students are to be exposed to technical, analytical and creative skills.
5. Undergraduate students are to be imparted with a broad conceptual background in the Biological sciences / Computing sciences / Languages and culture / Management studies / Physical sciences.

Programme Specific Outcomes (PSOs):

1. Fundamental Computing Knowledge
2. Logical and Analytical Thinking
3. Analyze Problems and provide solutions in IT and IT enabled domain
4. Comprehensive knowledge of System Concepts
5. Adoption of Information Technology Concepts
6. Software Design and Development Techniques
7. Application of Web & Software Techniques

Semester I

Hours/Week: 5

17UBC130201

Credit: 3

C PROGRAMMING

Course Outcomes

1. Understand the basic terminology of algorithm, flowchart and gain awareness used in computer programming
2. Design programs involving the various concepts like decision structures, loops, functions of C language.
3. Demonstrate the single, multi-dimensional arrays, String functions and user defined functions.
4. Compare the structure and union of C and apply it to construct array of structures and structure function.
5. Understand the dynamics of memory by the use of pointers and pointers with functions.
6. Comprehend the Processing of sequential and random access file concepts.

Semester I

Hours/Week: 5

17UBC130202

Credit: 3

SYSTEM SOFTWARE

Course Outcomes:

1. Understand the basic concepts of System software.

2. Learn the basic concepts of operating system and compiler
3. Comprehend the relationship between system software and machine architecture.
4. Understand the design and implementation of assemblers, linkers and loaders.
5. Appreciate the macroprocessors.
6. Recognize the system software tools.

Semester I

17UBC130401

Hours/Week: 6

Credit: 5

Allied: MATHEMATICS-I

Course Outcomes

1. Basic concepts of matrices, eigen values and eigen vectors.
2. Knowledge on Laplace transforms and inverse Laplace transforms.
3. The concept of Fourier series and its properties.
4. The techniques of solving algebraic and transcendental equations by numerical methods.
5. The concept of interpolation,
6. Concepts of numerical integration and differentiation is introduced to students.
7. Application of Laplace Transforms
8. Properties of Even and Odd functions

Semester II

Hours/Week: 4

17UBC230204

Credits: 3

OBJECT ORIENTED PROGRAMMING WITH C++

Course Outcome

1. Learn the basic concepts in Object-Oriented programming
2. Develop programming skills by applying Object-Oriented programming
3. Discuss the function overloading and Member Functions
4. Understand the concepts of Constructors and Inheritance
5. An Ability to incorporate Exception Handling in Object-Oriented programs
6. Analyze File Input/Output Streams

Semester II

Hours/Week: 4

17UBC230205

Credits: 3

DIGITAL COMPUTER FUNDAMENTALS

Course Outcomes:

1. Understand the functionalities of various gates in a Digital computer
2. Simplify the expressions using Karnaugh Map
3. Learn the fundamental principles of digital electronics Circuits used in Arithmetic operations
4. Discuss the design of memory using Flip-Flops, Registers and Counters

5. Comprehend the concept of A/D and D/A converters
6. Distinguish the Type of Memories and comprehend the 8085 Assembly Language programs

Semester II

Hours/Week: 6

17UBC230402

Credits: 5

ALLIED MATHEMATICS - II

Course Outcomes:

1. Gaining knowledge on Mean, Median and Mode.
2. The concepts of association of attributes and curve fitting.
3. Application of curve fitting
4. Basic Concepts of Probability
5. Classical and Axiomatic approach
6. The basic theoretical distributions such as Binomial, Poisson and Normal are introduced.
7. The concept of test of significance for attributes is introduced.
8. Application of Probability distributions

Semester III

Hours/Week: 4

17UBC330207

Credits: 3

RELATIONAL DATABASE MANAGEMENT SYSTEM

Course Outcomes:

1. Emphasize the need, role, importance and uses of databases in application development
2. Design E-R modeling for a given situation and provide the foundation for development of relational database structure.
3. Identify the advantages of the database approach over the file based data storage system.
4. Distinguish between different models of file organizing, storing and using of data.
5. Understand the relational model and relational algebra operations.
6. Normalize the relational tables applying normalization rules.
7. Apply PL/SQL procedural interfaces statement on relational tables as per requirements.

Semester III
17UBC330208

Hours/Week: 4
Credits: 3

DATA STRUCTURES AND ALGORITHMS

Course Outcomes:

1. Learn the fundamental Concepts of Data Structures
2. Understand the working principles of Linked List, Stack, Queue and Trees.
3. Determine the applications of Linked List, Stack, Queue and Trees.
4. Grasp various operations and searching methods applied using Binary Tree.

5. Demonstrate understanding of various sorting algorithms, including insertion sort, selection sort, merge sort, heap sort and quick sort.
6. Comprehend various Algorithm Design Strategies.

Semester III
17UBC330403

Hours/Week: 6
Credits: 5

Allied:
ACCOUNTS-I

Course Outcome

1. To enable the students to have a thorough knowledge of the fundamental concept basic principles of accountancy
2. To provide knowledge on the importance of maintaining various book of accounts.
3. Understand and explain the conceptual framework of accounting.
4. Prepare accounts for various entities under different situations.
5. To prepare accounts for non- trading concerns.
6. Differentiate single entry from double entry system.

Semester IV
17UBC430210

Hours/Week: 6
Credits: 4

JAVA PROGRAMMING

Course Outcomes:

1. Understanding the principles and practice of object oriented analysis and design.
2. Learn to implement, compile, and test run Java programs.
3. Comprehend the functionality of inheritance and polymorphism in Java
4. Demonstrate the ability to use applets for web based applications.
5. Understand the concept of multithreading and File handling in Java.
6. Acquire knowledge of networking, input out streams and JDBC programming techniques in Java.

Semester IV

Hours/Week: 4

17UBC430301A

Credits: 4

Core Elective-I (WD):

COMMUNICATION NETWORKS

Course Outcomes:

1. Learn the basic concepts of Data Communication and different layers
2. Describe the working strategies of Wireless LAN and Wireless MAN
3. Differentiate the various protocols used in communication
4. Differentiate the IPv4 and IPv6 Addresses
5. Familiarizes the basics of GSM and CDMA
6. Understand the basic concepts and methods of mobile communication

Systems

Semester IV

Hours/Week: 4

17UBC430301B

Credits: 4

Core Elective-I (WD):
KNOWLEDGE MANAGEMENT

Course Outcomes:

1. Describe the importance of knowledge as a resource in knowledge based economies.
2. Identifying and applying approaches in managing individual, group and organizational level knowledge processes.
3. Be acquainted with communication skills, especially of discussion and presentation methods.
4. Examine various latest technologies that are available for organizational knowledge management.
5. Understand the usability of artificial neural networks in determining correlations and interactions.
6. Understand technology used for data mining and data visualization

Semester IV

17UBC430404

Hours/Week: 6

Credits: 5

Allied: ACCOUNTS-II

Course Outcomes:

1. To impart basic knowledge of cost and management accounting.
2. To help the student to know the application of them in different

situations.

3. To gain comprehensive understanding of all aspects relating to financial statements.

4. Understand knowledge on admission, retirement and death of Partnership

5. Learn on dissolution of Partnership

6. Knowledge on Insolvency Partnership

Semester V

17UBC530212

Hours/Week: 4

Credits: 3

SOFTWARE ENGINEERING

Course Outcomes:

1. Understand the basic concepts of software engineering and software development life cycle models

2. Emphasizes on software project management and project planning techniques

3. Comprehend the concepts of requirement analysis and specification and software design.

4. Learn Function-oriented software design and Object Oriented software development and to draw various Diagrams using UML

5. Understand User interface design and various testing

6. Recognize Software Quality, Reliability Management, Software Maintenance and CASE tools.

Semester V

Hours/Week: 4

17UBC530213

Credits: 3

ADVANCED JAVA PROGRAMMING

Course Outcomes:

1. Understand the fundamental concepts of the J2EE Technologies
2. Comprehend the principles of J2EE programming.
3. Learn the communication of client and server in the programming paradigm.
4. Understand the concept of JSP and EJB
5. Ability to connect Spring with XML
6. Develop programming skills in Spring using web views.

Semester V

Hours/Week: 4

17UBC530214

Credits: 3

HTML-5 & CSS-3

Course Outcomes:

1. Gain knowledge on the page structure of HTML5
2. Understand the concepts of linking the web pages.
3. Ability to style the web pages using CSS3.
4. Create different web layout styles using CSS3
5. Knowledge in formatting the text using CSS3 properties.
6. Create dynamic web pages with forms and multimedia files.(audio, video)

Semester V

Hours/Week: 4

17UBC530215

Credits: 2

OPERATING SYSTEMS

Course Outcomes:

1. Understand the basic concept of Computer System and Operating System Structure
2. Gain Knowledge of the fundamental aspects of process and processor managements with deadlocks and CPU scheduling
3. Introduce memory and virtual memory techniques
4. Understand files, directories and its accessing methods and its structures
5. Ability to know mass storage devices and its scheduling
6. Understand the security on the operating system and protection mechanisms.

Semester V

Hours/Week: 4

17UBC530302A

Credits: 4

Core Elective-II (WS):

BUSINESS TRENDS IN I.T.

Course Outcomes:

1. Gain knowledge on the concepts and application of Business Systems

2. Understand the Various Business Intelligent System in IT
3. Define and analyze the principles of E-commerce and basics of World Wide Web
4. To evaluate the concept of Electronic Data Interchange and its legal, social and Technical aspects.
5. Express the security issues over the web, the available solutions and future aspects of e-commerce security
6. Understand the concepts of E-banking, electronic payment system

Semester V

Hours/Week: 4

17UBC530302B

Credits: 4

Core Elective-II (WS):

WEB TECHNOLOGY

Course Outcomes:

1. Understand the fundamental concepts of web technology.
2. Learn the basics of server side programming.
3. Infer web services, UDDI and WSDL.
4. Build online applications using web technology.
5. Demonstrate the database connectivity.
6. Discuss online security and payment processing mechanisms.

Semester V

Hours/Week: 2

17UBC540601A

Credits: 2

Skill Based Electives-I (BS) :

IMAGE EDITING

Course Outcomes:

1. Understand basic concepts of Images
2. Differentiate various types of Images and File Types
3. Be Familiar with managing Digital Images.
4. Understand the implementation of various drawing tools and techniques
5. Design digital artwork using vector and raster techniques
6. Implement advance animation and design techniques using digital images

Semester V

Hours/Week: 2

17UBC540601B

Credits: 2

Skill Based Electives-I (BS) :

FUNDAMENTALS OF 2D ANIMATION

Course Outcomes:

1. Understand basic concepts of Vector Art
2. Get acquainted with the Animation Workspace
3. Gain Familiarity with creating Shapes and Symbols
4. Use various tools and animation techniques to create animated movies
5. Edit and modify Video and Sound using non-linear editors
6. Conceptual study of Interactive Animation and application

Semester VI
17UBC630219

Hours/Week: 5
Credits: 3

CRYPTOGRAPHY AND NETWORK SECURITY

Course Outcomes:

1. Explain the basics of number theory and compare various encryption techniques.
2. Understand the manner in which message Authentication code and hash function work and the functionality of public key cryptography.
3. Familiarize in intrusion detection and firewall design
4. Examine the different types of security systems and applications.
5. Discuss different levels of security and services.
6. Recognize various security policies

Semester VI
17UBC630220

Hours/Week: 5
Credits: 3

PHP with MYSQL

Course Outcomes:

1. Understand the Functionality of PHP Language
2. Understand the basic Concepts of MySQL
3. Develop Applications using PHP with MySQL
4. Learn to Produce dynamic PHP forms

5. Associate the syntax and functions available to deal with file processing for files on the server as well as processing web URLs
6. Design the paradigm for dealing with AJAX FORMS using PHP

Semester VI
17UBC630221

Hours/Week: 5
Credits: 3

ASP•NET

Course Outcomes:

1. Understand the fundamental concepts of .NET frame work
2. Discuss the use of various web controls and rich controls
3. Infer State Management techniques in asp.net webpages
4. Discuss and extend data list and data grid controls
5. Demonstrate the database connectivity in ASP.NET
6. Comprehend the need for XML in performance tuning

Semester VI
17UBC630303A

Hours/Week: 4
Credits: 4

Core Elective-III (WS):

MOBILE OPERATING SYSTEM AND ITS APPLICATIONS

Course Outcomes:

1. Identify the different features of real time and mobile operating systems.

2. Understand the development of mobile operating systems and development environment.
3. Use the JAVA programming language to build android mobile apps.
4. Design Android application using layouts, buttons and widgets.
5. Create digital content including 2D and 3D digital graphics and animation.
6. Learn to develop mobile applications with the framework resources to store application data in Persistent storage

Semester VI

Hours/Week: 4

17UBC630303B

Credits: 4

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Core Elective-III (WS):

NEXT GENERATION NETWORKS

Course Outcomes:

1. Understand the concept of Next Generation Networks
2. State out various NGN requirements on technology and management
3. Recognize networks evaluation towards Next Generation Networks
4. Defend the NGN functional architecture
5. Learn various Development areas of NGN
6. Summarize the knowledge in Corporate Responsibility for NGN

Semester VI

Hours/Week: 2

17UBC640602A

Credits: 2

Skill-Based Elective-II (WS):

FUNDAMENTALS OF 3D DESIGN

Course Outcomes:

1. Identify characteristics of rendering 3D objects for optimal system processing and analysis
2. Create a 3D environment featuring lighting and texture
3. Create basic 3D models and animations
4. Evaluate digital 3D projects, identify items for improvement, and implement changes.
5. Understand the fundamentals of strong 3D design
6. Construct multiple designs using several tools.

Semester VI

Hours/Week: 2

17UBC640602B

Credits: 2

Skill-Based Elective-II (WS):

WEB DESIGN

Course Outcomes:

1. Understand the fundamental elements of Design
2. Comprehend various methods of building Web Pages.
3. Design web pages using tables and forms
4. Learn to design Lay outs using HTML and CSS techniques
5. Utilize CSS to stylize Web Sites
6. Use knowledge of HTML and CSS code and an HTML editor to create personal/business websites

Department of Economics

Programme Outcomes (POs):

1. Undergraduate students are to be passionately engaged in initial learning with an aim to think differently as agents of new knowledge, understanding and applying new ideas in order to acquire employability/self-employment.
2. Undergraduate students are trained to take up higher learning programmes.
3. Undergraduate students are made to be competent and socially responsible citizen of India.
4. Undergraduate students are to be exposed to technical, analytical and creative skills.
5. Undergraduate students are to be imparted with a broad conceptual background in the Biological sciences / Computing sciences / Languages and culture / Management studies / Physical sciences.

Programme Specific Outcomes (PSOs):

1. To appreciate the importance of the subject Economics.
2. To study the various terms and concepts in Economics.
3. To study various principles and theories in Economics.
4. To evaluate the programmes and policies of both Central and State the Governments.
5. To study various current economic issues and problems to identify solution.
6. To study the quantitative techniques and its applications in Economics.
7. To study research methodology in Economics to undertake research.
8. To study the global economic issues like Globalization, Privatization and Liberalization

Semester I

Hours/Week: 7

17UEC130201

Credits: 5

MICRO ECONOMICS - I

Course Outcome

- * To acquaint students with the fundamental concepts and principles to understand the Economic motives and behaviour patterns of an individual Consumer.
- * To know the scope and methodology of Micro Economics.
- * To get to know the idea of how Micro economics is different from Macro Economics.
- * To know the difference between Cardinal Utility analysis and Ordinal Utility analysis.
- * To know the idea of Producer's Equilibrium and Consumer's Equilibrium.
- * To understand the Concept of Production Function.
- * To understand the Concept of Return to Scale.
- * To get to know the idea of different Cost curves and Revenue curves.

Semester I

Hours/Week: 6

17UEC130202

Credits: 4

INDIAN ECONOMIC DEVELOPMENT - I

Course Outcome

- * To give a basic knowledge of Indian Economy

- * To know the Millennium Development Goals
- * To identify the various farming method used in Indian Agriculture
- * To identify the various problems faced by the Indian industries
- * To know the significance of Industrial policy of India
- * To analyze the Government schemes for eradication of poverty

Semester I
17UEC130401

Hours/Week: 6
Credits: 5

Allied:

MATHEMATICAL METHODS FOR ECONOMICS - I

Course Outcome

- * It enhance the students' knowledge to quantify the socioeconomic problems
- * This course feeds the students to be critical thinking on different angle in a single problem.
- * It induces the quantitative techniques skills
- * It helps the students to understand the relationship between the variable and nature of relationship.
- * The student will learn the forecasting techniques.
- * This course enriches the students with problem solving skills.
- * The students acquire the analytical skills.
- * Students get the confidence to apply the theory to the practical problems.

Semester II
17UEC230203

Hours/Week: 6
Credits: 5

MICRO ECONOMICS - II

Course Outcome

- * To impart an understanding about the behaviour of the producer in different types of markets.
- * To study the pattern of resource allocation for the well being of the society.
- * To get to know the idea of how Products are priced.
- * To get to know the idea of when price discrimination is possible.
- * To make the students know how price and output are determined.
- * To understand the Concept of Factor Pricing.
- * To study the concept of Welfare Economics.
- * To get to know the different concepts of Social Welfare.

Semester II
17UEC230204

Hours/Week: 5
Credits: 4

INDIAN ECONOMIC DEVELOPMENT - II

Course Outcome

- * To give a basic knowledge of Natural Resources in India Economy
- * To know the current knowledge of Human Resources of India
- * To study the Human Development Index
- * To study the significance of Infrastructure in Indian Economy
- * To study the performance of various sectors in India
- * To analyse the impact of Globalization on Indian Economy

Semester II

Hours/Week: 6

17UEC230402

Credits: 5

Allied:

MATHEMATICAL METHODS FOR ECONOMICS - II

Course Outcome

* To give students a solid foundation in both mathematics and economics, stressing those areas of mathematics and statistics that are most relevant to economics and the parts of economics that emphasize the use of mathematics and statistics.

* To understand and to be competent with the following mathematical tool: matrices, determinants and inverse matrices, partial derivatives, unconstrained and constrained optimization of functions of several variables.

* To equip students with analytical and organizational skills.

* To help students to successfully use mathematics in economics and business applications.

* To apply mathematical techniques to the study of economic models.

* To formally represent economic relationships using mathematical forms & present several economic functions and their relations.

* To represent economic models using matrix algebra and linear programming

* To understand the basics of tools of econometrics and its application in economics.

Semester III
17UEC330205

Hours/Week: 6
Credits: 4

MACRO ECONOMICS - I

Course Outcome

- * To understand significance of Macro Economics
- * To analyse the importance of National Income of the country
- * To know the concepts of unemployment and employment of states
- * To know the various theories of Classical and Keynesian school of thought
- * To understand the psychology of consumers with respecting the consumption pattern
- * To study the various types of Investment and their prospective yield

Semester III
17UEC330206

Hours/Week: 5
Credits: 3

URBAN ECONOMICS

Course Outcome

- * The objectives of this course are for students to gain an economic understanding of: why cities exist, – why firms within and across industries cluster, – why cities grow or decline, – how prices for land are determined, – how local governments provide public goods, and – why some social ills are concentrated in cities.
- * Helps students to use the tools of microeconomics to explain a variety of

urban economic phenomena.

* This course is also useful to students who wish to learn the economic approach to analyzing urban development.

* Equips students with an understanding of location theory as applied to households and firms and develops an understanding of the structure of urban areas, urban form, and how prices of land and housing are determined in an urban area.

* Encourages students to integrate the learning in urban economics into service for the community

Semester III
17UEC330403

Hours/Week: 6
Credits: 5

Allied:

STATISTICS FOR ECONOMICS-I

Course Outcome

* To acquaint students with various statistical methods and their applications in different fields

* To introduce the fundamentals of statistics and various types of data

* To develop the skills for sampling and sampling techniques used to collect survey data

* To know the general rules of classification and tabulation

* To perform graphical and diagrammatic representation of statistical data like bar diagram, pie, histogram and line diagram

* To inculcate the knowledge to measure the Central tendency, like mean, median and mode

* To understand the theory behind the descriptive statistics, like measures of central tendency, Measures of dispersion, Co-efficient of variation and Variance

* To prepare students for future courses having quantitative components

Semester IV

Hours/Week: 5

17UEC430207

Credits: 4

MACRO ECONOMICS - II

Course Outcome

- * To know the macro economics goals of the country
- * To understand the types of planning model in a mixed economy
- * To study Joan Robinson model and its applicability to developing countries like India
- * To find out the different strategies of development
- * To understand the strategies of Balanced and unbalanced growth
- * To know the types of Foreign Capital and MNCs in India

Semester IV

Hours/Week: 4

17UEC430208

Credits: 3

LABOUR ECONOMICS

Course Outcome

- * To understand the term labour and what labour economics is about.

- * To learn the method of related theories to fix wages.
- * To learn about labour organizations both in India and abroad.
- * To understand the need of social security schemes for labour.
- * To compare labour productivity and wages.
- * To understand exclusive labour issues in India.

Semester IV
17UEC430404

Hours/Week: 6
Credits: 5

Allied:

STATISTICS FOR ECONOMICS-II

Course Outcome

- * To introduce various statistical tools to foster a research attitude in the students of Economics
- * To enable the students to compute various methods of correlation
- * To know the differences between correlation and regression.
- * To compute and interpret simple linear regression between two variables.
- * To understand the theory of probability and its applications
- * To use basic counting techniques (addition rule and multiplication rule,) to compute probability.
- * To give knowledge about various measurement of trend like semi average, moving average and least square.
- * To construct different types of index numbers and the importance of index numbers in Indian Economy.

Semester V
17UEC530209

Hours/Week: 6
Credits: 4

HISTORY OF ECONOMIC THOUGHT - I

Course Outcome

- * Gain knowledge of the origin and development of economic ideas
- * Understand the differences in the main focus of economic ideas
- * Understand the influence of socio-political reality in shaping the economic ideas
- * Understand the life and commitment of the economists
- * Gain confidence in evaluating economic ideas
- * Understand the government policies from the perspectives of different economic ideas

Semester V
17UEC530210

Hours/Week: 6
Credits: 3

MONEY AND BANKING

Course Outcome

- * The students understand the evolution of monetary system.
- * The students understand the barter system and difficulties in it.
- * The course makes them to understand money and capital market system.
- * The course gives them guidance about operations of banking system in different channels.

* They get the idea about inflation and its role in economy in different aspects.

* Get the knowledge on Reserve bank of India and its role and functions.

Semester V
17UEC530211

Hours/Week: 5
Credits: 3

RESEARCH METHODS IN ECONOMICS

Course Outcome

* To define research, explain and apply research terms in Economics

* To propose a research study and justify the theory as well as the methodological decisions, including sampling and measurement

* To be able to develop literature review and research methodology based on the selected topic.

* To know the sample design and to develop the skills for sampling and sampling techniques used to collect survey data

* To understand the procedure for testing of hypotheses

* To know the significance of Report writing and mechanics of thesis writing

Semester V
17UEC530212

Hours/Week: 5
Credits: 3

ECONOMICS OF INFRASTRUCTURE

Course Outcome

* To understand the term infrastructure, origin and development.

- * To learn the nexus between infrastructural development and economic development.
- * To be aware of significance of energy conservation.
- * To understand the need for non conventional energy sources.
- * To study on funding agencies of infrastructure.
- * To conceptualise Public Private Partnership.

Semester V
17UEC530302

Hours/Week: 4
Credits: 4

Core Elective-2 (Within School)
PRINCIPLES OF ECONOMICS

Course Outcome

- * To provide basic and conceptual understanding of economic concepts and principles.
- * To make the students understand the methods and measurement of national income.
- * To acquire knowledge of the key factors of production.
- * To understand the concept of inflation in the present era.
- * To know the basic ideas about the internal and international trade.
- * To know the important theories of international trade and terms of trade.

Semester V
17UEC540601

Hours/Week: 2
Credits: 2

Skill Based Elective (BS):
SECURITY ANALYSIS

Course Outcome

1. To provide an understanding of the conceptual framework underlying security analysis.
2. To know the important instruments of share market.
3. To know the concepts and importance of capital market.
4. To provide a theoretical & practical background in the field of investment.
5. To know the concepts and applications of derivative securities.
6. To acquire practical knowledge about share market and its impact on economic growth

Semester VI

Hours/Week: 7

17UEC630214

Credits: 4

HISTORY OF ECONOMIC THOUGHT-II

Course Outcome

- * Gain knowledge of the origin and development of economic ideas.
- * Understand the differences in the main focus of economic ideas.
- * Understand the influence of socio-political reality in shaping the economic ideas.
- * Understand the life and commitment of the economists.
- * Gain confidence in evaluating economic ideas.
- * Understand the government policies from the perspectives of different economic ideas.

Semester VI
17UEC630215

Hours/Week: 6
Credits: 4

PUBLIC FINANCE

Course Outcome

- * To know the methods of raising public revenue.
- * To know about the principles of taxation.
- * To learn the difference between avoiding and evading tax.
- * To know the types of public expenditure.
- * To learn the contents of budgeting.
- * To understand the reasons for growing public expenditure in India.

Semester VI
17UEC630216

Hours/Week: 7
Credits: 4

INTERNATIONAL ECONOMICS

Course Outcome

- * Enable the students to understand the role of international economics in the development of our economy
- * Compare the different theories of international economics
- * Familiarize with the policies of international economic relations
- * Gives the knowledge on the principles that govern the free flow of goods and services at the global level
- * Provides idea on recent changes in the export and import policies of India
- * Acquaint with the functions of various international economic institutions

Semester VI
17UEC630303

Hours/Week: 4
Credits: 4

Core Elective (WS): ENVIRONMENTAL ECONOMICS

Course Outcome

- * To understand the basics of environmental and energy economics
- * To make them aware of environmental and energy issues
- * To know the Environmental impact on economic development
- * To know the importance of Energy Economics
- * To get to know the causes of Industrial pollution
- * To know the details of Environmental policies in India

Semester VI
17UCO630303A

Hours/Week: 4
Credits: 4

Core Elective (WS): RETAIL MANAGEMENT

Course Outcomes:

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

1. Know various forms of retailing business techniques in India.
2. Gain knowledge on the store location, practical analysis of site and trading.
3. Acquire in depth knowledge of inventory management.
4. Appreciate critical elements of retail stores operations.
5. Equip with skills critical for Physical distribution and store keeping strategies.

6. Equip with Entrepreneurial and research oriented skills required to establish and run retail stores.

Semester VI
17UCO630303B

Hours/Week: 4
Credits: 4

Core Elective (WS): PRINCIPLES OF EVENT MANAGEMENT

Course Outcomes:

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

1. Understand the importance of event management as a managerial skill.
2. Identify event management procedure.
3. Learn the nuts and bolts of conducting an event.
4. Appreciate the significances of Public Relation in event management.
5. Plan and execute various corporate events.
6. Write a detailed report on corporate events

Semester VI
17UEC640602

Hours/Week: 2
Credits: 2

Skill Based Elective (WS):
PRACTICAL INSURANCE

Course Outcomes:

1. This course intends to provide a basic understanding of the insurance mechanism.
2. To know the basic concepts and types of insurance.

3. To acquire the practical knowledge about the insurance companies.
4. To know the practical applications of insurance like premium, surrender and loan availability.
5. To understand the policy conditions of insurance companies.
6. To disseminate knowledge among the students and inculcate theoretical structure about insurance companies.

Semester VI
17UCO640602A

Hours/Week: 2
Credits: 2

Skill Based Elective (Within School):
BASIC ACCOUNTING PRACTICES

Course Outcomes:

After completing this course, the student will be able to ...

1. Understand basic principles of Accounting
2. Identify accounts and apply golden rules for the financial transactions.
3. Pass journal entries and post them in ledger
4. Prepare subsidiary books
5. Prepare trial balances
6. Prepare Final accounts and balance sheet

Semester VI
17UCO640602B

Hours/Week: 2
Credits: 2

Skill Based Elective-2 (WS):
PRACTICAL ADVERTISING

Course Outcomes:

1. Have the basic knowledge in various concepts of advertising.
2. Acquaint with the modern methods and avenues of Advertising.
3. Aware of various media of Advertising and their significances.
4. Possess the skills required for creating an advertisement copy.
5. Gain exposure in various Emotional appeals of advertising and its Importance.
6. Know the significance of portraying advertisement slogans with captions.

Department of Electronics

Programme Outcomes (POs):

1. Undergraduate students are to be passionately engaged in initial learning with an aim to think differently as agents of new knowledge, understanding and applying new ideas in order to acquire employability/ selfemployment.
2. Undergraduate students are trained to take up higher learning programmes.
3. Undergraduate students are made to be competent and socially responsible citizen of India.
4. Undergraduate students are to be exposed to technical, analytical and creative skills.
5. Undergraduate students are to be imparted with a broad conceptual background in the Biological sciences / Computing sciences / Languages and culture / Management studies / Physical sciences.

Programme Specific Outcomes (PSOs):

1. Critical and analytical thinking skills
2. Problem solving skills
3. Designing skills
4. Simulating skills
5. Knowledge on basic electronic components and circuits
6. Knowledge on computer hardware and maintenance
7. Entrepreneurial skills
8. Employability Enhancement

Semester I
17UEL130401

Hours/Week: 6
Credits: 5

Allied: MATHEMATICS-1

Course Outcomes

1. Applications of matrices and the properties of matrices in their major discipline.
2. Basic concepts of matrices
3. Techniques in differential Equations
4. Application of differential equations in the field of Electronics.
5. Interpretation of data analysis in the field of Electronics.
6. Use of probability in their major discipline.
7. Use of probability distribution techniques in their major discipline.
8. Applications of statistical measures

Semester II
17UEL230202

Hours/Week: 5
Credits: 4

ELECTRIC CIRCUIT ANALYSIS

Course Outcomes:

1. Ability to understand and solve network problems
2. Understand and apply circuit theorems to complex network analysis
3. Acquire knowledge on sinusoidal steady state analysis

4. Acquire knowledge on transient analysis of passive circuits
5. Ability to understand implications of coupled circuits
6. Understand electrical isolation and magnetic coupling in coupled

Circuits

Semester II
17UEL230402

Hours/Week: 6
Credits: 5

Allied:

MATHEMATICS-II

Course Outcomes

1. Basic ideas of correlation
2. Basic concepts of curve fitting
3. Applications of curve fitting and correlation
4. Numerical methods and its application.
5. Ideas of Laplace transforms in the field of Electronics.
6. Ideas of Fourier series in their major discipline.
7. Basic concepts of Trigonometry
8. Use of trigonometry in their major discipline of Electronics

Semester III
17UEL330205

Hours/Week: 6
Credits: 4

DIGITAL ELECTRONICS

Course Outcomes

1. Ability to understand digital signals and number systems
2. Ability to understand the operations of basic and universal logic gates
3. Ability to acquire knowledge on sequential and combinational logic circuits
4. Acquire knowledge on different memory storage types
5. Understand the basics of digital integrated circuits
6. Ability to understand Boolean algebra for digital circuits simplification

Semester III

Hours/Week: 4

17UEL330403A

Credits: 4

Allied: APPLIED PHYSICS-I

Course Outcomes

1. Acquire the knowledge of conducting materials
2. Know and understand different magnetic materials.
3. Learn the properties of dielectric materials and its applications.
4. Understand the principles of superconducting materials and its applications.
5. Know the various modern engineering materials
6. Understand the basics of nanomaterials and carbon nanotubes.

Semester III

Hours/Week: 4

17UEL330403B

Credits: 4

Allied: Computer Science-I

INTERNET AND DATABASE CONCEPTS

Course Outcomes

1. Know the concept behind the web and working of internet
2. Acquire the basic knowledge of designing web pages
3. Design colourful web pages and is able to create a basic website
4. Create web forms and fetch data meaningfully on the web
5. Learn the essence of Databases
6. Infer the skills to fetch and manipulate data through queries

Semester IV
17UEL430206

Hours/Week: 6
Credits: 4

ELECTRONIC DEVICES AND CIRCUITS

Course Outcomes

1. Ability to acquire the knowledge on basic electronic devices.
2. Ability to understand the various applications of electronic devices.
3. Ability to differentiate various transistors
4. Will be able to classify and analyze various power devices
5. Ability to understand various types of Oscillators
6. Will be able to acquire knowledge on feedback amplifiers & Power Amplifiers

Semester IV
17UEL430301A

Hours/Week: 4
Credits: 3

Core Elective: HOME APPLIANCES SERVICING AND REPAIR

Course Outcomes

1. Ability to understand the classification of active components
2. Ability to understand the classification of passive components
3. Will be able to integrate trouble shooting skills in equipment servicing
4. Will be able acquire knowledge on operations of home appliances
5. Ability to acquire knowledge on maintenance and safety measures of home appliances
6. Ability to understand test and troubleshooting chart of home appliances

Semester IV
17UEL430301B

Hours/Week: 4
Credits: 3

Core Elective:

LAB EQUIPMENTS MAINTENANCE AND SERVICING

Course Outcomes:

1. Ability to understand the classification of active components
2. Will be able to understand the classification of passive components
3. Will be able to integrate trouble shooting skills in lab equipment servicing
4. Ability to acquire knowledge on operations of lab equipment.
5. Ability to acquire knowledge on maintenance and safety measures of lab equipment
6. Will be able to understand test and troubleshooting chart of lab equipment.

Semester IV
17UEL430404A

Hours/Week: 4
Credits: 4

Allied: APPLIED PHYSICS - II

Course Outcomes

1. Understand the laws of quantum physics.
2. Understand the working of laser.
3. Know the types of lasers and the application of laser
4. Learn the basics of ultrasonic, its production and applications.
5. Understand principles, functions and applications of fiber optics
6. Understand physics of semiconducting materials.

Semester IV
17UEL430404B

Hours/Week: 4
Credits: 4

Allied: Computer Science-II

DATA AND COMMUNICATION NETWORKS

Course Outcomes

1. Familiarize the students to understand the basic concepts of Data Communication
2. Understand the Classification of computer networks
3. Acquire the knowledge of Topology
4. Gets to know about the various types of networks
5. Learns the different transmission media
6. Infers the concept used in Mobile Communication technology

Semester V
17UEL530208

Hours/Week: 5
Credits: 4

MICROPROCESSORS AND ITS APPLICATION

Course Outcomes:

1. Ability to acquire knowledge on architecture of 8085 microprocessor.
2. Ability to understand the 8085 instruction set and memory mapping concepts.
3. Ability to understand and interpret 8085 assembly language program.
4. Will be able to acquire knowledge on interfacing different peripheral devices with 8085.
5. Ability to understand architecture of 8086 microprocessor
6. Will be able to understand the instruction set of 8086 to develop assembly language programs.

Semester V
17UEL530209

Hours/Week: 5
Credits: 4

LINEAR INTEGRATED CIRCUITS

Course Outcomes:

1. Ability to understand different IC fabrication techniques
2. Will be able to acquire knowledge on Op-amp and its characteristics.
3. Ability to understand various applications of Op-amps.
4. Ability to understand functional blocks of IC555
5. Ability to design circuits using IC555
6. Ability to understand the knowledge on analog to digital converter and digital to analog converter.

Semester V
17UEL530210

Hours/Week: 6
Credits: 4

COMMUNICATION SYSTEM

Course Outcomes:

1. Ability to understand the basics of analog communication systems
2. Acquire knowledge on various modulation techniques
3. Acquire knowledge on AM transmitter and receiver functions
4. Ability to understand FM transmitter and receiver functions
5. Ability to understand various types of noise in communication systems
6. Acquire knowledge on PAM and PCM techniques

Semester V
17UEL530212A

Hours/Week: --
Credits: 2

Self-Paced Learning:

PROGRAMMABLE LOGIC CONTROLLER

Course Outcomes:

1. Ability to understand the concepts of PLC
2. Ability to understand PLC wiring
3. Acquire knowledge on PLC ladder logic programming
4. Ability to write Ladder Logic programming for interfacing sensors
5. Acquire knowledge on simulation environments of PLC
6. Ability to understand the various applications of PLC systems

Semester V
17UEL530212B

Hours/Week: --
Credits: 2

Self-Paced Learning:

AUDIO ELECTRONICS

Course Outcomes:

1. Ability to understand the principles of sound
2. Will be able to acquire the knowledge on principles of acoustics
3. Ability to integrate audio equipment handling and maintenance skills
4. Ability to understand various service techniques in audioequipment repair
5. Ability to acquire the knowledge on PA audio system maintenance
6. Will be able to integrate testing and troubleshooting skills on audio systems

Semester V
17UEL530302A

Hours/Week: 4
Credits: 4

Core Elective-A:**PROGRAMMING IN 'C' LANGUAGE****Course Outcomes:**

1. Acquire knowledge on variables and data types in C programming
2. Acquire knowledge on control statements for efficient programming
3. Ability to Create user defined functions for various applications
4. Ability to implement strings and pointers
5. Ability to write embedded c programs for novel applications
6. Ability to differentiate c and embedded c

Semester V
17UEL530302B

Hours/Week: 4
Credits: 4

Core Elective-B:**COMPUTER HARDWARE AND NETWORKS****Course Outcomes:**

1. Ability to understand fundamentals of computer hardware
2. Acquire knowledge on installation of Operating System
3. Ability to understand the interfacing of various hardware components
4. Ability to understand Networking and its Connections
5. Ability to understand troubleshooting techniques used in computer service
6. Acquire knowledge on add-on card and its driver installation

Semester V
17UEL540601

Hours/Week: 2
Credits: 2

Skill-Based Elective-I:

ENTREPRENEURIAL ELECTRONICS

Course Outcomes:

1. Will be able to acquire the knowledge on basic electrical technology
2. Will be able to acquire the knowledge on working principle of measuring instruments
3. Will be able to acquire the knowledge on active components and their classification
4. Ability to understand testing procedures of active components
5. Will be able to acquire the knowledge on Soldering techniques for troubleshooting
6. Will be able to acquire the knowledge hobby circuit and de-soldering techniques for troubleshooting

Semester VI
17UEL630213

Hours/Week: 5
Credits: 4

MICROCONTROLLER AND ITS APPLICATIONS

Course Outcomes:

1. Will be able to acquire the knowledge on architecture of 8051 microcontroller
2. Ability to understand the instruction set and addressing modes 8051 microcontroller
3. Ability to write assembly and C language programs for 8051 microcontroller
4. Will be able to acquire knowledge on on-chip peripherals of 8051
5. Ability to interface external sensors and devices with 8051 for various applications
6. Will be able to acquire knowledge on RTX51 and its application

Semester VI
17UEL630214

Hours/Week: 5
Credits: 4

POWER ELECTRONICS**Course Outcomes:**

1. Ability to understand the basics of power electronics
2. Will be able to acquire knowledge on line commutated rectifiers and converters
3. Will be able to acquire knowledge on AC and DC regulators
4. Ability to understand chopper circuits
5. Ability to understand inverter circuits
6. Will be able to acquire knowledge on applications of power electronic devices

Semester VI
17UEL630215

Hours/Week: 5
Credits: 3

SENSOR TECHNOLOGY

Course Outcomes:

1. Will be able to acquire knowledge on basics and fundamentals of sensors classification
2. Will be able to acquire knowledge on principles of resistive, capacitive and inductive type sensors
3. Ability to understand sensors role in flow, level and pressure measurement systems
4. Will be able to acquire knowledge on principles of optical sensors
5. Will be able to acquire knowledge on bio-receptors and biosensors design
6. Ability to understand various sensors used in different applications

Semester VI
17UEL630303A

Hours/Week: 4
Credits: 4

Core Elective:

CONTROL SYSTEM

Course Outcomes:

1. Will be able to acquire the knowledge on mathematical models of control system
2. Ability to understand the components of control system
3. Will be able to acquire knowledge on time response analysis of various systems
4. Ability to understand the process of frequency response analysis
5. Will be able to acquire the knowledge on concepts of stability
6. Will be able acquire the knowledge on Routh Hurwitz criterion and Nyquist stability analysis

Semester VI
17UEL630303B

Hours/Week: 4
Credits: 3

Core Elective:

ELECTRONIC MEASUREMENT SYSTEM

Course Outcomes:

1. Ability to understand errors in measurement
2. Will be able to acquire the knowledge on different types of measuring instruments
3. Ability to understand electrical indicating and test instruments
4. Ability to understand variable conversion elements and transmission techniques
5. Will be able to acquire the knowledge on instruments design using different digital integrated circuits
6. Will be able to acquire the knowledge on principles on various biomedical Instruments

Semester VI
17UEL640602

Hours/Week: 2
Credits: 2

Skill-Based Elective-II:

TROUBLESHOOTING COMPUTER HARDWARE

Course Outcomes:

1. Will be able to integrate the computer hardware trouble-shooting skills
2. Will be able to acquire knowledge on various power supplies and terminal connectors
3. Ability to understand various computer components and peripherals

4. Ability to classify computer memory standards
5. Will be able to acquire the knowledge on assembling and installation of PC
6. Will be able to acquire knowledge on safety and maintenance of PC

Department of English

Programme Outcomes (POs):

1. Undergraduate students are to be passionately engaged in initial learning with an aim to think differently as agents of new knowledge, understanding and applying new ideas in order to acquire employability/ self-employment.
2. Undergraduate students are trained to take up higher learning programmes.
3. Undergraduate students are made to be competent and socially responsible citizen of India.
4. Undergraduate students are to be exposed to technical, analytical and creative skills.
5. Undergraduate students are to be imparted with a broad conceptual background in the Biological sciences / Computing sciences / Languages and culture / Management studies / Physical sciences.

Programme Specific Outcomes (PSOs):

1. Listening Skills: Students will be able to acquire the ability to accurately receive and interpret messages in the communication process.
2. Oral Communication Skills: Students will demonstrate the skills needed to participate in a conversation that builds knowledge collaboratively: listening carefully and respectfully to others' viewpoints; articulating their own ideas and questions clearly; and situating their own ideas in relation to other voices and ideas. Students will be able to prepare, organize, and deliver an engaging oral presentation.

3. Reading: Students will become accomplished, active readers who appreciate ambiguity and complexity, and who can articulate their own interpretations with an awareness and curiosity for other perspectives.
4. Writing Skills and Process: Students will be able to write effectively for a variety of professional and social settings. They will practice writing as a process of motivated inquiry, engaging other writers' ideas as they explore and develop their own. They will demonstrate an ability to revise for content and edit for grammatical and stylistic clarity. And they will develop an awareness of and confidence in their own voice as a writer.
5. Sense of Genre: Students will develop an appreciation of how the formal elements of language and genre shape meaning. They will recognize how writers can transgress or subvert generic expectations, as well as fulfill them. And they will develop a facility at writing in appropriate genres for a variety of purposes and audiences.
6. Culture and History: Students will gain knowledge of the major traditions of literatures written in English, and an appreciation for the diversity of literary and social voices within—and sometimes marginalized by—those traditions. They will develop an ability to read texts in relation to their historical and cultural contexts, in order to gain a richer understanding of both text and context, and to become more aware of themselves as situated historically and culturally.
7. Critical Approaches: Students will develop the ability to read works of literary, rhetorical, and cultural criticism, and deploy ideas from these texts in their own reading and writing. They will express their own ideas as informed opinions that are in dialogue with a larger community of

interpreters, and understand how their own approach compares to the variety of critical and theoretical approaches.

8. Research Skills: Students will be able to identify topics and formulate questions for productive inquiry; they will identify appropriate methods and sources for research and evaluate critically the sources they find; and they will use their chosen sources effectively in their own writing, citing all sources appropriately.

Semester: I

Hours/Week: 6

17UEN130201

Credits : 4

Core:

BRITISH POETRY-I

Course outcome:

- * Students are able to appreciate English Poetry
- * Students understand the genre Poetry
- * Students learn to enjoy poetry
- * Students learn to interpret poetic lines
- * Students know to read between the lines
- * Students develop the skill of verse writing

Semester: I

Hours/Week: 7

17UEN130202

Credits : 4

Core:

BRITISH PROSE

Course outcome:

- * Learn the various sentence structures in English
- * Exposed to the possibilities of different prose styles in British Literature

- * Get in touch with a wide range of British Prose writers
- * Learn the various techniques involved in essay writing
- * Grasp the style and mannerisms of the British Prose writers
- * Get holistic understanding of the British Prose writers

Semester: I

Hours/Week: 6

17UEN130401A

Credits : 5

Allied:

SOCIAL HISTORY OF ENGLAND

Course outcome:

1. An understanding of the main social issues covered by the module;
The Social History of England
2. An opportunity to develop critical analytical skills through the assessment of historical approaches which may be radically different and sometimes mutually exclusive;
3. A greater awareness of the interaction between social and other branches of history, and of the multiple character of causes and effects.
4. Pupils should extend and deepen their chronologically secure knowledge and understanding of British, local and world history, so that it provides a well-informed context for wider learning.
5. Pupils should identify significant events, make connections, draw contrasts, and analyze trends within periods and over long arcs of time.
6. They should use historical terms and concepts in increasingly sophisticated ways.
7. They will attend to a wider range of voice within and across cultures.
8. They will recognize how form and structure shape a text's meaning; appreciate how genre generates expectations and shapes meanings.

Semester: I

Hours/Week: 6

17UEN130401B

Credits : 5

Allied:

REMEDIAL GRAMMAR

Course outcome:

- * Gain comprehensive knowledge of English grammar
- * Instill in the learners the basic and essential knowledge of English Grammar
- * Enlighten the learners on different structures, usage, sentence patterns
- * Eradicate grammatical errors in speech and writing
- * Improve the learners' writing skills as well as the spoken English skills
- * Develop the learners' spelling, grammar, and punctuation using skills
- * Make inferences and predictions based on information in the text.
- * Infer meanings of unknown words.

Semester: II

Hours/Week: 5

17UEN230203

Credits : 3

Core: BRITISH POETRY-II

Course outcome:

- * Students are able to appreciate English Poetry
- * Students understand the genre Poetry
- * Students learn to enjoy poetry
- * Students learn to interpret poetic lines
- * Students know to read between the lines

* Students develop the skill of verse writing

Semester: II

Hours/Week: 6

17UEN230204

Credits : 4

Core:

ENGLISH LITERARY FORMS AND TERMS

Course outcome:

- * Help the students understand the different genres in literature.
- * Make analyze and critically appreciate any work of art.
- * Inspire in students the love for literary language.
- * Engage the students in studying the literary aspects in a text.
- * Help them distinguish the difference between terms and forms.
- * Inspire them to create their own work of art using the terms and forms.

Semester: II

Hours/Week: 6

17UEN230402A

Credits : 5

Allied:

HISTORY OF ENGLISH LITERATURE

Course outcome:

- * Develop working knowledge of the principal works, authors, genres, and periods of British literatures
- * Understand texts in their cultural and historical contexts
- * Demonstrate coherent writing in multiple genres (literary analysis and creative writing) as well as an awareness of critical and interpretive methods
- * Analyze literature using appropriate terminology and common rhetorical figures
- * Demonstrate judicious use of secondary material and appropriate documentation

- * Demonstrate awareness of different critical approaches
- * Gain knowledge of different historical events.
- * Gain knowledge of history of English Literature.

Semester: II

Hours/Week: 6

17UEN230402B

Credits : 5

Allied:

HISTORY OF ENGLISH LANGUAGE

Course outcome:

- * Know the basic structure of Old English, Middle English and Early Modern English grammar; to this end, Students will have studied the most central characteristics of the language of the syllabus texts.
- * Systematically analyse some differences between the grammar of the English of earlier periods and the grammar of Present Day English.
- * Undertake independent research on a historical topic in the history of the English language and present their findings to their class.
- * Identify some linguistic structures of present-day and historical varieties of the English language in terms of sounds, sound patterns, wordformation processes, grammar, and meaning.
- * Explain the general linguistic processes and social factors that influence structural change and variation within the English language.
- * Identify some major dialect differences in the period before the standardisation of English on the basis of the major dialect features which they have learned about in this course.
- * Know the contribution of Foreign Languages to English.
- * Study scientifically the English Language.

Semester: III

Hours/Week: 5

17UEN330205

Credits : 3

Core:

BRITISH DRAMA-I

Course outcome:

- * Relating the close links found between drama and real life
- * Knowing the techniques employed in drama
- * Learning the origin and development of drama
- * Experiencing the modern evolution of British Drama and the leading writers of the period
- * Developing dramatic skills and life skills
- * Understanding the social background and human character of the period

Semester: III

Hours/Week: 6

17UEN330206

Credits : 4

Core:

HISTORY OF LITERARY CRITICISM-I

Course outcome:

- * Trace the critical thought down the ages.
- * Know the different types of criticism with concrete evidences.
- * Be familiar with the critical ideas of the significant Greek and Roman critics.
- * Be acquainted with the significant features of the classical criticism.
- * Have an adequate knowledge of the development of neoclassical criticism.
- * Know the fundamental concepts and terms in the classical criticism.

Semester: III

Hours/Week: 6

17UEN330403A

Credits : 5

Allied:

INDIAN DIASPORIC LITERATURE

Course outcomes:

- * Expose the students to the Diasporic life and experience
- * Make the students aware of the process of emigration and the impact of cultural displacement
- * An understanding of the multi-lingual features of Indian Diasporic Writing; and how writing in English interacts with the Indian languages in the texts and in society
- * A knowledge of the various literary genres practised by Indian Diasporic Literature: Novel, Poetry and Prose
- * An understanding of the Historical Background of Indian Diasporic writing and their characteristics
- * To enhance the learners understand and infer Diasporic Literature from the representative works
- * Overview of the relationship between Indian Diasporic Literature and historical –political processes, such as Partition, Independence, caste, marginality, globalisation, religion, secularism, colonialism, post colonialism, nationalism and diaspora
- * Enable students to know the richness and variety of Diasporic literature

Semester: III

Hours/Week: 6

17UEN330403B

Credits : 5

Allied:

SUBALTERN LITERATURE

Course outcomes:

- * Introduce the type of literature that has been sidelined down the ages

- * Acquaint them with the intricacies of caste as a social institution and practice
- * Acquaint them with the aesthetics of subaltern writing-technically and analytically
- * Acquaint them with different socio cultural movements in the Indian context
- * Familiarize them with recent trends and concepts concerning subalternity and literature
- * Explore the relationships between society and literature
- * Gain knowledge in new areas
- * Familiarize the students with the theme of subalternity

Semester: IV

Hours/Week: 4

17UEN430207

Credits : 3

Core:

BRITISH DRAMA-II

Course outcome:

- * Relating the close links found between drama and real life
- * Knowing the techniques employed in drama
- * Learning the origin and development of drama
- * Experiencing the modern evolution of British Drama and the leading writers of the period
- * Developing dramatic skills and life skills
- * Understanding the social background and human characters of the period

Semester: IV

Hours/Week: 5

17UEN430208

Credits : 3

Core:

HISTORY OF LITERARY CRITICISM-II

Course outcome:

- * Have a comprehensive outlook of literary criticism
- * Know the historical aspects of the trends and developments in the domain of criticism
- * Have the skills of rightly applying the notions and various techniques of literary criticism to the literary texts.
- * Know the characteristics of Neoclassical Criticism and Romantic criticism, and the critical ideas of the important critics of these domains.
- * Have a sound knowledge of the critical conceptions of the Victorian Critics and the New Critics
- * Be equipped with the skills of being good literary critics.

Semester: IV

Hours/Week: 6

17UEN430404A

Credits : 5

Allied:

WOMEN'S WRITING IN ENGLISH

Course outcome:

- * After completing this course, the students know some of the developments, themes, and narrative strategies of English-language feminist fiction
- * Students can analyse literary texts through the perspective of gender
- * Students will know the central points of a selection of feminist theory, and can use it as a context for reading literary texts
- * Students will recognize and discuss aspects of women's writing
- * Students will demonstrate awareness of cultural and intercultural concerns relating to women's writing

* Students will be able to interpret and analyse literary works by women at advanced undergraduate level

* Students will be able to know the images of women in literature.

* Students will be able to know the reaction of women on the images of women in literature.

Semester: IV

Hours/Week: 6

17UEN430404B

Credits : 5

Allied:

NEWS REPORTING AND EDITING

Course outcome:

* Students will be able to write hard news/summary lead that incorporates the 5 Ws.

* Students will demonstrate the ability to research and evaluate appropriate sources and background materials for a news story

* Students will be able to write a complete hard news story using the inverted pyramid format

* Students will develop the skills to think critically about the news

* Students will process and edit a copy with the knowledge of press law and libel

* Students will be able to make page for newspaper

* Students will be able to become professional journalists

* Students will have professional knowledge on News Reporting and Editing.

Semester: IV

Hours/Week: 4

17UEN430301A

Credits : 4

Core Elective:

WORLD CLASSICS IN TRANSLATION

Course outcome:

- * Students are familiarized with the history and cultures of different nations
- * Students are enabled to appreciate the many trends and styles employed by writers across the world
- * Students' ability to comprehend, think, speak and write broadens with the exposure to the wide range of classics
- * Students are encouraged to appreciate the merits of translation
- * Students' comprehension of the aesthetic value and social criticism of various works is enhanced
- * Students are able to compare the treatment of the major themes and genres on a global level

Semester: IV

Hours/Week: 4

17UEN430301B

Credits : 4

Core Elective:

INDIAN LITERATURES TRANSLATED INTO ENGLISH

Course outcome:

- * Differentiate between Indian Writing in English and Indian Literatures Translated into English
- * Understand English Translations in Colonial India
- * Understand Two Worlds Theory
- * Understand the theoretic background of Indian Literatures in English Translations
- * Explore the rich literary treasure hidden in regional literatures via translations in English

- * Understand that translation as a literary activity

Semester: V

Hours/Week: 6

17UEN530209

Credits : 4

Core:

ENGLISH PHONETICS

Course outcome:

- * Utilize phonetic dictionary symbols to continue to improve pronunciation
- * Use the correct “ed” ending sound on past tense verbs in words and linked discourse
- * Use the correct “s” ending sound on verbs and nouns in words and linked discourse
- * Distinguish and properly enunciate voiced and voiceless sounds with increasing intelligibility
- * Identify and properly place stress on compound nouns and several common multi-syllable words
- * Link words naturally in phrases and sentences

Semester: V

Hours/Week: 6

17UEN530210

Credits : 4

Core:

COMPARATIVE LITERATURE AND TRANSLATION STUDIES

Course outcome:

- * Understand what Comparative Literature is
- * Familiarized with the terms related to it
- * Distinguish Comparative Literature with other subjects

- * Realize the importance of translation
- * Understand the link between Comparative Literature and Translation

Studies

- * Empowered with translation skills

Semester: V

Hours/Week: 5

17UEN530211

Credits : 3

Core:

BRITISH NOVEL-I

Course outcome:

- * Display a working knowledge of the novel as a literary genre
- * Identify and describe distinct literary characteristics of the novel
- * Analyze novels for their structure and meaning, using correct terminology
- * Make students aware of the social problems from the themes of the novels in English
- * Effectively communicate ideas related to the novel during class and group activities
- * Train students in the simple literary discipline of sustained reading of fiction

Semester:V

Hours/Week: 5

17UEN530212

Credits : 3

Core:

AMERICAN LITERATURE

Course outcome:

- * Introduce students to the American Literary World and initiate them to appreciate the literary pieces prescribed
- * Make students understand the nuances of American literary forms and

genres

* Identify and describe distinct literary characteristics of 20th century

American literature

* Analyze literary works for their structure and meaning, using correct terminology

* Display a working knowledge of the cultural and historical contexts of 20th century American literature

* Effectively communicate ideas related to the literary works during class and group activities

Semester: V

Hours/Week: 4

17UEN530302A

Credits : 4

Core Elective (WS):

INDIAN WRITING IN ENGLISH

Course outcome:

* Follow the major movements and figures of Indian Literature in English through the study of selected literary texts

* Have literary sensibility and respond emotionally to the literary texts and implant sense of appreciation of literary text

* Decipher the artistic and innovative use of language employed by the writers

* Explore the uniqueness of Indian literature in English

* Familiar with the ethos of India

* Cherish human values embedded in literary texts

Semester: V

Hours/Week: 4

17UEN530302B

Credits : 4

Core Elective (WS):

ENGLISH FOR TOURISM

Course outcome:

- * Apply the concepts and skills necessary to achieve guest satisfaction
- * Conduct him/herself in a professional and ethical manner, and practice industry-defined work ethics.
- * Communicate effectively and confidently in the classroom, community and industry.
- * Demonstrate teamwork to achieve common goals.
- * Demonstrate an introductory knowledge of Hawaiian and multicultural perspectives to meet the needs of guests and employees.
- * Demonstrate ability to perform basic and supervisory level job functions in travel and tourism careers

Semester: V

Hours/Week: -

17UEN540601

Credits : 2

Skill-Based Elective (BS):

FILM STUDIES

Course outcome:

- * Students should develop a broadly interdisciplinary approach to an understanding of film and its role in society
- * Students should be conversant with the history of international cinema and be able to use that history to provide context for other works they encounter
- * Students should be competent in employing theoretical and disciplinary tools in the analysis and assessment of film and filmic images

* Students should have basic competence in some format associated with visual media—digital video, digital music, screenwriting, photography, or animation

* Students should be competent in developing critical responses to cinematic work based upon aesthetic or cultural values other than the entertainment model that dominates the mainstream Hollywood distribution system

* Students will be able to identify and demonstrate an understanding of the theoretical foundations of media.

Semester: VI

Hours/Week: 6

17UEN630215

Credits : 4

Core:

SHAKESPEARE

Course outcome:

* Understand how characters' actions reflect the social, historical and cultural contexts of Shakespeare's time and the cultural significance of Shakespeare and his place in our literary heritage

* Familiar with Shakespeare's life, times and theatre and explain the origins of Shakespearean drama in Greek theater

* Define a variety of Shakespearean dramatic forms and themes, including Shakespearean tragedy, history, romance, and comedy plays

* Explain the roots of the Shakespearean sonnet in earlier sonnet traditions and identify and describe the major themes and ideas at work in Shakespearean sonnets

* Identify some of the distinctive features of Shakespeare's language and how language has changed over time

* Appreciate the moral and philosophical significance of Shakespeare's plays and their relevance for a contemporary audience

Semester: VI

Hours/Week: 6

17UEN630216

Credits : 4

Core:

ENGLISH LANGUAGE TEACHING: THEORY AND PRACTICE

Course outcome:

- * understand the needs and motivation of language learners
- * understand teaching languages for specific purposes
- * aware of the role of the teacher
- * know the methods and approaches of language teaching
- * understand the principles of syllabus design
- * aware of the 'Alternative' approaches to teaching

Semester: VI

Hours/Week: 6

17UEN630217

Credits : 4

Core:

PROJECT AND RESEARCH METHODOLOGY

Course outcome:

- * gain knowledge and experience on the basics of writing
- * identify appropriate research topics
- * exposed to the mechanics of documentation
- * learn the mechanics of writing a project
- * understand the mechanics of research methodologies
- * learn to write Drafts, Proofread and Edit a project

Semester: VI

Hours/Week: -

17UEN630520

Credits : 2

Additional Core Course:

INTENSIVE STUDY OF AN AUTHOR - T. S. ELIOT

Course outcomes

- * Developed a detailed knowledge and critical understanding of writing about the sea
- * In-depth understanding of recent literary-critical thought on the sea, especially in connection with eco-criticism
- * Demonstrated the ability to analyse and evaluate differing critical accounts of the primary literature
- * Demonstrate through class discussion the comprehension of the assigned works of Eliot
- * An oral presentation (30-45 minutes) on assigned works of Eliot
- * The ability to write research papers demonstrating their comprehension and mastery of their chosen topic

Semester: VI

Hours/Week: 4

17UEN630303A

Credits : 4

Core Elective (WD):

INTRODUCTION TO JOURNALISM

Course outcome:

- * Aware of the basics of Journalism
- * Understand the ethical standards and social responsibilities of journalists

- * Follow the principles and practices of journalism
- * Adopt the style of writing expected in print media
- * Train to write news stories and feature writing for news papers
- * Take up a career in the field of Journalism

Semester: VI

Hours/Week: 4

17UEN630303B

Credits : 4

Core Elective (WD):

ENGLISH FOR COMPETITIVE EXAMINATIONS

Course outcomes

- * Students get to know the intricacies of English and develop their language skills
- * Students equip themselves to face competitive examinations
- * Students become efficient in writing and speaking
- * Students learn the general writing skills
- * Students enhance their employability skills
- * Students understand the nuances of formal writing

Semester: VI

Hours/Week: 2

17UEN540602

Credits : 2

Skill Based Elective (WS):

BASICS OF THEATRICAL ARTS

Course outcomes

- * Gain mastery over the fundamental information about theatre.
- * Understanding the various conventions related to theatre.
- * Identify and describe the nature and process of theatre.
- * Recognize the universal aspects of theatre.

* Engage the students in theatrical skills.

* Communicate ideas pertaining to theatre.

Department of History

Programme Outcomes (POs):

1. Undergraduate students are to be passionately engaged in initial learning with an aim to think differently as agents of new knowledge, understanding and applying new ideas in order to acquire employability/ selfemployment.
2. Undergraduate students are trained to take up higher learning programmes.
3. Undergraduate students are made to be competent and socially responsible citizen of India.
4. Undergraduate students are to be exposed to technical, analytical and creative skills.
5. Undergraduate students are to be imparted with a broad conceptual background in the Biological sciences / Computing sciences / Languages and culture / Management studies / Physical sciences.

Programme Specific Outcomes (PSOs):

1. Ethics and Social responsibilities
2. Leadership skill
3. Critical and Analytical thinking
4. Skill in field work and understanding problems
5. Team work skill
6. Marketing and product development skill
7. Entrepreneur skill
8. Skill in Physical Education

Semester I

17UHS130201

Hours/Week: 7

Credits: 5

ANCIENT HISTORY OF INDIA (UPTO A.D. 712)

Course Outcomes

1. To understand the value system of Ancient Society.
2. To study the evolution of ideas in the field of Cosmos, Medicine and Architecture.
3. To make aware the civic administration of Ancient state.
4. To get familiarized the structure of Governance of Ancient state.
5. To analyse the evolution of State formation.
6. To evaluate the urbanization process in Ancient India
7. To assess the foreign relations ancient India with Greeks and Iranians.
8. To distinguish the ideas of clash between native and Vedic culture

Semester I

Hours/Week: 6

17UHS130202

Credits: 5

SOCIAL AND CULTURAL HISTORY OF

TAMIL NADU UP TO A.D. 1536

Course Outcomes

1. To get knowledge on culture of Tamilaham during the pre-historic age
2. To study the fivefold regions and occupations of Sangam age.
3. To understand the idea and doctrines of religion Aaseevagam.
4. To analyse the society and culture of Sangam Age
5. To estimate the Pallavas' social and cultural development.
6. To evaluate the impact of Bakthi movement in the social awakening of Medieval Tamil Nadu.
7. To picture the contribution of Imperial Cholas in the field of Art and Architecture.

8. To assess the changes in the field of culture, society and architecture during the period of Vijayanagar in Tamilaham.

Semester I

Hours/Week: 6

17UHS130401

Credits: 5

Allied-I:

TOURISM BUSINESS

Course Outcomes

1. To study the scope of Tourism
2. To understand the forms of Tourism
3. To make aware about the travel formalities and travel documents
4. To analyses the different type of transports to moot the Tourism industry.
5. To bring out the different type of accommodation in Tourism development.
6. To accelerate the importance of Tourism in the Nation's economic growth.
7. To sensitize the impact of Tourism on physical environment
8. To evaluate the scope and importance of international Tourism in India.

Semester II

Hours/Week: 6

17UHS230203

Credits: 4

MEDIEVAL HISTORY OF INDIA

(A.D. 712-1707)

Course Outcomes

1. To understand the impact of Arab's invasion in India
2. To study the background of the establishment of Delhi Sultanate in India.
3. To make aware of the resistance of Vijayanagar Empire against the Muslim Rule in Medieval India.

4. To analyse the establishment of Mughal Empire in Medieval India
5. To get knowledge on impact of Muslim rule and establishment of Maratha states.
6. To discuss the changes in the field of state formation in Medieval India.

Semester II

Hours/Week: 6

17UHS230204

Credits: 5

**SOCIAL AND CULTURAL HISTORY OF TAMIL NADU
(A.D. 1536-1991)**

Course Outcomes

1. To understand the background of local resistance against EEIC
2. To find the diplomacy in ascending the British dominance in Tamilaham.
3. To analyse the colonial economy and revenue policies of EEIC
4. To estimate the impact of western education in Tamilaham
5. To focus on the role of missionaries in the social and cultural awakening of Tamilaham
6. To make aware on the influence of Self Respect Movement in the formation of Modern Tamilalham.

Semester II

Hours/Week: 6

17UHS230402

Credits: 5

Allied-II: TOURISM PRODUCT IN INDIA

Course Outcomes

1. To know the importance of types of Tourism products.
2. To study the pilgrimage product of different religions in India
3. To understand the architectural heritage as a Tourism product in India
4. To distinguish the classical and folk arts of India.
5. To give focus on the natural tourism resources of India

6. To analyse the scope of adventure tourism in India
7. To assess the fairs & festivals as a major attractions of tourism in India
8. To estimate the availability of ancillary tourism product in India.

Semester III

Hours/Week: 6

17UHS330205

Credits: 5

MODERN HISTORY OF INDIA

(A.D. 1707-1947)

Course Outcomes

1. To study the causes of decline of Mughal Empire
2. To understand the background of rise of independent states in the 18th
c. India
3. To make aware the process of European colonial establishments in India
4. To know the ascendancy of the British Rule in India by defeating other
European powers and native states.
5. To analyses the causes and impact of revolt of 1857
6. To estimate the land revenue and administrative policies of the British
India
7. To give light on the background of formation of Indian nationalism and
Indian National Movements
8. To assess the role of movements and leaders in process of making free
India

Semester III

Hours/Week: 5

17UHS330206

Credits: 3

MODERN GOVERNMENTS

Course outcomes

1. to understand the meaning and types of constitutions
2. to know the theory of separation of power

3. to get familiarized the forms of government
4. to give focus on the nature of constitution of British
5. to analyse the party system and other features of model constitutions.
6. to become expert in the salient features of Indian Constitution

Semester III

Hours/Week: 6

17UHS330403A

Credits: 5

Allied-III (Optional):

TOURISM MARKETING

Course outcomes

1. To understand the scope and purpose of Marketing
2. To study the tourism marketing in the developed countries
3. To get knowledge on the concept and salient features of tourism product
4. To analyse the tourism product planning
5. To evaluate the tourism product planning in India
6. To know the concept of Marketing Information System and its purpose
7. To assess the tourism pricing policy and its influencing factors
8. To expose the types of tourism promotion strategy.

Semester III

Hours/Week: 6

17UHS330403B

Credits: 5

Allied-III (Optional): PHYSICAL EDUCATION & HEALTH SCIENCE-I

Course outcomes

1. To understand the aims and objectives of Physical Education
2. To study the development of Physical Education in India
3. To evaluate the functions of Human anatomy and physiology
4. To give light on the aims and importance of first aid
5. To know the types of fractures in sports

6. To give attention on the importance of home nursing

7. To analyse the various types of yogasanas

8. To assess the uses of asanas in preventing diseases

Semester IV

Hours/Week: 5

17UHS430207

Credits: 3

CONTEMPORARY HISTORY OF INDIA

(A.D. 1947-2009)

Course Outcomes

1. To understand the progress of national integration of India
2. To discuss the declaration of emergency 1977 and its impact
3. To evaluate the foreign policy of India in the context of Panchasheel and NAM
4. To discuss India's relation with neighbouring countries
5. To estimate the Five Year Plans and other economic measures for the fiscal growth
6. To distinguish the issues still in dialogues between the various groups and sects of India

Semester IV

Hours/Week: 4

17UHS430208

Credits: 3

WORLD HISTORY-I

(A.D. 1453-1788)

Course Outcomes

1. To understand the causes and failure of eastern Byzantian empire
2. To know the concept of the Age of Reasons
3. To discuss the establishment of colonies in Asia

4. To get knowledge on the background of the emergence of imperialism in Modern World
5. To make aware on the salient features of Enlightenment
6. To analyse the scientific progress of modern World

Semester IV

Hours/Week: 4

17UHS430301A

Credits: 4

Core Elective (WD):

INDIAN GEOGRAPHY

Course Outcomes

1. To understand the geographical features of India
2. To know the concept of Unity in diversity
3. To discuss the cropping patterns in India
4. To distinguish the animal husbandry and dairy development in India
5. To analyse the major types of industries in India
6. To assess the types in the level of transport and communication in India

Semester IV

Hours/Week: 4

17UHS430301B

Credits: 4

Core Elective (WD): TOURISM AUTOMATION

Course Outcomes:

1. To understand the concept and forms of Tourism Automation
2. To focus the functions and operation of automation tools
3. To know the importance of the automation tools to develop the tourism industry
4. To get familiarized in using still and video cameras
5. To apply the automation tools in the field of tourism

6. To make aware of creating own website and web access

Semester IV

Hours/Week: 6

17UHS430404A

Credits: 5

Allied-IV (Optional):

ONLINE TOURISM MARKETING

Course Outcomes

1. To study the concept and meaning of online marketing
2. To understand the electronics needed for online marketing
3. To know the importance of network and internet in online marketing
4. To distinguish the rise of e-commerce and e-businesses in India
5. To know the consumer behavior and online marketing knowledge development
6. To analyse the online marketing positioning and segmentation strategies
7. To make aware of the consumer relationship management
8. To evaluate the pros & cons of online marketing

Semester IV

Hours/Week: 6

17UHS430404B

Credits: 5

Allied-IV (Optional): PHYSICAL EDUCATION & HEALTH SCIENCE-II

Course outcomes

1. To understand the characteristic of sports training
2. To study the principles of sports training
3. To know the basic types of training and planning
4. To get knowledge on the basic bio-mechanics applied in sports
5. To make aware the rules of major games
6. To analyse the basic mechanisms of officiating
7. To discuss the rules and interpretations of officials
8. To evaluate the fundamental strategies of training schedule

Semester V

Hours/Week: 6

17UHS530209

Credits: 4

HISTORY OF UNITED STATES OF AMERICA

(A.D. 1776-1964)

Course Outcomes

1. To understand the discovery and colonization of newfound lands
2. To study the causes and consequences of American war of independence
3. To analyse the causes of War of 1812
4. To discuss the causes of westward expansion and war with the natives
5. To evaluate the Monroe Doctrines and its impact
6. To estimate the role of USA in two World Wars

Semester V

Hours/Week: 6

17UHS530210

Credits: 4

HISTORIOGRAPHY

Course Outcomes

1. To know the scope and purpose of history
2. To study the kinds of history
3. To understand and uses and abuses of history
4. To distinguish the relation between history and other social sciences
5. To discuss the methods of writing history
6. To analyse the authenticity process of historical facts

Semester V

Hours/Week: 6

17UHS530211

Credits: 3

WORLD HISTORY-II

(Since A.D. 1789)

Course Outcomes

1. To know the causes and results in the background of French Revolution
2. To study the rise and administrative reforms of Nepolean Bonaparte
3. To analyse the causes and consequences of Chinese and Russian Revolutions
4. To discuss the causes, courses and results of world war I & II
5. To get knowledge on the making of peace process and treaties and its significances
6. To give focus on the birth of nations in the 19th century

Semester V**Hours/Week: 6****17UHS530211****Credits: 3****WORLD HISTORY-II****(Since A.D. 1789)****Course Outcomes**

1. To know the causes and results in the background of French Revolution
2. To study the rise and administrative reforms of Nepolean Bonaparte
3. To analyse the causes and consequences of Chinese and Russian Revolutions
4. To discuss the causes, courses and results of world war I & II
5. To get knowledge on the making of peace process and treaties and its significances
6. To give focus on the birth of nations in the 19th century

Semester V**Hours/Week: 4****17UHS530302A****Credits: 4****Core Elective (WS):**

TAMIL NADU HISTORY AND CULTURE

Course Outcomes:

1. To understand the society and culture of Sangam Age
2. To know the impact of Bhakthi movement in Tamil Nadu
3. To analyse the art and architecture of Tamil Nadu under various rulers
4. To discuss the culture of the Tamil people throughout the period.
5. To evaluate the social values of the people till independence.
6. To examine the cultural transformation from the native rules to the British.

Semester V

Hours/Week: 4

17UHS530302B

Credits: 4

Core Elective (WS):

HISTORY OF JOURNALISM

Course Outcomes

1. To understand the meaning, definition and origin of the Journalism.
2. To study the arrival of print media and new media.
3. To demonstrate the advantages of electronic news media.
4. To get knowledge on online journalism.
5. To discuss the historical development of journalism
6. To assess the modern journalism in the context of Mass Communication

Semester V

Hours/Week: 2

17UHS540601

Credits: 2

Skill-based Elective Course (BS):

ARCHITECTURAL AND HISTORICAL MONUMENTS IN

TIRUCHIRAPPALLI

Course Outcomes:

1. To study the geography and demography of Tiruchirappalli

2. To understand the Hindu monuments located in Tiruchirappalli
3. To get familiarized the Muslim architecture situated in Tiruchirappalli
4. To analyse the Christian monuments located in Tiruchirappalli
5. To assess the civic structures and buildings in Tiruchirappalli
6. To evaluate the changes in the field of architecture followed in Tiruchirappalli

Semester VI

Hours/Week: 6

17UHS630214

Credits: 4

ECONOMIC HISTORY OF INDIA

Course Outcomes

1. To study the basic concept of economy in India
2. To understand various sectors of Indian economy
3. To know the growth and development of agricultural policies and methods from ancient to modern times
4. To analyse the impact of commercialization of agriculture in British India
5. To discuss the changes in the field of economy in medieval India
6. To evaluate the fixation of taxes in medieval India

Semester VI

Hours/Week: 6

17UHS630215

Credits: 4

SOCIO-CULTURAL MOVEMENTS IN MODERN INDIA

Course Outcomes

1. To study the structure of modern Indian society and its formation
2. To understand the rise of Peasant and Tribal movements in modern India
3. To know the impact of religious reform movements and revivalism of Hinduism

4. To discuss the role of missionaries in the creation of society based on equality
5. To analyse the need and background of rise of social reform movements for the upliftment of marginalized
6. To assess the biographies of social reformers and their context of social reforms

Semester VI

Hours/Week: 6

17UHS630216

Credits: 3

INDIAN POLITY AND THE CONSTITUTION

Course Outcomes

1. To study the nature and the features of Indian Constitution
2. To understand the fundamental rights and duties of an Indian citizen
3. To know the election process in India
4. To get familiarized the general elections of India
5. To analyse the types of parties in national and regional level
6. To assess the impact of interest and pressure groups in general election

Semester VI

Hours/Week: 6

17UHS630217

Credits: 3

INTELLECTUAL HISTORY OF MODERN INDIA

Course Outcomes

1. To study the role of political leaders in nation building
2. To understand the social reformers and reform movements fought against the social evils.
3. To know the idea of literary in Modern India
4. To discuss the role of writers in spreading Indian nationalism
5. To analyse the theory of ethics and spiritual transformation
6. To examine the transcendental unity of all religions of the world to keep

world in peace

Semester VI

Hours/Week: 4

17UHS630304A

Credits: 4

Core Elective (WD):

ARCHITECTURE IN INDIA

Course Outcomes

1. To understand the significance of indigenous architecture in India
2. To know the kingdoms constructed monuments in indo-aryan, indolslamic and indo-saracenic architecture styles.
3. To study the importance of traditional and vernacular architecture
4. To facilitate the diversity of the Indian architecture
5. To make aware the need of documenting the historical memories
6. To discuss the structure and govt. monuments.

Semester VI

Hours/Week: 4

17UHS630304B

Credits: 4

Core Elective (WD): ARCHIVES KEEPING

Course Outcomes

1. To understand the documentation of the early periods.
2. To study the materials and equipments used in Archives.
3. To make necessary steps to develop Archives and Archive libraries.
4. To learn the preventive measures and precautionary methods.
5. To get skill in preserving the documents.
6. To get knowledge in the functions of Archives.

Semester VI

Hours/Week: 2

17UHS640602

Credits: 2

Skill-based Elective Course (WS):

PARTICIPATORY DEMOCRACY

Course Outcomes

1. To understand the concept of participatory democracy in Indian context
2. To know the status of corporation given to the places in Tiruchirappalli
3. To study the role of political parties in the local level
4. To make aware of the people's participation in the election
5. To get familiarized with electoral process undertaken in the corporation level
6. To understand the various duties and responsibilities of an elected people's representative

B.Sc. MATHEMATICS

Programme Outcomes (POs):

1. Undergraduate students are to be passionately engaged in initial learning with an aim to think differently as agents of new knowledge, understanding and applying new ideas in order to acquire employability/ selfemployment.
2. Undergraduate students are trained to take up higher learning programmes.
3. Undergraduate students are made to be competent and socially responsible citizen of India.
4. Undergraduate students are to be exposed to technical, analytical and creative skills.
5. Undergraduate students are to be imparted with a broad conceptual background in the Biological sciences / Computing sciences / Languages and culture / Management studies / Physical sciences.

Programme Specific Outcomes (PSOs):

1. Critical and Analytical Thinking Skills
2. Problem Skills
3. Communication and Presentation Skills
4. Teamwork Skills
5. Knowledge
6. Information Technology/Techniques
7. Ethics and Social Responsibility
8. Entrepreneurial Skills

Semester I
17UMA130201

Hours/Week: 7
Credits: 4

BASIC MATHEMATICS

Course Outcomes:

1. Knowledge of polar equations.
2. Basic knowledge of differentiation, expansion of functions and their applications.
3. Notion of envelopes, curvatures and polar co-ordinates.
4. Application of binomial theorem.
5. Expansion of exponential and logarithmic series.
6. Knowledge of trigonometric functions.

Semester I
17UMA130202

Hours/Week: 6
Credits: 4

INTEGRAL CALCULUS

Course Outcomes

- * Various techniques of integration.
- * Applications of definite integrals.
- * Applications of integration.
- * Applications of improper integrals .
- * Techniques of Beta, Gamma integrals.
- * Various integration formulae

Semester I
17UMA130401

Hours/Week: 6
Credits: 5

Allied: STATISTICS-I

Course Outcomes

- * History and Introduction of Probability.
- * Concepts of Random Variables and Distributions
- * Properties of Mathematical Expectations
- * Standard Distributions
- * Knowledge of moment generating functions
- * Applications to real life problems.

- * Basic Concepts of Expectation
- * Knowledge of continuous and discrete distribution

Semester II
17UMA230203

Hours/Week: 6
Credits: 4

ANALYTICAL GEOMETRY

Course Outcomes

- * Introduction of direction cosines of a line, and its properties.
- * Concepts of a plane, its various forms, determination of planes under given conditions .
- * The students are introduced to the concept of a line, sphere and its properties, circles and tangent planes.
- * Concepts of gradient, divergence curl and their properties.
- * Evaluation of line, volume and surface integrals and apply them to verify the Gauss divergence and stokes theorem.
- * Application of line, volume, and surface integrals

Semester II
17UMA230204

Hours/Week: 5
Credits: 3

DIFFERENTIAL EQUATIONS

Course Outcomes

1. Developing the skills of solving DE.
2. Solving PDEs of first and second order.
3. Understanding the Laplace Transform and its inverse.
4. Constructing the Fourier Series Expansion.
5. Solving DE using Laplace Transforms.
6. Application of DE in the field of Science.

Semester II Hours/Week: 6 17UMA230402 Credits: 5

Allied: STATISTICS-II

Course Outcomes

- * Basic concepts of Sampling and testing of Hypothesis.
- * Testing of Hypothesis for real life problems.
- * Testing of Hypothesis for small samples
- * Knowledge about various types of Estimators
- * Concepts of Correlation and rank correlation coefficient
- * Practical Knowledge of Correlation and Rank Correlation Coefficient
- * Knowledge t-distribution and F-distribution
- * Application of Estimation Theory

Semester III
17UMA330205

Hours/Week: 6
Credits: 4

STATICS

Course Outcomes:

- * Laws of Forces and their properties.
- * Concepts of Moments and Couples.
- * Equilibrium of Forces
- * Friction laws and its properties
- * Application to real life problems
- * Catenary and its properties

Semester III
17UMA330206

Hours/Week: 5
Credits: 4

SEQUENCE AND SERIES

Course Outcomes:

- * Getting a good foundation for classical analysis.
- * Understanding the behavior of monotonic functions.

- * Knowing limits and Cauchy sequences.
- * Studying the behavior of convergence of series by using tests.
- * Solving the problems related to sequence and series.
- * Behaviour of divergent sequences

Semester III
17UPH330403A

Hours/Week: 4
Credits: 4

Allied: PHYSICS-I

Course Outcomes

- * Students learn the nomenclature, hybridization, isomerism and intermediates of organic compounds
- * Students study the preparation, properties and mechanisms of alkanes and alkenes
- * Students understand the chemistry of hydrogen, some boron, silicon compounds, halogens and inter-halogen compounds
- * Students understand the principles of chemical kinetics
- * Students understand the principles of photochemistry
- * Students learn the laws of photochemistry derived by Beer, Lambert and Einstein.

Semester III
17UMA330403B

Hours/Week: 6
Credits: 5

Allied: ACCOUNTS-I

Course Outcomes

After completing the course, the student will be able to

- * Understand the basic concepts of accounting.
- * Prepare final accounts and balance sheet.
- * Prepare final accounts and balance sheet of non trading concerns.
- * Calculate profit for concerns with single entry system through net worth method and conversion method.
- * Rectify errors in the books of accounts and prepare Bank Reconciliation Statement.
- * Prepare Income & Expenditure account from Receipts.

Semester IV
17UMA430207

Hours/Week: 4
Credits: 3

CLASSICAL ALGBRA

Course Outcomes:

- * Foundations for the study of Pure Mathematics.
- * Relations between the roots and coefficients of equations
- * Transformations of equations
- * Formation of equations.
- * Important Methods in finding roots.
- * Knowledge in Operative Algebra

Semester IV
17UMA430208

Hours/Week: 5
Credits: 3

ALGEBRA-I

Course Outcomes:

- * Acquiring knowledge of basic abstract systems of Mathematics.
- * Present concepts and properties of various algebraic structures.
- * Develop the ability to form and evaluate conjectures in graphs.
- * Discuss the importance of cyclic groups.
- * Present concepts of the relationships between subgroups and normal subgroups.
- * Demonstrate understanding of the importance of homomorphism and isomorphism in groups. (70 percent theory and 30 percent problems)

Semester IV
17UMA430301A

Hours/Week: 4
Credits: 4

Core Elective (WD): AUTOMATA THEORY

Course Outcomes:

- * Understanding the definition of Automation.
- * Introducing the different types of Grammar.
- * Constructing the Regular Expressions.
- * Trained to know the normal forms.
- * Studying Pumping lemma for regular sets.
- * Simplifying context free grammars.

Semester IV
17UMA430301B

Hours/Week: 4
Credits: 4

Core Elective (WD): ASTRONOMY

Course Outcomes:

- * Introducing the exciting world of astronomy to the students.
- * Helping the students to study about the celestial objects.
- * Understanding the effects of refractions geocentric parallax.
- * Compiling solar and lunar ellipses.
- * Understanding Kepler's laws of planetary motion.
- * Understanding the variation in duration of day and night in various zones of earth.

Semester IV
17UPH430404A

Hours/Week: 4
Credit: 4

Allied: PHYSICS-II

Course Outcomes:

- * To understand the theoretical and experimental concepts of interference, diffraction and propagation of light.
- * To study the structure, behavior and properties of atoms based on vibrational modes.
- * To study different nuclear models, nuclear properties and its applications.
- * To study the fundamental principles of relativity and quantum mechanics.
- * To study the basic electronics of LED, Transistor and Oscillator.

* To study the working of logic gates for application in digital electronics

Semester IV
17UPH430405A

Hours/Week: 2
Credit: 2

Allied: PHYSICS PRACTICALS

Course Outcomes:

1. Practical knowledge of instruments
2. Knowledge of correlating experimental results

Semester IV
17UMA430404B

Hours/Week: 6
Credits: 5

Allied: ACCOUNTS-II

Course Outcomes:

- * Understand the basic principles of cost accounting
- * Knowledge of preparing cost sheet.
- * Understand cash flow from Operating, investment and financing activities
- * Prepare cash flow statement as per AS3.
- * Determine working capital of a business organisation.
- * Apply Marginal costing principles in decision making.
- * Draft different kinds of budgets for a business organization.
- * Know about Cash Budget, Sales Budget and Flexible budget

Semester V
17UMA530209

Hours/Week: 6
Credits: 4

REAL ANALYSIS

Course Outcomes:

- * Basic Concepts of Functions and real number system
- * Concepts of Limits

- * Concepts of Metric Spaces.
- * Understanding of Continuous functions in Metric Spaces
- * Introduction and Properties of Riemann Integral
- * Derivatives and their properties

Semester V
17UMA530210

Hours/Week: 6
Credits: 4

DYNAMICS

Course Outcomes:

- * Behavior of motion of objects.
- * Applications of Projectile in practical problems.
- * Behaviour of elastic bodies in real life problems.
- * Simple Harmonic Motion and its Applications.
- * Law of forces in central orbit.
- * Laws of compound pendulum.

Semester V
17UMA530211

Hours/Week: 5
Credits: 4

ALGEBRA-II

Course Outcomes:

- * Study of algebraic systems with two binary operations.
- * All the basic concepts and definitions are motivated with concrete examples.
- * Abstract ideas of Ideals-Prime Ideals and study their properties.
- * Present the concept of Homomorphism of rings and their properties.
- * Learn the properties of UFD and ED
- * Understanding of polynomial rings over U.F.D.

Semester V
17UMA530212

Hours/Week: 5
Credits: 4

OPERATIONS RESEARCH

Course Outcomes:

- * Learning Linear Programming Problems.
- * Obtaining Optimal Solutions.
- * Increasing the effectiveness of Management decisions
- * Implementing Long Range Plans to solve problems
- * Quantitative Analysis of decisions
- * Learning Logical Analysis

Semester V
17UMA530302A

Hours/Week: 4
Credits: 4

Core Elective (WS): NUMBER THEORY

Course Outcomes:

- * Learning Diophantine Equation.
- * Coding through congruences.
- * Chinese Remainder theorem.
- * Properties of congruences.
- * Fermat's theorem and Wilson's theorem.
- * Mobius Inversion formula

Semester V
17UMA530302B

Hours/Week: 4
Credits: 4

Core Elective (WS): LOGIC AND BOOLEAN ALGEBRA

Course Outcomes:

- * Basic Concepts of True and False logical statements.
- * Finding Tautology statements.

- * Knowledge in Theory of inferences.
- * Knowledge in Lattices and its properties.
- * Ideas of Partially ordered sets and lattices
- * Ideas of Boolean Algebra

Semester V
17UMA530213

Hours/Week: -
Credits: 2

Self-Paced Learning: HISTORY OF MATHEMATICS (On-line Partial Course)

Course Outcomes:

- * Life of Newton, Gauss, Riemann and Euler..
 - * Acquaintance with the development of Algebra.
 - * Familiarity of Invention of Differential Calculus.
 - * The life of Eratosthenes and Dirichlet . * The life of Henri Poincare, Emmy Noether. *
- Learning the great achievements of Mathematicians

Semester V
17UMA540601A

Hours/Week: 2
Credits: 2

MATHEMATICS FOR COMPETITIVE EXAMINATIONS

Course Outcomes:

- * Problem solving techniques for aptitude problems.
- * Prepare themselves for various competitive examinations.
- * Applications of simple formulae
- * Acquaintance to various elementary concepts
- * Acquaintance to shortcut methods
- * To improve and learn basic mathematics skills.

Semester V
17UMA540601B

Hours/Week: 2
Credits: 2

MATLAB APPLICATIONS

Course Outcomes:

- * The Mathematical software MATLAB for high-performance numerical computations and visualization.
- * MATLAB built-in functions provided to solve all types of scientific problems.
- * Knowledge and writing Program in MATLAB.
- * Knowledge in Applications of MATLAB in numerical integration.
- * Knowledge in graphical applications using MATLAB.
- * Applications of MATLAB in Data Analysis

Semester VI
17UMA630214

Hours/Week: 7
Credits: 4

COMPLEX ANALYSIS

Course Outcomes:

- * Behavior of complex-valued functions.
- * Properties of Bilinear Transformations.
- * Cauchy's theorem and its consequences
- * Series Expansions and singularities
- * Evaluation of Definite Integrals
- * Foundations of Complex Analysis

Semester VI
17UMA630215

Hours/Week: 5
Credits: 3

COMPUTER ORIENTED NUMERICAL METHODS WITH 'C' PROGRAMMING

Course Outcomes:

- * Basics of C programming and various data types and operators in C language.
- * Knowledge on Decision making-branching and looping statements in C programming and the concept of arrays.
- * Learn to handle character strings and the concept of user define functions.

* Concepts of curve fitting, finding solution to numerical, algebraic and transcendental equations and to solve simultaneous linear equations.

* Solution of Ordinary Differential Equations using numerical methods and gets introduced to interpolation and numerical Integration.

* Creating simple 'C' Programmes for solving problems in numerical methods,

Semester VI
17UMA630216

Hours/Week: 2
Credits: 1

COMPUTER LAB: 'C' PROGRAMMING

Course Outcomes:

* The students learn to write C programs to solve quadratic equations, generating Fibonacci series, Prime numbers checking, finding mean, S.D and median, sorting numbers, series expansion of $\sin x$ and $\cos x$ etc.,

* The students learn to write C programs for matrix manipulations, palindrome verification, computing nC_r , nP_r using function subprograms.

* The students learn to write C programs to solve numerical, algebraic and transcendental equations and to solve simultaneous linear equations using numerical methods.

* The students learn to write C programs for numerical Integration.

* The students learn to write C programs to solve Ordinary Differential Equations numerically and Interpolation.

* Learning to rectify the errors in 'C' Programming.

Semester VI
17UMA630217

Hours/Week: 6
Credits: 4

LINEAR ALGEBRA

Course Outcomes

* Introduction to vector spaces.

* Concept of the dimension of the vector space. *

Basic Concepts of matrix theory.

* Introduction and properties of inner product spaces.

* Cayley Hamilton Theorem, Eigen values and eigen vectors.

- * Concepts of Eigen Values and Eigen Vectors

Semester VI
17UMA630218

Hours/Week: 4
Credits: 3

GRAPH THEORY

Course Outcomes:

- * Introduction to Graphs.
- * Concept of Eulerian graphs
- * Concept of Hamiltonian graphs
- * Planar graph concept is learned.
- * Applications of graph theory.
- * Relation between Matrices and Graph Theory.

Semester VI
17UMA630303A

Hours/Week: 4
Credits: 4

FUZZY THEORY

Course Outcomes:

- * Fuzzy knowledge in decision making process.
- * The concepts of Fuzzy Sets and operations on these sets.
- * Knowledge of applications of Fuzzy Sets and relations to real life systems.
- * Knowledge of fuzzy graphs.
- * Applications of fuzzy theory in probability.
- * Ranking of Fuzzy numbers and its applications.

Semester VI
17UMA630303B

Hours/Week: 4
Credits: 4

OPTIMIZATION TECHNIQUES

Course Outcomes

- * Understanding sequencing problems and its applications.
- * Studying the dynamic programming with different approaches.
- * Using optimization techniques in decision making.
- * Solving replacement problems of different types.
- * Understanding nonlinear programming problems and its applications.
- * Applications to solve real life problems

Semester VI
17UMA640602A

Hours/Week: 2
Credits: 2

MATHEMATICS FOR COMPETITIVE EXAMINATIONS (ADVANCED)

Course Outcomes:

- * Problem solving techniques for aptitude problems.
- * Prepare themselves for various competitive examinations.
- * Applications of simple formulae
- * Acquaintance to various elementary concepts
- * Acquaintance to shortcut methods
- * Applying the techniques in real life problems

Semester VI
17UMA640602B

Hours/Week: 2
Credits: 2

LaTeX

Course Outcomes:

- * Introductory Concepts of LaTeX software for documentation.
- * LaTeX programming skills.
- * Latex Commands
- * Various Page Styles
- * Designing Books and Slides

* Drawing Pictures

Programme Outcomes (POs):

1. Undergraduate students are to be passionately engaged in initial learning with an aim to think differently as agents of new knowledge, understanding and applying new ideas in order to acquire employability/ self employment.
2. Undergraduate students are trained to take up higher learning programmes.
3. Undergraduate students are made to be competent and socially responsible citizen of India.
4. Undergraduate students are to be exposed to technical, analytical and creative skills.
5. Undergraduate students are to be imparted with a broad conceptual background in the Biological sciences / Computing sciences / Languages and culture / Management studies / Physical sciences.

Programme Specific Outcomes (PSOs):

1. Enhancing conceptual knowledge
2. Awareness on impact of physics
3. Observational, measuring and computational techniques
4. Imparting experimental skills
5. Problem analyzing, logical thinking, reasoning, troubleshooting and solving skill
6. Hands on training in workshop and Information Technology/Techniques
7. Ethics, Social Responsibility, Leadership and Entrepreneurial Skills Research Orientation and Internship and Employability Enhancement.

Semester I
17UPH130201

Hours/Week: 7
Credits: 5

MECHANICS AND PROPERTIES OF MATTER

Course Outcomes:

1. The concepts of statics, hydrostatics, hydrodynamics and the rigid body dynamics in terms of Moments of Inertia.
2. Learn to solve problems in statics
3. Gravitation at various situations and its applications
4. Acquire a knowledge of variations of acceleration due to gravity and its importance
5. The basics of Elasticity and its importance in beams, girders
6. Acquire the knowledge of experimental ideas of finding elasticity
7. The concepts of viscosity, surface tension and the various methods
8. Acquire the knowledge of experimental ideas of finding viscosity and Surface tension

Semester I
17UPH130401

Hours/Week: 6
Credits: 5

Allied: MATHEMATICS-I

Course Outcomes:

1. Basic Properties of Integration and Differentiation.
2. Derivation of Reduction Formulas.
3. Solving Differential Equations
4. Expansions of Trigonometric functions
5. Basic concepts of Matrix
6. Properties of Matrices and Eigen Values and vectors.
7. Concept of limit of a sequence and series.
8. Techniques in Series

Semester II
17UPH230202

Hours/Week: 5
Credits: 4

SOUND, THERMAL AND STATISTICAL PHYSICS

Course Outcomes:

1. To know and understand the physics of sound and its applications
2. To know principles of ultrasonics and its applications
3. To learn the nature and transmission of heat by different mechanisms
4. To learn experimental methods to determine the transmission of heat.
5. To understand the laws of thermodynamics and their applications.
6. To Know and analze Maxwell's thermo dynamical relations and their importance.

Semester II
17UPH230402

Hours/Week: 6
Credits: 5

Allied: MATHEMATICS-II**Course Outcomes**

1. Applications of Mathematics to Physics
2. Problem Solving Skills.
3. Meaning and Properties of Vectors
4. Concepts of Vector integration
5. Trigonometrical functions and their properties
6. Techniques in numerical methods
7. Complex functions and Integration
8. Applications of Complex integration

Semester III
17UPH330205

Hours/Week: 8
Credits: 6

MATHEMATICAL PHYSICS**Course Outcomes:**

1. The mathematical knowledge for the description of physical phenomena
2. Basic skills and appreciate physics through mathematics
3. Various numerical methods have been used to solve physics problems

4. Understanding the importance of line, surface and volume integrals and applies to solve physics problems
5. Understand the importance of Fourier Series and Fourier Transform
6. Applying the knowledge of Fourier Series and Fourier Transform to solve various wave functions
7. Acquire a knowledge of Beta and Gamma Functions
8. Learn to solve the differential equations of Legendre and Hermite polynomials of different order

Semester III
17UCH330403A

Hours/Week: 4
Credits: 4

Allied: CHEMISTRY-I

Course Outcomes

1. Students learn the nomenclature, hybridization and isomerism
2. Students learn the intermediates of organic compounds
3. Students study the preparation, properties and mechanisms of alkanes and alkenes
4. Students understand the chemistry of hydrogen, some boron, silicon compounds, halogens and inter-halogen compounds
5. Students understand the principles of chemical kinetics
6. Students understand the principles of photochemistry

Semester III
17UCS330403A

Hours/Week: 4
Credits: 4

Allied: Computer Science-I INTERNET AND DATABASE CONCEPTS

Course Outcomes

1. Know the concept behind the web and working of internet
2. Acquire the basic knowledge of designing web pages
3. Design colourful webpages and is able to create a basic website
4. Create web forms and fetch data meaningfully on the web

5. Learn the essence of Databases
6. Infer the skills to fetch and manipulate data through queries

Semester IV
17UPH430206

Hours/Week: 6
Credits: 4

ELECTRICITY AND MAGNETISM

Course Outcomes

1. Understand the fundamental principles of electrostatics, able to employ methods of calculus to calculate electric field from a distribution of charges.
2. Learn mathematical methods of Gauss' and Poisson, to calculate electric field for problems involving symmetry.
3. Acquire knowledge of magnetic field through the understanding of Ampere's law and apply it to compute the field in problems.
4. Understand Biot-Savart law and use to compute the field due to current carrying conductors.
5. Study Kirchoff's law and use it to analyze DC circuits.
6. To apply the basic knowledge of electromagnetic induction to explain observational phenomenon.

Semester IV
17UCH430404A

Hours/Week: 4
Credits: 4

Allied: CHEMISTRY-II

Course Outcomes

1. Students learn the chemistry of carbohydrates
2. Students learn the chemistry of amino acids, proteins and benzene
3. Students study the theories of co-ordination compounds
4. Students study the applications of industrially important compounds
5. Students understand phase rule and adsorption
6. Students understand the principles and applications of electrochemistry

Semester III & IV
17UPH430405A

Hours/Week: 2
Credits: 2

Allied: CHEMISTRY PRACTICAL FOR PHYSICS

Course Outcomes:

Students understand the principles of titrimetric analysis and organic qualitative analysis

Semester IV
17UCS430404B

Hours/Week: 4
Credits: 4

Allied: Computer Science-II DATA AND COMMUNICATION NETWORKS

Course Outcomes:

After learning this course, the learner would have

1. Familiarize the students to understand the basic concepts of Data Communication
2. Understand the Classification of computer networks
3. Acquire the knowledge of Topology
4. Gets to know about the various types of networks
5. Learns the different transmission media
6. Infers the concept used in Mobile Communication technology

Semester III & IV
17UPH430405B

Hours/Week: 2
Credits: 2

Allied: COMPUTER SCIENCE PRACTICALS (Software Lab - Web Design using HTML)

Course Outcomes:

1. Simple web page with all the Text Formatting tags
2. Adding Images to WebPages
3. Creating Lists (Ordered and Unordered List)
4. Adding Links to Web Pages
5. Creating Tables using various attributes

6. Creating Frames
7. Designing forms using simple form elements
8. Implementation of Data Definition language commands
9. Implementation of DML, TCL and DCL commands

Semester IV
17UPH430301A

Hours/Week: 4
Credits: 4

Core Elective-I (WS): ENERGY PHYSICS

Course Outcomes:

1. Ability to know the power potential of the sun and its utility.
2. Understanding the experimental procedure of collecting solar energy.
3. Knowing various types of storage methods involving.
4. Knowing the other alternative sources for energy production.
5. Applying knowledge to fabricate solar cells for energy storage purpose.
6. Knowing other forms of energy which are existing in the nature.

Semester IV
17UPH430301B

Hours/Week: 4
Credits: 4

Core Elective-I (WS): PHYSICS OF MATERIALS

Course Outcomes:

1. Understanding the concept of material classifications based on the physical mechanism of energy conduction process and its associated theoretical knowledge.
2. Idea to form new materials for specific needs under controlled conduction of electric and thermal energies.
3. Inculcating the fundamentals of optics and specific use photo conducting behavior with an application towards renewable energy resources.
4. Conceptual idea of magnetic material clarifications. 5. Introducing the nanophase of materials with the knowledge of synthesis procedures and its need for modern applications.
6. Conceptual idea of nonlinearity, various nonlinear materials and their nonlinear behaviors towards modern optical communication.

Semester IV
17UPH430301C

Hours/Week: 4
Credits: 4

Core Elective-I (WS): FUNDAMENTALS OF ELECTRICITY AND MAGNETISM

Course Outcomes:

1. Understand the fundamental principles of electrostatics, able to employ methods of calculus to calculate electric field from a distribution of charges.
2. Learn mathematical methods of Gauss' and Poisson, to calculate electric field for problems involving symmetry.
3. Acquire knowledge of magnetic field through the understanding of Ampere's law and apply it to compute the field in problems.
4. Understand the working of Multimeter, wattmeter and TG for measuring voltage and current.
5. Study Kirchoff's law and use it to analyze DC circuits.
6. To apply the basic knowledge of Maxwell's equation to explain observational phenomenon.

Semester V
17UPH530208

Hours/Week: 5
Credits: 4

'C' PROGRAMMING FOR PHYSICS

Course Outcomes:

1. Understand the lexical elements in 'c'- programming.
2. Be aware of different types of operators and expressions in c language.
3. Choose the loops and decision making statements to solve the problem
4. Implement different operation an arrays.
5. Use function to solve the given problems
6. Understand pointers, structures and unions.

Semester V
17UPH530209

Hours/Week: 6
Credits: 4

ATOMIC, SOLID STATE AND NUCLEAR PHYSICS

Course Outcomes:

1. Understand the evolution of different atomic models and their merits and limitations.
2. Ability to analysis the effect of applied magnetic and electric fields of atomic spectra.
3. Understand the basic knowledge of crystals and superconductors.
4. Ability to analysis the different types of crystals systems.
5. Understand the basic properties of nuclei and different nuclear models
6. Acquiring the knowledge of different accelerators and their advantages and their limitations.

Semester V
17UPH530210

Hours/Week: 5
Credits: 4

ANALOG ELECTRONICS**Course Outcomes:**

1. Acquire basic knowledge of p-n junction diode, different rectification process, filtering techniques
2. Understanding Thevenine's theorem and procedure for finding Thevenin equivalent circuit and to gain knowledge of Maximum Power theorem
3. Acquiring Knowledge on Fabrication of a transistor, different configuration, Biasing, h parameters and Finding different applications of FET
4. Studying the amplitude and frequency response of common amplification circuits
5. Applying theories for different classes of amplifiers, observation of Band width, understanding different coupling networks
6. Understanding negative and positive feed backs

Semester V
17UPH530302A

Hours/Week: 4
Credits: 4

Core Elective-2 (WD): PHOTOGRAPHY AND VIDEOGRAPHY**Course Outcomes**

- 1 . Students acquire knowledge of parts of cameras and types of cameras
2. Students understands the importance of exposure and pictorial composition

3. Students create, select, and apply appropriate techniques and editing tools for editing and printing
4. Students learn to produce a good quality photo using adobe photo software
5. Students acquire the knowledge of different parts of video cameras and its accessories
6. should have the capability to comprehend the technological advancements in the usage of modern design tools to edit ,print and design for variety of applications.

Semester V
17UPH530302B

Hours/Week: 4
Credits: 4

Core Elective-2 (WD): BIOMEDICAL INSTRUMENTATION

Course Outcomes:

1. Study the function of bioelectric potentials and its importance and understand the different types of waveforms generated by organs.
2. Learn the fundamental knowledge of the electrodes to sense bio potentials.
3. Learn the basic concepts and interpretations of ECG and BP.
4. Understand the anatomy of the nervous system and its signal measurements (EMG, CAT).
5. Analyze and understand the applications of the imaging techniques transmission(x- ray and ultrasound)
6. Updating the knowledge in recent trends of measuring bio-signals

Semester V
17UPH540601

Hours/Week: 2
Credits: 2

Skill-based Elective-2 (BS): ELECTRICAL WIRING

Course Outcomes:

1. Learn the fundamentals of electricity, electrical parameters and testing tool.
2. Understand different methods of electricity generation and types of motors.
3. Study the electrical components, symbols, types of circuits and tools
4. Study the various methods of joining conductors and electrical accessories
5. Learn the methods of wiring a house and industry

6. Hands on training on house wiring and troubleshooting the electrical circuits and appliances

Semester V
17UPH530212

Hours/Week: -
Credits: 2

Self-Paced Course: ASTRONOMY

Course Outcomes

1. Acquire the knowledge of solar system, Moon and eclipses, and the history behind the Lunar and Solar calendars.
2. Understand the basic ideas of motion of Moon, age, phase and rising and setting of moon, and also planets in the solar system.
3. Understand the great number of diverse phenomena used in the Astronomical Instruments and framing the various calendars.
4. Apply the scientific thinking to the real world situations by observing the solar and lunar eclipses and comparing the calendars.
5. Understand and demonstrate the astronomical telescopes and how it helps to observe the solar and lunar eclipses and planets in the solar system.
6. Apply the knowledge and to communicate the scientific information's about solar system, moon and its details, formation of eclipses, and various calendars

Semester VI
17UPH630214

Hours/Week: 5
Credits: 4

OPTICS, SPECTROSCOPY AND LASER

Course Outcomes:

1. Learn the concepts of dispersion of Light , interference, diffraction and polarization of light waves and their applications
2. Study the different aberrations of lens and learn different methods of minimizing the aberrations of lens.
3. Study the principle of Microwave, Infra red, Raman and Resonance Spectroscopy and its instrumentation.
4. Understanding the physics concepts behind the mechanism of Fresnel's biprism and Michelson's interferometer.

5. Learn the working principle of Lasers, holography and their applications.
6. Should be able to associate the learning from the courses related to nanoscience , crystal growth and spectroscopy

Semester VI
17UPH630215

Hours/Week: 5
Credits: 4

QUANTUM MECHANICS AND RELATIVITY

Course Outcomes:

1. Understand limitations of classical mechanics and origin of quantum mechanics.
2. Ability to understand the various concepts of quantum mechanics.
3. Understand the mathematical proof of Schrodinger equation.
4. Ability to analysis and solve the Schrodinger wave equation for one dimensional systems and spherically symmetric potential problem.
5. Understand the Special theory of Relativity
6. Solving length contraction and time dilation problem

Semester VI
17UPH630216

Hours/Week: 5
Credits: 4

DIGITAL ELECTRONICS AND MICROPROCESSOR

Course Outcomes:

1. Understand the structure of various number system and basic logic gates.
2. Ability to design and solve the Boolean Algebra simplification and Karnaugh Maps.
3. Develop skill to build and troubleshoot combinational digital circuits.
4. Ability to construct sequential circuits and to design counters.
5. Learn the working principle of Shift Register and its types.
6. Understand the basic of intel 8085 microprocessors architecture and its instruction set and to write assembly language programme for the intel 8085.

Semester VI
17UPH630303A

Hours/Week: 4
Credits: 4

Core Elective-3 (WD): COMMUNICATION SYSTEMS

Course Outcomes:

1. Understanding AM, FM and PM modulation and demodulation techniques
2. Learning the basic concepts of fiber optics and types of fiber
3. Understanding the basic radar system and types of radar
4. Learning the working principle of satellite communication system
5. Exposing the students to the mobile communication system
6. Studying the concept of internet protocol, wi-fi and 3G

Semester VI
17UPH630303B

Hours/Week: 4
Credits: 4

Core Elective-3 (WD): ASTROPHYSICS

Course Outcomes:

1. Acquire the knowledge on the elements of space dynamics, solar system with their small bodies, universe and its neighbors and life in universe.
2. Understand the basic concepts of space dynamics, solar system: structure, activity and its features etc.
3. Understand the great number of diverse phenomena in the Universe through Physics like origin and nature of universe –subjects relevance to contemporary social issues.
4. Apply the scientific thinking to the real world problems and qualitative analysis about the solar system and their members.
5. Understand and demonstrate the formation of solar and lunar eclipses.
6. Apply the knowledge and to communicate the scientific information's about universe, solar system, and life in Mars: pre Mariner and post Mariner.

Semester VI
17UPH640602

Hours/Week: 2
Credits: 2

Skill-Based Elective (WS): CELL PHONE SERVICING

Course Outcomes:

1. Understand the concepts of GSM/CDMA and to be aware of the call processing of a GSM and GPRS
2. Identify various IC's inside mobile phones and to trained to assemble and disassemble the parts of the mobile phone
3. Learn the SMT technology and soldering and desoldering
4. Understand the network problems and SIM card problems and to learn the trouble shooting process
5. Understand the IMEI information and software unlocking and flashing
6. Diagnose the problem of the mobile phone and understanding possible problem using diagnostic tools and to replacement the required modules.

B.Sc. STATISTICS

Programme Outcomes (POs):

1. Undergraduate students are to be passionately engaged in initial learning with an aim to think differently as agents of new knowledge, understanding and applying new ideas in order to acquire employability/ self- employment.
2. Undergraduate students are trained to take up higher learning programmes.
3. Undergraduate students are made to be competent and socially responsible citizen of India.
4. Undergraduate students are to be exposed to technical, analytical and creative skills.
5. Undergraduate students are to be imparted with a broad conceptual background in the Biological sciences / Computing sciences / Languages and culture / Management studies / Physical sciences.

Programme Specific Outcomes (PSOs):

1. Critical and Analytical Thinking Skills
2. Problem Skills
3. Communication and Presentation Skills
4. Teamwork Skills
5. Knowledge 6. Information Technology/Techniques
7. Ethics and Social Responsibility
8. Employability Enhancement

Semester I
17UST130201

Hours/Week: 7
Credits: 4

DESCRIPTIVE STATISTICS

Course Outcomes:

1. Know the uses of statistics in society
2. Understand the method of data collection

3. Learn the types of statistical diagrams.
4. Applications of pie chart in news papers
5. Learn the Measures of central tendency
6. Analyse the Bivariate data in real life problems

Semester I
17UST130202

Hours/Week: 4
Credits: 2

COMPUTATIONAL STATISTICS-I

Course Outcomes:

1. Understand the univariate and bivariate data
2. Know the uses of statistical diagrams
3. compute the measures of central tendencies
4. Test the relationship between the variables using correlation coefficient
5. Know the use of Histogram
6. Obtain the role of rank correlation in some contests

Semester I
17UST130203

Hours/Week: 2
Credits: 2

Computer Lab-I: OFFICE AUTOMATION

Course Outcomes:

1. Understand the Windows Operating system
2. Analyze the different version of Operating systems
3. Learn the basics of MS WORD
4. Understand the basic commands to create a folder
5. Know merging and deleting a file
6. Draw statistical diagrams using Excel function

Semester I
17UST130401

Hours/Week: 6
Credits: 5

Allied: COMPUTERS IN STATISTICS-I (OFFICE AUTOMATION)

Course Outcomes:

1. Understand the Windows Operating system.
2. Analyze the different version of Operating systems.
3. Understand the basic commands to create a folder.
4. Know merging and deleting a file.
5. Draw statistical diagrams using Excel function.
6. Understand the Windows Operating system.
7. Know the data entry in the work sheet.
8. Understand the printing and data results

Semester II
17UST230204

Hours/Week: 7
Credits: 5

PROBABILITY THEORY

Course Outcomes:

1. Conduct random experiments in real life data.
2. Understand the Axioms of probability.
3. Create the Joint probability density function.
4. Obtain the cumulant generating functions and its properties.
5. Compute the skewness and Kurtosis.
6. Compute the probability values for sum random variables using central limit theorem.
7. Understand how to get density from joint density.
8. Understand the applications of central limit theorem.

Semester II
17UST230205

Hours/Week: 2
Credits: 2

COMPUTATIONAL STATISTICS-II

Course Outcomes:

1. Conducting the random experiments for large sample space.
2. Find the inverse probability using Baye's theorem.
3. Understand the weak law of large numbers.
4. Understand the meaning of random variables.
5. Obtain the characteristic functions of both the random variables.
6. Understand the functions of joint distribution.

Semester II
17UST230206

Hours/Week: 2
Credits: 1

Computer Lab-II: 'C' PROGRAMMING

Course Outcomes:

1. Analyze the big data using c programming.
2. Compute the mean and variance using C program.
3. Create and update sequential and random file.
4. Understand the Pointer expressions.
5. Learn the statements of C language.
6. Understand the importance of functions.

Semester II
17UST230402

Hours/Week: 6
Credits: 5

Allied: COMPUTERS IN STATISTICS-II ('C' PROGRAMMING)

Course Outcomes:

1. Understand Fundamentals of C constants.
2. Learn the control statements.
3. Know the control statements.

4. Compute the pointer arithmetic.
5. Creating , processing and updating files.
6. Understand the importance of functions.
7. Creation of file processing
8. Understand the importance of functions

Semester II
17UCE240802A

Hours/Week: 2
Credit: 2

COMPUTER LITERACY

Course Outcomes

1. Understand the basics of Computer Systems
2. Familiar with the applications of MS-Office / HTML & CSS
3. Know the statistical data analysis using R
4. Aware the latest trends and technologies such as Mobile Computing, Big Data and Analytics, Cloud Computing.
5. Understand the concepts of social networking sites.
6. Knowledge in Cyber Crime and Cyber Ethics.

Semester II
17UFC241002

Hours/Week: 2
Credits: 2

FUNDAMENTALS OF HUMAN RIGHTS

Course Outcome:

1. To ensure acquiring the knowledge about the historical background of human rights.
2. To ensure sensitizing the young the values of human rights.
3. To ensure the importance of human rights in the Indian context.
4. To ensure learning the fundamental duties in the constitution of India.
5. To ensure educating the youth in respecting and protecting the rights of every other human being.

6. To ensure teaching the youth on the vulnerabilities of women and children.

Semester III
17UST330207

Hours/Week: 6
Credits: 4

DISCRETE PROBABILITY DISTRIBUTIONS

Course Outcomes:

1. Compute the Bernoulli trials.
2. Understand the rare case population.
3. Find the Memory less Property of Geometric distribution.
4. Obtain the mean and variance of Hyper geometric distribution.
5. Learn the moments of Multinomial distribution.
6. Understand why Geometric distribution possesses memory less property

Semester III
17UST330208

Hours/Week: 5
Credits: 4

CONTINUOUS PROBABILITY DISTRIBUTIONS

Course Outcomes:

1. Learn the characteristics of Normal distributions.
2. Learn the relationship between beta and gamma distribution.
3. Know the memory less property of exponential distribution.
4. Obtain the difference of two sample tests.
5. Understand the relationship between t and F distributions.
6. Understand why Exponential distribution possesses memory less property.

Semester III
17UST330403A

Hours/Week: 6
Credits: 5

Allied: MATHEMATICS - I

Course Outcomes:

1. Learn the Mathematical Series, like Binomial, exponential etc.,.
2. Know the role of reciprocal equations in theory of equations.
3. Obtain the positive root by Horner's method.
4. Calculate the Eigen values and Eigen vectors.
5. Calculation of inverse of a matrix using Cayley Hamilton theorem.
6. Learn the Quotient rule.
7. Know the importance of Jacobian transformation..
8. Obtain the role of Horner's method in successive iterations

Semester III
17UST330403B

Hours/Week: 6
Credits: 5

Allied: ACCOUNTS- I

Course Outcomes:

After completing the course, the student will be able to

- * Understand the basic concepts of accounting.
- * Prepare final accounts and balance sheet.
- * Prepare final accounts and balance sheet of non trading concerns.
- * Calculate profit for concerns with single entry system through net worth method and conversion method.
- * Rectify errors in the books of accounts and prepare Bank Reconciliation Statement.
- * Prepare Income & Expenditure account from Receipts.

Semester IV
17UST430209

Hours/Week: 4
Credits: 3

ESTIMATION THEORY

Course Outcomes:

1. Learn the properties of good estimator.
2. Know the importance of maximum likely hood estimator.

3. Understand the types of estimation.
4. Know the role of Confidence interval in interval estimation.
5. Show the examples of prior and posterior distributions.
6. Obtain the importance of Cramer rao rule.

Semester IV
17UST430210

Hours/Week: 5
Credits: 3

TESTING OF HYPOTHESIS

Course Outcomes:

1. Know about the two types of errors.
2. Know the role of Neyman – Pearson Lemma in testing of hypothesis.
3. Learn the properties of Like likelihood ratio test.
4. Know the test of significance for small samples..
5. Calculate the problems using non parametric tests.
6. Learn the role of Non parametric tests.

Semester IV
17UST430301A

Hours/Week: 4
Credits: 4

Core Elective-1 (WD): SAMPLING THEORY

Course Outcomes:

1. Learn the role of pilot survey in sampling.
2. Understand the concept of sampling and non sampling errors..
3. Understand the properties of unbiased estimate of the mean and variance of the estimated mean.
4. Comparison of simple random sampling and stratified random sampling.
5. Understand the circular sampling.
6. Obtain the role of circular sampling.

Semester IV
17UST430301B

Hours/Week: 4
Credits: 4

Core Elective-1 (WD): REAL ANALYSIS

Course Outcomes:

1. Understand the concept of types of sequence.
2. Learn the Cauchy's general principle of convergence..
3. Understand the role of mean value theorem in series.
4. Calculate the Taylor's series and Maclaurin's series.
5. Learn the Beta and Gamma integrals.
6. Obtain the benefits of Leibnitz rule.

Semester IV
17UST430404A

Hours/Week: 6
Credits: 4

Allied: MATHEMATICS-II

Course Outcomes:

1. Know the role of Bernoulli's formula for integral calculus.
2. Obtain the different types of particular integrals.
3. Understand the importance of Lagrange's equation in partial differential equations..
4. Obtain the role of alternating series.
5. Understand the usage of convergent and divergent series.
6. Know the role of Bernoulli's formula for integral calculus.

Semester IV
17UST430404B

Hours/Week: 6
Credits: 5

Allied: ACCOUNTANCY-II

Course Outcomes:

After completing the course , the student will be able to

1. Understand the basic principles of cost accounting and prepare cost sheet.

2. Prepare cash flow statement as per AS3.
3. Determine working capital of a business organisation.
4. Apply Marginal costing principles in decision making.
5. Draft different kinds of budgets for a business organization

Semester V
17UST530211

Hours/Week: 4
Credits: 3

DESIGN OF EXPERIMENTS

Course Outcomes:

1. Know the basic principles of experimental design.
2. Learn the difference between one way and Two way ANOVA.
3. Understand the applications of CRD and LSD.
4. Know the factorial experiments.
5. Understand the classification of One way and Two way Analysis of variance.
6. Obtain the importance of Design of experiments in Quality control

Semester V
17UST530212

Hours/Week: 4
Credits: 3

Practical: STATISTICAL PACKAGES (SPSS)

Course Outcomes:

1. Formation of frequency distribution using SPSS.
2. Obtaining the Regression lines using SPSS.
3. Test the association between the attributes using SPSS.
4. Learn the solution of Non parametric methods using SPSS.
5. Learn the difference between the attributes and variables using SPSS.
6. Obtain the correlation coefficient using SPSS.

Semester V
17UST530213

Hours/Week: 5
Credits: 3

LINEAR MODELS, ECONOMETRICS & RANDOM PROCESSES

Course Outcomes:

1. Know the General linear hypothesis of full rank.
2. Understand the uses of Gauss Markoff theorem in Linear model.
3. Obtain the classification of Random processes.
4. Learn the difference between Auto correlation and cross.
5. Understand the Markov chains.
6. Obtain the importance of transition probability matrices.

Semester V
17UST530214

Hours/Week: 5
Credits: 3

OPERATIONS RESEARCH-I

Course Outcomes:

1. Know the different types of Operations Research models.
2. Obtain the role of Linear Programming Problem in real life problem.
3. Calculate the relationship between dual and primal problem.
4. Show the uses of Travelling sales man problem in marketing industry.
5. Know the role of Transportation problems in Transport company.
6. Know the importance of Assignment problems in a company.

Semester V
17UST530215

Hours/Week: 4
Credits: 3

NUMERICAL MATHEMATICS

Course Outcomes:

1. Understand the uses of interpolation in various fields.
2. Know the role of Picard's method for successive approximation.

3. Obtain the solution of algebraic equations.
4. Learn the usage of numerical differentiation and integration.
5. Learn the importance of Lagrange's problem in interpolation..
6. Know the role of Picard's method for successive approximation.

Semester V
17UST540302

Hours/Week: 4
Credits: 4

Core Elective-I (WS): ACTUARIAL STATISTICS

Course Outcomes:

1. Learn the accumulate value and present value.
2. Obtain the redemption of loans.
3. Role of probability distributions general insurance.
4. Understand the Force of mortality..
5. Select the mortality table.
6. Know the importance of mortality tables.

Semester V
17UST540216

Hours/Week: Nil
Credits: 2

Self-Paced Learning: DATA ANALYSIS USING 'R' (Online Course)

Course Outcomes:

1. Formation of built – in functions using R.
2. Obtaining the solutions of probability distributions lines using R.
3. Find the relation between the variables using R.
4. Learn the importance of inference procedure for correlation.
5. Know the graphics in R
6. Obtain the role of scatter diagrams using R.

Semester V
17UST540601

Hours/Week: 2
Credits: 2

Skill Based Elective-I (BS): DATA ANALYSIS FOR COMPETITIVE EXAMINATIONS

Course Outcomes:

1. Know the role of aptitude in competitive examinations.
2. Learn profit and problems.
3. Draw the tabulation of data..
4. Learn the importance of combined averages.
5. Understand the use of Compound interest.
6. Obtain the importance of Tabulation of data.

Semester VI
17UST630217

Hours/Week: 7
Credits: 4

‘R’ LANGUAGE - PRACTICAL

Course Outcomes:

1. Formation of frequency distribution using R.
2. Obtaining the Regression lines using R
3. Test the association between the attributes using R
4. Learn the solution of Non parametric methods using R
5. Understand the cross tabulation and Chi-square test.
6. Formation of frequency distribution using R.

Semester VI
17UST630218

Hours/Week: 7
Credits: 4

ENGINEERING STATISTICS

Course Outcomes:

1. Understand the general theory of Control charts.

2. Know the attribute and variable control charts.
3. Obtain the acceptance sampling.
4. Prepare a reliability demonstration plan.
5. Learn the approach of Quality ISO9000 standards.
6. Learn the reliability systems applied in continuous probability distributions.

Semester VI
17UST630219

Hours/Week: 7
Credits: 4

OPERATIONS RESEARCH-II

Course Outcomes:

1. Understand the role of Game theory in LPP.
2. Know the determination critical path.
3. Compute the deterministic inventory models.
4. Know the practical problems using sequencing problem.
5. Learn the difference between the deterministic and probabilistic inventory models.
6. Obtain the role of sequencing problems in software company.

Semester VI
17UST630502

Hours/Week: Nil
Credits: 2

Additional Course: BIG DATA ANALYTICS

Course Outcomes:

1. Analysis of big data using statistics
2. Understand the Hadoop ecosystem
3. Find the tool for big data processing
4. Obtaining the data mining through statistics
5. Learn the basket analysis
6. Obtain the role of survival analysis in data analytics

Semester VI
17UST630303

Hours/Week: 4
Credits: 4

Core Elective-II (WS): APPLIED STATISTICS

Course Outcomes:

1. Learn the economic statistics.
2. Compute the different index numbers.
3. Learn the uses of Laspeyre's and Passche's and Fisher's index numbers in real life problems.
4. Study the functions of NSSO – CSO.
5. Learn the importance of good index number.
6. Understand the statistical system existing in India.

Semester VI
17UST630220

Hours/Week: Nil
Credits: 2

COMPREHENSIVE EXAMINATION

The aim is : * To enable the students to revise the entire syllabus.

* To train the students in solving multiple choice questions.

* To prepare the students for cracking the competitive examinations.

Semester VI
17UST630221

Hours/Week:
Credits: 2

INTERNSHIP

The aim is:

* To expose the students to the real work environment

* To train the students in using statistical concepts for solving real world problems.

* To train the students in Report Preparation.

* To explain the Practical utility in real life situations _____

Semester VI
17UST630222

Hours/Week: 3
Credits: 3

GROUP PROJECT

Course Outcomes:

- * To enable the students to apply the statistical techniques for solving real-life problems.
- * A good project goes a long way in providing practical training to the students. They get an opportunity through the project to apply some of the vital theoretical concepts and techniques that had learnt in the previous Semesters.
- * On most of the occasions, socio-economic survey and market research surveys are periodically conducted by government agencies, NGO's and private organizations. So, it is proposed to offer good project topics to the students in these practical areas. The students will be thoroughly trained through the project not only in scientific selection of sample for data collection, but also in identifying and applying approximate statistical techniques in their projects

Semester VI
17UST640602

Hours/Week: 2
Credits: 2

Skill-based Elective-II (BS): STATISTICS FOR MANAGEMENT**Course Outcomes:**

1. Obtain the measures of central tendencies
2. Learn the usage of skewness and kurtosis
3. Obtain the relationship between the two variables.
4. Find the association between the attributes
5. Obtain the measures of central tendencies
6. Understand the theory of attributes.

BACHELOR OF VOCATION (SOFTWARE DEVELOPMENT AND SYSTEM ADMINISTRATION)

Sem. I

17USS130201

Hours/Week : 3

Credits : 3

C PROGRAMMING

Assurance of Learning

Understand the basic concepts of C programming language

- Learn the problem solving techniques along with its features
- Gain knowledge on the Pointer, Structure and Files
- Develop simple applications using C programming•

Sem. I

17USS130401

Hours/Week : 3

Credit : 3

FOUNDATIONS OF COMPUTER SCIENCE

Assurance of Learning

Understand the major components of a computer system• Fundamental idea on System Software's and basics of networks• Perform computer operations by searching information on the web and sending mails•

Sem. II

17USS230203

Hours/Week : 3

Credit : 3

USER INTERFACE DESIGN

Assurance of Learning

Gain knowledge of the concepts and principles of HTML5

- Understand the concepts and principles of CSS3
- Build dynamic websites by using HTML5 and CSS3•

Sem. II

17USS130402

Hours/Week : 3

Credit : 3

GRAPHICS DESIGN USING PHOTOSHOP

Assurance of Learning

To impart the knowledge of various design patterns to create greeting cards, visiting cards, Web banners using Photoshop

Learn the various tools in the Photoshop

- Applying transformations and filters in images and do image corrections

Sem. III
17USS330203

Hours/Week : 3
Credits : 3

JAVA PROGRAMMING

Assurance of Learning

Learn the fundamentals of Object Oriented Programming Concepts

- Learn core java concepts like Applets, AWT, Networking and Database connectivity
- Create Desktop Applications using Java•

Sem. III
17USS330403

Hours/Week : 3
Credits : 3

SYSTEMS CONCEPTS- I

Assurance of Learning

Fundamental knowledge on data structures

- Basic ideas on algorithms and their design methods
- Basic knowledge about the operating systems and its management•

Sem. IV
17USS430204

Hours/Week : 3
Credits : 3

ADVANCED JAVA

Assurance of Learning

Understand the concepts of the server side technology

- Write programs using Java Server Pages
- Understand component development using Java Beans•

Sem. IV
17USS430404

Hours/Week : 3
Credits : 3

SYSTEM CONCEPTS - II

Assurance of Learning

Understand the principles of Linux Operating System for effective System administration

Understand the basics of Shell Scripting

- Understand the basics of networking
- Understand various security issues in networking
- Know various Firewall policies• Discuss the webserver (Apache)

Sem. IV
17USS441004

Hours/Week : 2
Credit : 2

LIFE COPING SKILLS

Assurance of Learning

To develop the Personal Skills and to motivate the youngsters

Sem. V
17USS530205

Hours/Week : 4
Credit : 4

DISTRIBUTED TECHNOLOGIES

Assurance of Learning

Understand the fundamental concepts of .NET frame work

- Know various tier models in web development
- Understand the different architectures in web development
- Understand the C# Fundamentals
- Understand the fundamentals of ASP.NET programming

- Demonstrate the database connectivity in ASP.NET
- Discuss and extend data list and data grid controls•

Sem. V
17USS530206

Hours/Week : 4
Credits : 4

SOFTWARE ENGINEERING

Assurance of Learning

Basic understanding of software engineering, terminologies, various process models.

- Learn the importance of software requirement specification and requirement engineering tasks.

Understand the relationship between estimation, scheduling and modularity of a software system.

Understand and apply the concept of software metrics, testing strategies and techniques

Sem. V
17USS530207

Hours/Week : 4
Credits : 4

RDBMS

Assurance of Learning

Know the fundamentals of database systems and their design

- Write Queries using SQL
- Implement programming language constructs in Oracle database
- Know the basics of Transaction and Security in databases

Sem. VI
17USS630208

Hours/Week : 4
Credits : 4

FUNDAMENTALS OF COMPUTER NETWORKS

Assurance of Learning

Basic concepts concepts of networking model and the applications

- Understand the various layers in network model

- Understand the fundamentals of LAN
- Learn various devices used in networking•

Sem. VI
17USS630209

Hours/Week : 4
Credits : 4

LAMP

Assurance of Learning

Understand the basics of LINUX operating system

- Understand how web servers works
- Understand the MySQL database concepts
- Know the fundamentals of PHP programming•

Sem. VI
17USS630210

Hours/Week : 4
Credits : 4

PRINCIPLES OF MOBILE COMPUTING

Assurance of Learning

Understand the concepts of mobile computing.

- know the Evolutions of mobile computing
- know the Mobile IP Address communication
- Learn the technologies for developing applications on mobile platforms.
- Create applications for smart devices using android.
- Understand UI - components, layouts, event handling, and screen orientation.•

B.Sc. VISUAL COMMUNICATION

Programme Outcomes (POs)

1. Undergraduate students are to be passionately engaged in initial learning with an aim to think differently as agents of new knowledge, understanding and applying new ideas in order to acquire employability/ self employment.
2. Undergraduate students are trained to take up higher learning programmes.
3. Undergraduate students are made to be competent and socially responsible citizen of India.
4. Undergraduate students are to be exposed to technical, analytical and creative skills.
5. Undergraduate students are to be imparted with a broad conceptual background in the Biological sciences / Computing sciences / Languages and culture / Management studies / Physical sciences/ Media Studies & Vocational Programmes

Programme specific Outcomes (PSOs)

Critical and Analytical Thinking Skills

- ⊗ Problem solving Skills
- ⊗ Designing skills
- ⊗ simulating Skills
- ⊗ Knowledge on media presentation skills
- ⊗ Knowledge on Computer animation and multimedia software
- ⊗ Entrepreneurial Skills
- ⊗ Employability Enhancement⊗

Semester-I
18UVC130201

Hours/Week : 6
Credits : 4

Core Paper- I INTRODUCTION TO VISUAL COMMUNICATION

Course outcomes:

Understand the concepts in communication and need for communication

- Ability to analyze the Visual communication Trends
- Gain Knowledge about Visualization.
- Learn the Audio Visual Media intricacies.
- Demonstrate cinema medium as powerful audio visual medium.
- Ability to know the communication ethics.●

Semester - I & II
18UVC230203

Hours/Week : 4
Credits : 3

Core Paper Practical- I VISUAL LITERACY (P)

Course Outcomes:

Understand the Principles of visual construction and its application

- Ability to analyze the Technicality of Drawing and improve creative motifs for designing
- Gain knowledge about the Colour, Rhythm, Balance
- Learn the Geometrical shapes and forms for designing.
- Demonstrate and use visual literacy and design as a medium for effective communication
- Ability to read write and create visual images●

Semester - I - II
18UVC230204

Hours/Week : 3
Credits : 4

Allied Practical - I MEDIA PRESENTATION SKILLS (P)

Course Outcomes:

Understand the concepts of communication skills and non verbal communication

- Ability to analyze the presentation skills.
- Gain knowledge about various Body language techniques.
- Learn the Time Management Audio Visual Media intricacies.
- Comprehend the relationship between the Group discussion and interview skills.
- Recognize presentation skills are essential for today's professional.●

Semester - I
18UVC130401

Hours/Week : 6
Credits : 5

Allied Paper - I HUMAN COMMUNICATION

Course outcomes:

Understand the evolution, nature and facets of human communication.

- Analyze the effective use of body to become effective communication.
- Gain knowledge about the mass communication.
- Ability to analyze mass media and its influence to the society.
- Learn to establish and maintain relationship with others.
- Demonstrate about communication ethics. •

Semester - II
18UVC230202

Hours/Week : 5
Credits : 4

Core Paper - II BASICS OF ADVERTISING

Course Outcomes:

Understand advertising and its scopes.

- Ability to analyze the Advertising Campaign and its dynamics.
- Gain Knowledge about various creative aspects in advertising.
- Learn the Creative Perspectives of Advertising.
- Know the Recent Advertising Trends.
- Recognize commercial activity of creating and making the advertisement for the public. •

Semester - II
18UVC230402

Hours/Week : 6
Credits : 5

Allied Paper - II ART AND VISUAL AESTHETICS

Course outcomes:

Understand and discover Indian art.

- Ability to analyze the Aesthetics value in Art and social responsibility Artist
- Learn about Southern temples.
- Gain Knowledge on western art and architecture.
- Comprehend on the Painting strategies used around the world.
- Aware about painting, sculpture and architecture of historic period. •

Semester-II
Code: 17UFC241002

Hours/Week: 2
Credits: 2

FUNDAMENTALS OF HUMAN RIGHTS

Course outcomes:

To ensure acquiring the knowledge about the historical background of human rights.

- ⊕ To ensure sensitizing the young the values of human rights.
- ⊕ To ensure the importance of human rights in the Indian context.
- ⊕ To ensure learning the fundamental duties in the constitution of India.
- ⊕ To ensure educating the youth in respecting and protecting the rights of every other human being.

To ensure teaching the youth on the vulnerabilities of women and children.

Semester - III
18UVC330205

Hours/Week : 4
Credits : 3

Core Paper - III GRAPHIC DESIGN

Course outcomes:

Understand the components of graphic communication.

- Ability to analyze the Typography.
- Learn about Elements of design.
- Ability to understand the usage of colours in design.
- Acquire knowledge on the Composition.

- Know about layouts of graphic design. •

Semester - III
18UVC330206

Hours/Week : 4
Credits : 3

CORE PAPER - IV WRITING FOR MASS MEDIA

Course outcomes:

Understand the rules for writing for various media. •

Emphasis the writing nuances of different media.

- Learn about various styles of writing.
- Ability to learn techniques and rules of good writing and apply it while writing.
- Identify the advantages of news writing.
- Recognize write and reach a mass audience. •

Semester - III
18UVC330207

Hours/Week : 3
Credits : 2

Core Paper Practical- II COMPUTER GRAPHICS (P)

Course Outcomes:

Emphasis on design principles and reproduction techniques in print designs.

- Apply the layout principles of graphic design
- Ability to analyze the Typography.
- Identify the Elements of design.
- Acquire knowledge on the Composition.
- Learn the usage of colours in design. •

Semester - II
18UVC330403

Hours/Week : 4
Credits : 4

Allied Paper - III PHOTOGRAPHY

Course outcomes:

Understand the basic components of Photography.

- Identify the types of camera.
- Gain knowledge about digital photography.
- Ability to understand the usage of light.
- Familiarize on the Composition.
- Describe the working knowledge on photojournalism. •

Semester - III & IV
18UVC430405

Hours/Week : 4
Credits : 2

Allied Practical - II BASICS OF PHOTOGRAPHY (P)

Course Outcomes:

Describe the basic components of operating a camera and take effective indoor and outdoor photographs.

Use DSLR camera to shoot the technicality of photographs.

- Design professional Photographs and know how to centre the in camera.
- Ability to understand the usage of light.
- Develop practical's, the students are to be taught and trained to handle the photography camera with the basic elements of photography like shots, angles, view, exposures, effects etc.

Semester - IV
18UVC430208

Hours/Week : 6
Credits : 4

Core Paper- IV REPORTING AND EDITING

Course outcomes:

Emphasis on the principles of reporting.

- Ability to analyze the elements of reporting for various mediums.
- Gain knowledge about types of reporting.
- Comprehend the genres of reporting.

- Identify the need for editing in journalism.
- Know the structure and function of news room and their sections. •

Semester - IV
18UVC430209

Hours/Week : 3
Credits : 3

Core Paper- IV ELEMENTS OF FILM AND FILM APPRECIATION

Course outcomes:

Understand the Film Forms and cinema Movements.

- Aware of the Film Making Process.
- Know about Mise-en- scene.
- Identify the genres of Films.
- Acquire knowledge on the Great Auteur both at the International as well National and Regional.

Comprehend Indian and international film makers.

Semester - IV
18UVC430301

Hours/Week : 4
Credits : 4

ELECTIVE - I MASS COMMUNICATION THEORIES

Course outcomes:

Learn the fundamentals of the communication theories.

- Identify the mass media effects.
- Gain knowledge about theories of communication.
- Recognize understand the models of communication
- Determine the various media influence. •

Semester - IV
18UVC430404

Hours/Week : 4
Credits : 4

Allied paper- IV MEDIA CULTURE AND SOCIETY

Course outcomes:

Be acquainted with the various aspects of media responsibility.

- Differentiate Multimedia Systems and Hyper Media.

Learn Digital Media Saturation.

- Identify the Media Determinants.
- Acquire knowledge on Ideology and Culture.
- Aware on transmission on exchange of information to large group of people.

Semester V
18UVC530210

Hours/Week: 4
Credits: 3

Core paper- V NEWS PRODUCTION**Course Outcomes:**

Learn the basic concepts of news production.

- Comprehend the news from gathering to the final broadcast.
- Gain knowledge on television news room terms and operational concepts .
- Identify Television news writing style.
- Acquire knowledge on recent techniques involved in making of news.
- Aware of different genre of news and interviews.

Semester V
18UVC530211

Hours/Week: 4
Credits: 3

Core paper - VI SCRIPT WRITING**Course Outcomes:**

Describe the fundamental principles of Script Writing.

- Ability to analyze the narrative structure of story.
- Gain Knowledge on scripting Software's and typing skills.
- Learn the genres of script for various media.

- Acquire knowledge on the creative thinking.
- Demonstrate the laws related to script writing. •

Semester-V
18UVC530212

Hours/Week: 4
Credits: 3

Core paper - VII MEDIA RESEARCH ORIENTATION

Course Outcomes:

Ability to understand the various methods of research

- Learn the types of research problems.
- Understand the concept, theory and research hypothesis.
- Ability to understand the nuances of research design and sample design.
- Gain knowledge on Social science research
- Familiarizes the types of schedules, interviews and data processing in research

Semester - V
18UVC530213

Hours/Week: 5
Credits: 4

Core paper - VIII RADIO PRODUCTION (P)

Course Outcomes:

Ability to understand the radio as a medium of communication.

- Learn the types of consoles and microphones selection.
- Gain knowledge about producing programs for broadcast media.
- Understand the individual skills for producing pieces for air.
- Acquire knowledge on preparing various radio programme.
- Demonstrate the splicing and editing sound files.

Semester – V
18UVC530214

Hours/Week: 5
Credits: 4

Core paper - IX TELEVISION PRODUCTION (P)

Course Outcomes:

Understand the medium of Television historically, technically and aesthetically.

- Learn the concepts of visual language.
- Ability to analyze the functions of television production.
- Gain knowledge about equipment and facilities in production.
- Familiarizes the linear and non linear editing.
- Acquire knowledge on the production of various television Programme.●

Semester - V
18UVC530302

Hours/Week:
Credits: 4

CORE ELECTIVE - II INTRODUCTION TO 2D ANIMATION**Course Outcomes:**

Understand the basics of 2D art and Animation..

- Gain Knowledge on character creation
- Ability to produce basic 2D modeling shapes and character modeling .
- Learn various tools and animation techniques.
- Ability to create a range of characters that work together as a _cast‘ .
- Gain familiarity with Toon boom elements●

Semester-V
18UVC540601

Hours/Week: 2
Credits: 2

SBE- I DESKTOP PUBLISHING**Course Outcomes:**

Understand the fundamentals elements of design.

- Understand the basics of desktop publishing.
- Ability to create poster making, invitation preparation and Dangler designing.
- Gain knowledge to handle various software's used in the printing field.

- Learn to design layouts using 2D software's.
- Use knowledge of presentation software's to prepare their projects. •

Semester-VI
18UVC630215

Hours/Week: 5
Credit: 4

Core paper- X PUBLIC RELATIONS

Course Outcomes:

Understand the need for Public Relation in the organizations.

- Ability to analyze the PR strategies
- Gain Knowledge about Public Relation Campaign
- Ability to understand the role of PR in media institution
- Learn the tools of Public Relation.
- Acquire knowledge on the writing techniques for press and press release and press handouts

Semester-VI
18UVC630216

Hours/Week:5
Credits: 4

Core paper - XI ONLINE JOURNALISM

Course Outcomes:

Understand the medium of internet as an effective way for newspaper industry.

- Ability to analyze the changing trends in professional journalism as a result of online communication technology.

Knowledge about Web writing.

- Learn the ethical perspective of Online Media.
- Acquire knowledge on the E- Newspaper.
- Demonstrate the cyber laws related to online journalism. •

Semester-VI
18UVC630217

Hours/Week: 5
Credits: 4

Core paper - XII DEVELOPMENT COMMUNICATION

Course Outcomes:

Understand the potential of communication for holistic social development.

- Ability to analyze the role of development communication.
- Understand the fundamentals of Campaign planning and strategies.
- Gain Knowledge about skills to use development communication for social change.
- Learn the ethical perspective of Online Media.
- Acquire knowledge on the Social advertising. •

Semester-VI
18UVC630218

Hours/Week: 4
Credits: 3

Core paper- XIII INTERNSHIP (P)

Course Outcomes

Develop new technical skills with respect to industry standards.

- Ability to acquire ,Evaluate , organize and maintain information.
- Improve Portfolio for the company presentation.
- Demonstrate on the effective use of media for social change student.

Develop appropriate topic based on area of specialization already chosen by the Emphasis will be given to producing work that can be made use of in the industry.

Semester-VI
18UVC630219

Hours/Week:5
Credits: 4

Core paper- XIV PROJECT (P)

Course outcomes:

Learn to Plan, Design and execute various media productions.

- Understand the Feasibility in media Productions.

- • placement in the media industry. Demonstrate competence in a chosen area of specialization, with a view of gaining a Emphasis in producing work that can be made use of in the industry.

media forms.

Know when and what techniques should be used while designing for the various Develop technical and presentation skills for their own concepts. •

Semester-VI
18UVC630303

Hours/Week: 4
Credits: 4

CORE ELECTIVE - III WEB DESIGNING (P)

Course Outcomes:

Understand the aesthetics behind presentation style of web media. •

Ability to analyze the interactive elements in web designing.

- Gain Knowledge about HTML.
- Learn the designing principles for web media.
- Demonstrate on the Web page creation. •

Semester-VI
18UVC640602

Hours/Week:
Credits: 2

SBE - II EVENT MANAGEMENT

Course Outcomes:

Understand the event management elements.

- Ability to analyze the interactive elements in web designing.
- Gain Knowledge about organizing an event.
- Learn the planning and evaluating the various programmes.
- Demonstrate the technicality involved in event planning. •

Semester V

Hours/Week:

Credits:

EXTRA CREDIT PAPER- I MAGAZINE PRODUCTION, LAYOUT & DESIGN

Course Outcomes:

Ability to understand the Magazine production.

- Ability to analyze the concept of typography.
- Knowledge about elements of design
- Ability to understand the Magazine layout design and Layout.
- Acquire knowledge on content and layout analysis of English and Tamil magazines. •

**VALUE ADDED COURSE - I Semester VI
18UVC530210**

**Hours/Week: 4
Credits: 3**

VALUE ADDED COURSE PHOTO JOURNALISM

Course Outcomes:

Learn the basic concepts of photography and photojournalism.

- Ability to analyze the major issues in the field of photojournalism.
- Gain knowledge about impact of latest technology on photojournalism.
- Acquire knowledge on the significance and future of photojournalism.
- Familiarize the concepts related to digital Studio. •

B. VOC. VISUAL COMMUNICATION TECHNOLOGY

Sem-I
17UVT130201

L P C
3 0 3

Core Paper- I VISUAL LITERACY

Assurance of Learning:

- Ability to understand the Principles of visual field
- Ability to analyze the Technicality of Designing
- Knowledge about the Colour, Rhythm, Balance
- Ability to understand the Geometrical shapes and forms
- Ability to understand and use visual literacy and design as a medium for effective communication

Sem-I
16UVT130401

L P C
3 0 3

Allied Paper - I INTRODUCTION TO VISUAL COMMUNICATION

Assurance Of Learning:

- Ability to understand concepts in communication and need for communication
- Ability to analyze the Visual communication Trends
- Knowledge about Various Communication Models and its influence on the Society
- Ability to understand Audio Visual Media intricacies
- Acquire knowledge on the Recent New Media Trends and importance of Social Media

Sem-I
16UVT130203

L P C
3 0 3

SKILL COMPONENT PHOTOGRAPHY

Assurance of Learning:

- Ability to understand the principles of Photography

- Ability to analyze the Technicality of Photographing
- Knowledge about the Lens , Camera Movements, Angles and Framing
- Ability to understand the Working Place health and safety
- Ability to understand and use photographs as a medium for effective communication

Sem-II
17UVT230204

L P C
3 0 3

Core Paper - II COMMUNICATION MEDIA SCENARIO

Assurance Of Learning:

- Ability to understand the various forms of media
- Ability to analyze the Various medium of communication
- Knowledge about current technology growths
- Ability to understand mass mediums structure and its function
- Acquire knowledge on the Indian media scenario.

Sem-II
16UVT230204

L P C
3 0 3

Allied Paper - II BASICS OF ADVERTISING

Assurance Of Learning:

- Ability to understand advertising and its scope
- Ability to analyze the Advertising Campaign and its dynamics
- Knowledge about various creative aspects in advertising
- Ability to understand Creative Perspectives of Advertising.
- Acquire knowledge on the Recent Advertising Trends

Sem-II
16UVT230206

L P C
3 0 3

SKILL COMPONENT IMAGE EDITING AND MANIPULATION

Assurance of Learning:

- Ability to understand the need for Image Manipulation
- Ability to analyze the Tools of Photoshop
- Knowledge about Image Special Effects
- Ability to understand Masking and Filters in Photoshop
- Acquire knowledge on the Album Designing and Various Designing concepts•

Sem-III
16UVT330207

L P C
3 0 3

Core Paper- III FILM STUDIES

Assurance of Learning:

Ability to understand the Film Forms and Movements

- Ability to analyze the Film Making Process
- Knowledge about Mise-en- scene
- Ability to understand the genres of Films
- Acquire knowledge on the Great Auteur both at the International as well National and Regional

Sem-III
16UVT330403

L P C
3 0 3

Allied Paper - III GRAPHIC DESIGN

Assurance of Learning:

- Ability to understand the how to create illusionary images, segments of Production
- Ability to analyze the Visual effects
- Knowledge about After Effects
- Ability to understand interpolation and Masking Techniques
- Acquire knowledge on the Time Remapping and Rotoscopy techniques

Sem-IV
16UVT430210

L P C
3 0 3

Core paper - IV SCRIPT WRITING

Assurance Of Learning:

- Ability to understand process of Production for Script
- Ability to analyze the Narrative Structure of Story
- Knowledge about Scripting Software's and Typing Skills
- Ability to understand the genres of script for various media
- Acquire knowledge on the Creative Thinking

Sem-IV
14UVT441003

L P C
2 0 2

VALUE EDUCATION: MEDIA GENDER STUDIES

Assurance of Learning:

- Ability to understand the concepts of gender
- Ability to analyze the sensitivity towards gender
- Knowledge about the areas of gender discrimination
- Ability to understand the women development
- Acquire knowledge on women's movement and safeguard mechanism.

Sem-IV
16UVT430404

L P C
3 0 3

Allied paper- IV MEDIA CULTURE AND SOCIETY

Assurance of Learning:

- Ability to understand the various aspects of media responsibility.
- Ability to analyze the Multimedia Systems and Hyper Media
- Knowledge about Digital Media Saturation
- Ability to understand Media Determinants

- Acquire knowledge on Ideology and Culture

Sem-V
17UVT530211

L P C
4 0 4

Major paper- V MEDIA RESEARCH ORIENTATION

Assurance Of Learning:

- Ability to understand the types of research in social science.
- Ability to analyze the research problem
- Knowledge about the research hypothesis
- Ability to understand the sampling procedures
- Acquire knowledge on writing thesis report.

Sem-V
17UVT530212

L P C
4 0 4

Core paper- VI VISUAL ANALYSIS TECHNIQUES

Assurance of Learning:

- Ability to understand the media text.
- Ability to analyze the feminist analysis and media
- Knowledge about the psychoanalytic criticism
- Ability to understand the sociological analysis
- Acquire knowledge on interpretation of visual advertisements.

Sem-V
16UVT530213

L P C
4 0 4

**Core paper- VII MEDIA EQUIPMENT MAINTENANCE AND MEDIA
PRESENTATION SKILLS**

Assurance of Learning:

Ability to understand the need Equipment Maintenance

- Ability to analyze the problems with the camera and Accessories
- Knowledge about Media Presentation skills
- Ability to understand Body Language and Voice Modulation
- Acquire knowledge on the presentation skills for the Audio Visual media•

Sem-V
16UVT630216

L P C
4 0 4

Core paper- IX MEDIA MANAGMENT

Assurance of Learning:

Ability to understand the media organization management

- Ability to analyze the Media Production and Controls
- Knowledge about Entrepreneurship
- Ability to understand Marketing Trends
- Acquire knowledge on the Advertising Management

Sem-VI
16UVT630217

L P C
4 0 4

Core paper- VIII PUBLIC RELATIONS

Assurance of Learning:

Ability to understand the need for Public Relation in the organisation

- Ability to analyze the PR strategies
- Knowledge about Public Relation Campaign
- Ability to understand the role of PR in media institution
- Acquire knowledge on the writing techniques for press and press release and press handouts

Sem-VI
16UVT630218

L P C
4 0 4

Core paper- X MEDIA PROJECT/ INTERNSHIP

AIM: To enable the student to get exposure to actual situations and day-to-day functioning of an advertising agency or professional studio.

CONTENT: For period of one months, the student will be attached to an agency or studio, on an internship basis.

The intern will be exposed to the particular area of specialization already chosen.

- Progress of the intern will be closely monitored by the department guide in co –ordination with studio/agency guide. A report and viva voce will complete the process of evaluation.
- Criteria for selecting the topic will be based on area of specialization already chosen by the student. Emphasis will be given to producing work that can be made use of in the industry.
- The student will enter the media industry with an evaluated portfolio.

Semester: I
17UGE120101

Hours/Week: 5
Credits: 3

GENERALENGLISH-I

Course Outcome

- * Introduce themselves to the others
- * Narrate simple experiences in a coherent manner
- * Understand the underlying meaning in the text
- * Describe accurately what he/she observes and experiences
- * Converse with friends about their likes and dislikes
- * Write leave letters using the appropriate format and language

gUtk;: 1 kzp
17UGT110001

Neuk;: 4
Gs;spfs;: 3

nghJj;jkpo;-I

ghlj;jpd; tpisT

- r%f khw;wr; rpe;jidfis cs;slf;fpa jw;fhy ,yf;fpag;gug;ig

mwpjy;

- GJf;ftpjij> rpWfij> ciueil Mfpatw;wpd; ,yf;fpaj;jpwd; fz;lwpjy;.
- re;jpg;gpiopd;wp vOJk; jpwd; ngWjy;.
- tho;f;if tuyhw;Wf; fl;Liufis thrp;Fk; jpwd; ngWjy;.
- md;whlg; gad;ghl;bYs;s Mq;fpyr;nrhw;fSf;Fg; nghUj;jkhd nrhw;fis cUthf;fr;nra;jy;
- muRg;Nghl;bj; Nju;TfSf;Nfw;g jkpo;nkhopapy; gapw;rp mspj;jy;.

Semestre: I
17UGH110001

Hours/Week: 4
Credits : 3

HINDI-I

Course Outcomes

At the end of the course, a student should be able to demonstrate...

- * Knowledge and understanding of Hindi Conversations
- * Improvement of the writing skills.
- * Knowledge of Grammar forms
- * Effective communicative skills in Hindi.
- * The introduction of socially relevant subjects in Modern Hindi Literature
- * Appreciation the features of Modern Hindi Prose

Semestre: I
17UGF110001

Heures /Semaine:4
Credits: 3

FRANÇAIS-I

Course Outcomes

- * Introduire la langue et la culture française aux étudiants
- * Comparer la culture de l'Inde et de la France
- * Familiariser l'étudiant avec le vocabulaire
- * la grammaire et les conversations se présenter
- * Donner des informations en Français
- * Conjuguer des verbes, Avoir Etre Aller Fair

Semester: I
17UGS110001

Hours/Week: 4
Credits : 3

SANSKRIT-I

Course Outcomes

At the end of the course, a student should be able to demonstrate...

- * Knowledge and understanding of basic Sanskrit grammar
- * Knowledge and understanding of essential Sanskrit vocabulary
- * Introduction of the writing skills
- * Introduction of Sanskrit Aksharas.
- * Introduction of Present tense forms
- * Implementation of good thoughts from Subashitani

Semester I
17UFC141001

Hours/Week:2
Credits: 2

ESSENTIALSOF HUMANITY

Course Outcome

1. To ensure creating awareness among the youth on human values.
2. To ensure educating the youth, the basic principles of value education.
3. To ensure the process of analyzing, appreciating and personalizing values as our own.
4. To ensure that students develop various dimensions of human personality.
5. To ensure the youth empowering the gender sensitization, gender differences and gender roles.
6. To ensure preparing the students for the smooth transfer from the stage of teenage to earlier adulthood

Semester: II
17UGE220102

Hours/Week: 5
Credits: 3

GENERALENGLISH-II

Course Outcome

- * Ask open-ended questions in real-life situations
- * Use polite expressions in appropriate ways
- * Use correct punctuation marks and capital letters
- * Use appropriate vocabulary
- * Put ideas into a cohesive paragraph
- * Develop positive self-esteem and thereby communicate effectively

gUtk;: 2 kzp
17UGT210002

Neuk;: 4
Gs;spfs;: 3

nghJj;jkpo;-II

ghlj;jpd; tpisT

- r%f khw;wr; rpe;jidfis cs;slf;fpa jw;fhy ,yf;fpag;gug;ig mwpjy;
 - gf;jp ,yf;fpaq;fspd; top ,iwapay; Nfhl;ghLfis mwpjy;
 - ciueilf; fl;Liu vOJk; jpwd; ngWjy;- ,yf;fzkuGfis mwpjy;
 - gy;NtW rkaq;fspd; tho;tpay; fUj;Jf;fis mwpe;J gpd;gw;Wjy;
 - fhg;gpaq;fspy; cs;s rKjhaf; fUj;Jf;fis mwpe;Jnfhs;Sjy;.
 - ,jpfhrq;fs; czu;j;Jk; ePjpfis mwpar;nra;jy;.
- muRg;Nghl;bj; Nju;TfSf;Nfw;g nghJf;fl;LiufSk; nkhopg;gapw;rpAk; khztu;fSf;F mspj;jy;.

Semestre: II
17UGH210002

Hours/Week: 4
Credits : 3

HINDI-II

Course Outcomes

At the end of the course, a student should be able to demonstrate...

- their effective communicative skills in Hindi
- the introduction of socially relevant subjects in Modern Hindi Literature
- to appreciate the features of Modern Hindi one act plays and short stories
- the ability to fill in application forms Hindi
- use Hindi vocabulary and grammar patterns in a culturally proper

ways.

- the ability to write about famous Hindi authors

Semestre: II
17UGF210002

Heures /Semaine: 4
Credits: 3

FRANÇAIS-II

Course Outcomes

- * Faire connaissance des journaux, des courriels, des lettres
- * Comprendre les conversations téléphoniques.
- * Décrire quelque chose
- * Demander son chemin
- * Parler des activités du week-end
- * Accepter, refuser, exprimer la certitude

Semester: II
17UGS210002

Hours/Week: 4
Credits : 3

SANSKRIT-II

Course Outcomes

At the end of the course, a student should be able to demonstrate...

- * knowledge and understanding of basic Sanskrit grammar
- * knowledge and understanding of essential Sanskrit vocabulary
- * knowledge and understanding of the appropriateness of basic Sanskrit structures and expressions in a given context
- * the ability to understand short passages in written Sanskrit on everyday topics
- * the ability to produce short passages in written Sanskrit on everyday topics
- * introduction of basic grammar (Avyaya Imperfect tense and Sandirules. Samasah.)

Semester II
17UCE240802A

Hours/Week: 2
Credit: 2

COMPUTER LITERACY

Course Outcomes

1. Understand the basics of Computer Systems
2. Familiar with the applications of MS-Office / HTML & CSS
3. Know the statistical data analysis using R
4. Aware the latest trends and technologies such as Mobile Computing, Big Data and Analytics, Cloud Computing.
5. Understand the concepts of social networking sites.
6. Knowledge in Cyber Crime and Cyber Ethics

Semester II
17UFC241002

Hours/Week: 2
Credits: 2

FUNDAMENTALS OF HUMAN RIGHTS

Course Outcome

1. To ensure acquiring the knowledge about the historical background of human rights.
2. To ensure sensitizing the young the values of human rights.
3. To ensure the importance of human rights in the Indian context.
4. To ensure learning the fundamental duties in the constitution of India.
5. To ensure educating the youth in respecting and protecting the rights of every other human being.
6. To ensure teaching the youth on the vulnerabilities of women and children

Semester: III
17UGE320103

Hours/Week: 5
Credits: 3

GENERAL ENGLISH-III

Course Outcome

- * Comprehend the local and global issues through the lessons
- * Do the tasks centering on skill development and enhance their Grammar Using and Writing Skills
- * Use interactive skills
- * Train and develop the Listening and Reading Skills of the learners through

teacher-led reading practice

- * Enhance their Listening, Reading, Speaking, and Writing Skills
- * Develop their Creative and Critical Thinking and Speaking Skills

Semester III
17UFC340901

Hours/Week: 2
Credits: 2

ENVIRONMENTALSTUDIES

Course Outcome

1. To ensure understanding the significance of environment in which we live.
2. To ensure imparting knowledge on the recent issues associated with environment.
3. To ensure educating the youth the causes and consequences of various types of pollutions.
4. To ensure sensitizing the youth the increasing threats to nature and the misery mankind faces.
5. To ensure the limitations of the available natural resources and the need to sustain them.
6. To ensure imparting the knowledge on the concept of biodiversity and its advantages.

Semester IV
17UFC441004A

Hours/Week: 2
Credits: 2

FORMATIONOFYOUTH-II

Course Outcome

1. To ensure preparing the students to live in harmony with nature.
2. To ensure the youth the significance of public health and the related issues.
3. To ensure sensitizing the youth about addictions and their consequences.
4. To ensure educating the youth on disaster management and First-Aid.
5. To ensure enlightening on the developmental issues and challenges of youth today.
6. To ensure the value of counselling for attaining positive mental health.

Semester IV
17UFC441004B

Hours/Week: 2
Credits: 2

RELIGIOUSDOCTRINE-II

Course Outcome

1. To ensure appreciation of the harmony of religion.
2. To ensure training the youth in the power of prayer.
3. To ensure the understanding of Mary's role in salvation history and Marian Dogmas.
4. To ensure enlightening the graces and invisible effects of the sacraments.
5. To ensure the youth with the promise that God forgives failings on repentance.
6. To ensure understanding the concept of salvation and the promise of eternal life

Semester: IV
17UGE420104

Hours/Week: 5
Credits: 3

GENERALENGLISH-IV

Course Outcome

- * Comprehend the local and global issues through the lessons
- * Do the tasks centering on skill development and enhance their Grammar Using and Writing Skills
- * Use interactive skills
- * Train and develop the Listening and Reading Skills of the learners through teacher-led reading practice
- * Improve their General Writing Skills such as Note-Taking, Note-Making, Précis Writing, Paragraph Writing, and Writing Short Essays on Current Issues/General Topics
- * Understanding the social background and human character of the period

gUtk;: 4
17UGT410004

kzp Neuk;: 4
Gs;spfs;: 3

nghJj;jkpo;-IV

ghlj;jpd; tpisT

- ehlfj;jpd; Nghf;Ffs;> cj;jpfs;> ghj;jpug;gilg;G> ciuahly; Kiw> fw;gidj;jpwk; Nghd;wtw;iw mwpe;;;Jnfhs;Sjy;.
- Gjpa ehlfq;fisg; gilf;Fk; jpwidg; ngWjy;.
- ehlfq;fis ebf;Fk; jpwd; ngWjy;
- fpNuf;f> Mq;fpy ehlfq;fis mbnahw;wp jkpo;ehlfk; Njhd;wpa tuyhW mwpar; nra;jy;.
- rq;ffhyk; njhl;L ,f;fhyk; tiu fhjy; gw;wpa czu;Tfis vLj;Jiuj;jy;.
- jkpo; tuyhw;wpd; kd;du;fspd; Ml;rpapd; rpwg;GfisAk; tPo;r;rpfisAk; vLj;Jf;fhl;Ljy;

Semestre: IV
17UGH410004

Hours/Week: 4
Credits: 3

HINDI-IV

Course Outcomes

At the end of the course, a student should be able to demonstrate...

- * the ability to empower the students with globally employable soft skills
- * the ability to translate Hindi passages to English
- * the ideas on human values
- * the ability to instruct the moral values given by the Bhakthi Saints
- * the knowledge of Indian festivals .
- * the knowledge of culture and tradition

Semestre: IV
17UGF410004

Heures /Semaine: 4
Credits : 3

FRANÇAIS-IV

Course Outcomes

- * Comparer la culture de l'Inde et de la France
- * Familiariser l'étudiant avec le vocabulaire, la grammaire et les conversations

- * Connaître les auteurs français (20 auteurs) et leurs œuvres
- * Dire qu'on aime quelqu'un/ quelque chose
- * Demander des informations
- * Exprimer une opinion personnelle et Justifier son opinion

Semester: IV
17UGS410004

Hours/Week: 4
Credits : 3

SANSKRIT-IV

Course Outcomes

At the end of the course, a student should be able to demonstrate...

- * knowledge and understanding of the history of Sanskrit Drama.
- * knowledge and understanding of the Nataka vivaranam.
- * the introduction of Functional - Sanskrit conversation Letter writing.
- * the ability to apply relevant theoretical perspectives to topics within the field of study
- * the competence in academic writing and oral presentation skills.
- * the ability to work both independently and in groups on presentations and/or development of Projects

gUtk;: 3
17UGT310003

kzp Neuk;: 4
Gs;spfs;: 3

nghJj;jkpo;- III

ghlj;jpd; tpisT

- nrk;nkhopahk; jkpo; nkhopapd; rpwg;ig mwpjy;.
- gz;il ,yf;fpaq;fs; czh;j;Jk; mwf;fUj;Jfis mwpjy;
- Gjpdk; thapyhfj; jw;fhyr; rKjhar; rpf;fy;fisAk;> mjw;fhd jPh;TfisAk; MuhAk; jpwd; ngWjy;
- khDl tho;tpy; mfk;> Gwk; gw;wpa ghFghl;il jkpo;r;nra;As; thapyhf mwpjy;.
- jkpou;fspd; <ifAk; tPuKk; vLj;Jiuf;Fk; Gwr;nra;jpfis mwpjy;
- ePjpE}y;fs; kdpj tho;it nrk;ikg;gLj;Jk; ghq;fpid czu;j;Jjy;.

Semestre: III
17UGH310003

Hours/Week: 4
Credits: 3

HINDI-III

Course Outcomes

At the end of the course, a student should be able to demonstrate...

- * the ability to enable the students to complete the pre-reading task to comprehend the local and global issues in the lessons.
- * the ability to enable the students to complete the post-reading task centering on Grammar and Skill Development.
- * the relevance of Bhakthi Movement in Hindi Literature.
- * the ability to imagine and write poems.
- * the ability to quote poetry in Speeches.
- * the ability to write friendly and formal letters

Semestre: III
17UGF310003

Heures /Semaine: 4
Credits : 3

FRANÇAIS-III

Course Outcomes

- * Comparer la culture de l'Inde et de la France
- * Familiariser l'étudiant avec le vocabulaire, la grammaire et les conversations
- * Connaître des journaux, des courriels, des lettres
- * Parler des projets de vacances
- * Exprimer l'étonnement
- * Parler de ses projets d'avenir, exprimer l'opposition.

Semester: III
17UGS310001

Hours/Week: 4
Credits : 3

SANSKRIT-III

Course Outcomes

At the end of the course, a student should be able to demonstrate...

- * Knowledge and understanding of essential Sanskrit vocabulary in a given topic
- * Knowledge and understanding of the appropriateness of basic Sanskrit structures in Slokas
- * Knowledge of the basic Sanskrit poetry.
- * An idea on Epics and Puranas.
- * The usage of – Upasargas.
- * The familiarization the history of Sankrit literature Vedas – Puranas and Natakas

Semester IV
17UFC441004A

Hours/Week: 2
Credits: 2

FORMATIONOFYOUTH-II

Course Outcome

1. To ensure preparing the students to live in harmony with nature.
2. To ensure the youth the significance of public health and the related issues.
3. To ensure sensitizing the youth about addictions and their consequences.
4. To ensure educating the youth on disaster management and First-Aid.
5. To ensure enlightening on the developmental issues and challenges of youth today.
6. To ensure the value of counselling for attaining positive mental health

Semester IV
17UFC441004B

Hours/Week: 2
Credits: 2

RELIGIOUSDOCTRINE-II

Course Outcome

1. To ensure appreciation of the harmony of religion.
2. To ensure training the youth in the power of prayer.
3. To ensure the understanding of Mary's role in salvation history and Marian Dogmas.
4. To ensure enlightening the graces and invisible effects of the

sacraments.

5. To ensure the youth with the promise that God forgives failings on repentance.

6. To ensure understanding the concept of salvation and the promise of eternal life.