UG(SF)

BBA

Program Outcome

PO 1 Apply knowledge of management **theories, concepts, practices and skills** specific to The field of business administration.
PO 2 Apply the analytical and problem solving skills in the functional areas of accounting, marketing, finance and management.
PO3 Analyse their personal abilities and attitude for employment in a variety of Opportunities and prepare for lifelong learning and personal development.
PO 4 Identify the effective analytical and critical thinking skills in an organisational context.

Program Specific Outcome

PSO 1 Understand of the corporate world
PSO 2 Determine the functional areas of management such as Production, purchasing, marketing, sales, finance, human resource system
PSO 3 Understand the types of business communication and business letters
PSO 4 Determine the organizational behavior and its conflict
PSO 5 Understand the methods of collecting primary and secondary data
PSO 6 Analyze the tools and techniques of data
PSO 7 Understand the construction of scaling techniques
PSO 8 Determine the steps involved in design of questionnaire
PSO 9 Analyze and preparation of project report for the Functional areas of research

Core Course 1 Financial Accounting I

CO1 Identify fundamental principles of accountancy
CO2 Demonstrate knowledge of each step in the accounting cycle
CO3 Prepare the Final Accounts of Business and Non Trading Concerns
CO4 Discuss knowledge in depreciation accounting
CO5 Formulate the subsidiary books

Core Course 2 Principles of Management

CO1 Discuss with a broad and integrative introduction to the theories and practice of management
CO2 Evaluate the global context for taking managerial actions of planning, organizing and controlling
CO3 Identify the fundamentals and types of planning
CO4 Explain the concepts of management structure, management process, decision-making, communication and delegation of authority
CO5 Identify the role, challenges, and opportunities of management for successful Operations and performance of organizations

Core Course 3 – Financial Accounting II

CO1 Analyse the conceptual knowledge of Single entry system
CO2 Explain the concepts of partnership
CO3 Discuss the principles of Admission of a partner
CO4 Prepare the accounts for Retirement, Retirement cum Admission and Death of a Partner
CO5 Analyse the concepts underlying in Dissolution of Firm and Insolvency of partners

Core Course 4 – Managerial Economics

CO1 Discuss basic and conceptual understanding of economic concepts and principles of micro economics
CO2 Analyze the demand and supply conditions and assess the position of a company
CO3 Explain the economies of scale, diseconomies of scale, economies of scope, cost complementarities, and how its affect the cost of production
CO4 Utilise the four basic market concepts of perfect competition, monopoly, monopolistic competition, and oligopoly, and how price and quantity are determined in each model
CO5 Explain about the basic concepts of macro economics.

Core Course 5 – Human Resource Management

CO1 Explain the various basic concepts and frameworks of human resource management (HRM)
CO2 Identify the role of HRM as an important tool in effective business administration.
CO3 Analyse the functions of HRM, the role of HR manager and HRD's
CO4 Explain the various stages in selection and recruitment process
CO5 Discuss various types of interviews, how to conduct an interview for an appointment
CO6 Discuss the different methods of training and evaluating the effectiveness of training
CO7 Explain the knowledge about different methods of performance appraisal of an Employee

.

Core Course 6 – Entrepreneurial Development

CO1 Create an awareness about on various Entrepreneurial development programmes
CO2 Utilise to develop entrepreneurial Skills
CO3 Identify the concepts and problems of entrepreneurship for a management perspective
CO4 Explain about MSME, EDI and other training institutes in Entrepreneurship
CO5 Identify the various sources of finance available for the entrepreneur
CO6 Analyse the project formulation

Core Course 7 – Commercial Law

CO1 Discuss the basic principles and legal aspects of business laws
CO2 Explain the Theoretical and practical preparation with the help of the acquired knowledge and skills related to commercial law
CO3 Explain the fundamental legal principles behind contractual agreements

CO4 Identify the elements of a valid contract and special contracts
CO5 Apply professional ethics in their career

Core Course 8 – Organisational Behaviour

CO1 Explain the basic concepts of an organisational behaviour
CO2 Apply the concept and different theories in various field
CO3 Explain about group behaviour and group cohesiveness
CO4 Discuss with leadership qualities and styles
CO5 Analyse the behaviour in interpersonal team/group working situations
CO6 Identify the concepts of conflict management

Core Course 9 – Company Accounts

CO1 Explain the conceptual knowledge of company and shares
CO2 Formulate the managerial remuneration and statement of affairs in liquidation of companies
CO3 Identify the concept of Amalgamation, Reconstruction and in preparation of Balance sheet
CO4 Prepare consolidated statements for Holding companies
CO5 Apply the procedures of corporate accounting to become a successful employer in banking companies.

Core Course 10 – Business Taxation

CO1 Analyse the knowledge of the provisions of Income – tax
CO2 Discuss the basic concepts of Residential Status
CO3 Discuss about Income from Business or profession
CO4 Identify to familiarise with the concept of depreciation and its provisions
CO5 Create an ability to prepare taxable Income for an 'Individual'

Core Course 11 – Financial Management

CO1 Explain the basic concepts of Finance and financial management
CO2 Use financial management concepts and tools to take decisions in the manager level
CO3 Analyse the basic concepts of cost of capital
CO4 Discuss the primary sources of capital and incorporate their cost when making investment decisions
CO5 Analyse conceptual clarity about the management tools and techniques used in Financial planning, analysis, control and decision making

Core Course 12 – Marketing Management

CO1 Discuss the concepts of Marketing
CO2 Explain about marketing and its functions
CO3 Identify the various modern marketing concepts
CO4 Demonstrate the product and its classifications
CO5 Evaluate the various types of pricing and the features of pricing policy
CO6 Analyse the various promotional tools like advertising and personal selling

Core Practical 1 – Managerial Communication

CO1 Apply the acquired knowledge of human communication and language processes in various contexts

CO2 Analyze knowledge, skills, and judgment around human communication that Facilitate their ability to work collaboratively with others. CO3 Prepare business letters effectively

CO4 Evaluate a better forms communication process like identifying, explaining, and applying current communication theories

Core Practical 2 – Computerized Accounting Tally Practical

CO1 Analyse the process of accounting records through the accounting package – tally.

CO2 Access an computerized accounting software package

CO3 Prepare a correct basic accounting transaction data

CO4 Prepare the accounts for purchases and inventory transactions (creating purchase orders, handling invoices, maintaining inventory control) CO5 Compute final accounts for business enterprises

Core Project

CO1 Formulate the research knowledge

CO2 Apply theoretical knowledge in the field study

CO3 Create the ability to make link across different areas of knowledge and to generate, develop and evaluate ideas and information so as to apply these skills to the project task

CO4 Plan to learn independently through self reflection and evaluation

Major Based Elective Group I choose any one

MBE 1 Industrial Legislation

CO1 Explain about labour legislations in India.

CO2 Discuss the salient features of welfare and wage Legislations

CO3 Identify the laws relating to Health, safety and welfare measures

CO4 Compare the concepts of Strikes, lay off and Lockout

CO5 Identify the workmen compensation act

MBE 1 – Company Law (Option)

CO1 Explain different forms of company

CO2 Outline the concepts and principles of Memorandum of Association, Articles of Association and Prospectus

CO3 Identify the role of company secretary

CO4 Explain about the procedures of meetings

CO5 Analyse the skills in legal reasoning and analysis through study of statutes, case law And regulatory practice relating to Company Law

MBE Group II

MBE 2 Industrial Relations

CO1 Discuss the scope and nature of industrial relations in the organization
CO2 Identify the various functions of trade union
CO3 Discuss on Collective bargaining and its functions
CO4 Analyse the basic structural framework of Grievance redressal procedure
CO5 Discuss the area of workers participation in management

MBE Group III Choose any One

MBE 3 Production management

CO1 Explain the nature and importance of production management
CO2 Demonstrate the roles and responsibilities of operations managers
CO3 Identify the types of production and system in a manufacturing industries
CO4 Outline about the importance of facility layouts
CO5 Analyse the concepts of operations routing, scheduling
CO6 Discuss about Total quality management, quality circle

MBE 3 – Strategic Management (Option)

CO1 Analyse the field of strategic management its perspectives
CO2 Analyse strategic macro environmental issues
CO3 Analyse strategic positioning
CO4 Assess and evaluate SBU strategies
CO5 Analyse and implement strategy at the single business unit level

Non Major Based Elective
NME -1 Elements of Advertising

CO1 Explain the basic concepts of advertising
CO2 Outline about the advertisement media, copy and benefits of advertising
CO3 Discuss the role of advertising agency in promoting advertisement as sales Promotional tool

NME – 2 Group Dynamics

CO1 Explain the basic concepts of Group
CO2 Apply the acquired knowledge of leadership qualities and communication skills to enhance themselves in an organisation
CO3 Describe formal and informal groups

Skill Based Elective - Group I (Choose any One)
SBE 1- Technology in Banking

CO1 Discuss the basic concepts and theories of banking
CO2 Explain about electronic banking system
CO3 Identify the recent technologies in banking sector

SBE 1 – Financial Markets (Option)

CO1 Explain the basic concepts and tools effectively to use the sound investment decisions.
CO2 Discuss about fundamental concepts of Listing of Securities
CO3 Describe the role of brokers and different credit rating agency

SBE Group II – Retail Management

CO1 Explain about retail management
CO2 Discuss about setting up and management of retail stores
CO3 Identify the role of information technology in retailing

SBE Group III
SBE III – Customer Relationship Management

CO1 Apply an insight pace of customer relationship management
CO2 Analyse the types of customer relationship management.
CO3 Demonstrates, develop, build and maintain relationships with customers in general
CO4 Explain about the recent trends in CRM

SBE III – International Business

CO1 Discuss the foundation of international business
CO2 Explain the concepts of multinational corporations
CO3 Discuss about the broad knowledge on international trade viz., Global Liberalisation and WTO Agreements

Extra Credit Course 1 – E Commerce

CO1 Explain basic electronic commerce functions
CO2 Explain how businesses sell products and services on the Web
CO3 Discuss E-Commerce payment systems

Extra Credit Course 1 – Supply Chain Management
CO1 Analyse supply chain strategies
CO2 Describe alternative ways to organize for supply chain management

BCA

Program Outcome
PO 1 Demonstrate technical and professional skills to excel in various fields.

Program Specific Outcome:

PSO 1 Prepare the students to learn independently in a discipline that is constantly changing
PSO 2 Outline the practical skills to provide solutions to industry, society and business.

Course Outcome
Core Course 1 - Programming In C

CO1 Discuss about constants, variables and data types
CO2 Prepare a Program using operators and expressions
CO3 Discuss about decision making using branching and looping
CO4 Explain the concept of arrays
CO5 Demonstrate functions
CO6 Demonstrate 'C' Programs Using Pointers
CO7 Explain about Input And Output Files in 'C' Using File Concept

Core Practical 1 - Programming In C Lab

CO1 Create a simple program using data types and operators.
CO2 Apply the concept of Decision Making & Looping
CO3 Create a program using arrays and structure
CO4 Apply the concepts of Pointers

Core Course 2 - Programming In C++

CO1 Explain the Difference between Object Oriented Programming and procedural Programming Language.
CO2 Discuss about the Concept of Data Types.
CO3 Use the Syntax & Semantics of C++ Programming Language.
CO4 Design a C++ Classes for Code Reuse.
CO5 Explain the Inline Functions for Efficiency and Performance.
CO6 Discuss about the Function & Operator Overloading.
CO7 Demonstrate Data Abstraction & Encapsulation in C++.
CO8 Explain Inheritance, Virtual Function Implement dynamic binding with polymorphism.
CO9 Outline the Concepts of Pointers and Templates.

Core Practical 2 - Programming In C++ Lab

CO1 Create a simple C++ Programs with Language Environment.
CO2 Apply Concept of Class and Functions.
CO3 Apply Concept of Polymorphism and Encapsulation in Object Oriented Concept.

Core Course 3 - Programming In Java

CO1 Use the Basic Concepts of OOP's with JAVA Language.

CO2 Explain the Concepts of Classes and Objects.
CO3 Discuss about the Principles of Inheritance, Polymorphism and interfaces.
CO4 Demonstrate the Concepts of Method Overloading and Overriding.
CO5 Design about Multithreading Concepts.

Core Practical 3 - Programming In Java Lab

CO1 Create Simple JAVA Programs that Solve the Particular Task.
CO2 Plan for practical training and test java programs.
CO3 Design, Implement and Test JAVA Programs.
CO4 Apply OOP's Concepts in JAVA Programming.

Core Course 4 - Database Systems

CO1 Analyze the Knowledge of the Data and its Format.
CO2 Discuss the Various Concepts of Physical Data Organization and File Organization.
CO3 Use the knowledge of Relational Database Theory and be able to Write Relational Algebra Expression for Queries.
CO4 Apply ER-Method and Normalization Approach.
CO5 Design and Development of Database Application System.

Core Practical 4 - Database Systems Lab

CO1 Analyze and apply Common SQL Statements.
CO2 Design Different Views of Tables.
CO3 Create A Simple Visual basic Program.
CO4 Design, Implement, Connect the Front End Visual Basic And Back End Oracle.

Core Course 5 - Data Structures

CO1 Discuss the Basic Concepts of Data Structure.
CO2 Explain the Operations Like Searching, Insertion, Deletion, Traversing Mechanisms.
CO3 Apply the Concepts of linear and Non – Linear Data structure.
CO4 Identify the Knowledge about Tree.
CO5 Analyze the Knowledge about Graphs.
CO6 Create an Application Using Data Structure Algorithms.
CO7 Identify various Techniques for Representation of the Data in the Real world.

Core Course 6 - Digital Computer Fundamentals

CO1 Discuss the Concepts in Digital Computer System.
CO2 Explain the Basic Concepts of Number System.
CO3 Apply the Laws of Boolean Algebra Expressions.
CO4 Discuss the Knowledge about Various Flip – Flops.
CO5 Use the basic Concepts of Registers and Counters.
CO6 Demonstrate Digital K – Maps, to Minimize and Optimize Logic Functions upto Five Variables.

Core Course 7 - Computer Networks

CO1 Design the basic Taxonomy and Terminology of the Computer Networking and Enumerate the layers of OSI Model and TCP / IP Model.
CO2 Apply the Knowledge of Various Layers Paradigms and Protocols.
CO3 Select the various types of Network and Topology.
CO4 Discuss the Routing Principles and Network Applications.
CO5 Explain the Knowledge of Network management and Network Security.
CO6 Compare the Concept of Classical Network and Cryptography Techniques.
CO7 Use the Working Principles of Cryptography Algorithms.
CO8 Compare and Apply Different Encryption and Decryption Techniques.

Core Practical 5 - Visual Basic Programming Lab

CO1 Use the Basic Knowledge of Visual Basic.
CO2 Design and Develop Graphical User Interfaces.
CO3 Design, Develop the Program using Visual Basic Controls.
CO4 Analyze the basic programming Concepts, Programming Logic and Design.
CO5 Discuss the Knowledge of Professional Practical Program.
CO6 Explain the Knowledge of the User Interface Window.

Core Course 8 - Operating Systems

CO1 Use the Fundamental Concepts in an Operating System.
CO2 Analyze the Memory Management and its Allocation Policies.
CO3 Discuss the Process Management Policies and Scheduling of Process.
CO4 Use Device Management for Better Utilization of External Memory.
CO5 Apply the Knowledge of File System Interface, Protection and Security Mechanisms.
CO6 Use the various Issues in Inter Process Communication (IPC) and the Role of Operating System in IPC.
CO7 Analyze the Memory Management and its Allocation Policies.

Core Course 9 - Linux Programming Using PHP

CO1 Apply the Knowledge and Skills for Creation of Website Considering both Client and Server Side Programming.
CO2 Select the Databases to Fetch, Store and Update Persistent Information.
CO3 Create Responsive Web Applications.
CO4 Discuss the Working of Cookies and Session.
CO5 Explain the Knowledge of Protecting the Webpage

Core Practical 6 - Programming In PHP Lab

CO1 Demonstrate the Various Control Statements.
CO2 Demonstrate the Various Numeric Functions
CO3 Apply the Various Array Functions.
CO4 Design the Knowledge of Database Connectivity.

CO5 Explain the concept of Website with Validation and Security.

Major Based Elective Course 1 - Computer Graphics

CO1 Explain the Concepts of Basic Graphical Techniques.
CO2 Discuss about Computer Graphics System.
CO3 Analyze the Designing Algorithms.
CO4 Explain the Techniques of Clipping Process.
CO5 Apply the Concepts of 2D And 3D Concepts

Major Based Elective Course 2 - Business Process Outsourcing

CO1 Compare Training and Development in BPO
CO2 Identify the Benefits of Training and development.
CO3 Use the Various Training Aids.
CO4 Identify the need of Training BPO Industry

Major Based Elective Course 3 - Web Designing Lab

CO1 Use Knowledge of HTML Tags.
CO2 Use Critical thinking Skills to Design and Create Websites.
CO3 Apply Knowledge of CSS Code.

Non-Major Based Elective Course 1 - Basic Concepts Of Computers

CO1 Explain the Concepts of Computer Basics.
CO2 Identify Computer Hardware Components.
CO3 Discuss about the Basic Concepts of Input and Output Devices.
CO4 Demonstrate the Generation of Computers in Described way.
CO5 Use the Knowledge of Basic Programming Language.
CO6 Explain the Basic Concepts Of Networks.

Non-Major Based Elective Course 2 - Introduction To E – Commerce

CO1 Explain the Concept of E – COMMERCE and its Types.
CO2 Use the Technologies for E – COMMERCE.
CO3 Explain Different Types of Online Payment Systems.
CO4 Discuss about the Selling and Marketing on Web.

Skill Based Elective Course 1 – Photoshop

CO1 Demonstrate Basic Skills in Creativity using Photoshop Software.
CO2 Use Fundamental Techniques in Photoshop.
CO3 Use of Basic Tools in Photoshop.

Skill Based Elective Course 2 – Introduction To Linux

CO1 Explain about the basic Commands.

CO2 Discuss about Simple Filter Command.
CO3 Use of Grep Command.
CO4 Demonstrate Sed Command.

Skill Based Elective Course 3 – Asp.Net Programming

CO1 Discuss the .NET Framework and its Components.
CO2 Use ASP.NET Controls in Web Applications.
CO3 Discuss about the Connecting to Data Sources and Managing Them.
CO4 Prepare a Simple Web Applications.

Extra Credit Course 1 – E-Learning

CO1 Design e-learning content depending upon the target audience
CO2 Create an interactive content using media tools

Extra Credit Course 2 – 3G And 4G Wireless Networks
CO1 Identify the various generations of wireless and cellular networks
CO2 Discuss the fundamentals of 3G services and its protocols and applications

B.Sc. Biochemistry

Programme Outcome

PO 1 Work as biochemists in clinical laboratories, research center and in hospitals
PO 2 Get admitted in higher studies

Program Specific Outcome
Techniques in Biochemistry

PSO 1 Imparts knowledge of practical aspects of various instruments in biological sciences
PSO 2 Opportunity to Work in clinical laboratories
PSO 3 Work as research assistants

Clinical Biochemistry

PSO 4 Demonstrate and apply the biochemical basis of metabolic disorders, advanced diagnostic methods, management and treatment of common diseases for human welfare.
PSO 5 Learn biochemical aspects of pathological conditions and assist physicians through diagnosing the samples with their knowledge
PSO 6 Work as biochemists in clinical laboratories

Clinical diagnosis of prevalent diseases

PSO 7 Apply the knowledge of the causes, diagnosis, management and treatment of some common diseases.
PSO 8 Demonstrate the structure and functions helps to understand simply the structure and function of vital organs in normal and abnormal condition

Course Outcome
Core course 1- Chemistry of Biomolecules

CO1 Demonstrate the structure and biological functions of bio molecules
CO2 Analyse the significance of biological macromolecules
CO3 Predict the role of sugars in blood group substances
CO4 Compare the structure and importance of fatty acids and lipids
CO5 Communicate the biochemical activities of amino acids and proteins
CO6 Transmit the knowledge of genetic material Deoxy ribonucleic acid (DNA) & Ribonucleic acid (RNA)

Core course 2- Cell Biology

CO 1 Identify basic components of prokaryotic& eukaryotic cell
CO 2 Compare the structure of plant and animal cell
CO 3 Revise the structural components of sub cellular organelles
CO 4 Demonstrate the molecular mechanism of causative agents
CO 5 Identify the growth and development of cancerous cells
CO 6 Compare the transport mechanism of bacteria and animal cell

Core course 3- Techniques in Biochemistry

CO1 Demonstrate the practical aspects of various instruments used in biological sciences
CO2 Design the theoretical knowledge of analytical tools
CO3 Utilize the analytical techniques in diagnosis of biological materials
CO4 Evaluate and separate the molecular components in plant tissues with accuracy
CO5 Discuss the role of isotopes in diagnosis and treatment
CO6 Use the knowledge of electrophoresis techniques

Core course 4- Enzymology

CO1 Revise the concepts of enzyme kinetics, mechanism of enzyme action and application of enzyme in industries, diagnosis and treatment
CO2 Discuss the importance and mechanism of enzymes for living organisms
CO3 Compare the significance of vitamins for enzyme activity
CO4 Outline the source, isolation, extraction and purification methods of enzymes
CO5 Discuss the inhibitory types, substance and its mechanism
CO6 Compute the regulatory role of enzymes in metabolism
CO8 Assess the concentration of biochemical compounds enzymatically by analyzing devices

Core Course 5 - Molecular Biology

CO1 Communicate the knowledge in molecular processes of cells
CO2 Exhibit the fundamental knowledge of Deoxy ribonucleic acid (DNA) & Ribonucleic acid (RNA)
CO3 Discuss on the molecular aspect of bacterial evolution and microbial diversity
CO4 Compile the knowledge of gene regulatory mechanism
CO5 Discuss the methods of recombination
CO6 Apply the knowledge of molecular techniques

Core Course 6 - Metabolism

CO1 Compute the basics of bioenergetics
CO2 Explain the production and utilization of energy in metabolic pathway
CO3 Discuss various metabolic pathway and its regulatory mechanism
CO4 Communicate the interrelation between major metabolic pathways
CO5 Comprehend the biotransformation reactions
CO6 Compile the synthetic metabolism of various biomolecules

Core Curse 7 - Genetics

CO1 Explain the basic concept of genetics.
CO 2 Demonstrate the Mendelian experiment.
CO 3 Explain the types of inherited disorders
CO 4 Rate the study on population genetics.
CO 5 Compile the concept of genes
CO 6 Asses the genetic diseases

Core Course 8 – Endocrinology

CO 1 Outline the types of endocrine glands
CO2 Compare the mechanism of action of hormones
CO3 Compile the mechanism and regulation of hormones
C04 Explain the regulation, physiological functions and signaling mechanisms
CO5 Discuss the abnormal consequences of hormone imbalance
CO6 Communicate social responsiveness about the health problems

Core Course 9 - Clinical Biochemistry

CO 1 Apply the acquired knowledge of metabolic disorders in advanced research.
CO 2 Work as biochemists in hospitals, clinical laboratories, research centre and health centre
CO 3 Discuss the diagnostic methods for tissue functions test
CO 4 Compile about the homeostasis of body fluids
CO 5 Outline the genetic disorders
CO 7 Critique clearly about the abnormal concentrations of biochemical substances in serum and urine

Core Practical 1 - General Biochemistry

CO P 1 Discuss the analytical separation methods for biochemical compounds
CO P 2 Assay the content of sugars ,aminoacid ,protein from food stuffs
CO P 3 Evaluate the purification of mineral contents from different food grains
CO P 4 Analyse the fatty acid content
CO P 5 Identify the adulterants in processed food to create awareness.

Core Practical 2 - Techniques In Biochemistry
CO 1 Discuss the methods of isolation and separation of proteins and lipids
CO 2 Identify of pH of various buffer solution.
CO 3 Assess the methods of Chromatographic techniques.
CO 4 Evaluate the methods of sugars and proteins.
CO 5 Apply the electrophoresis techniques

Core Practical 3 - Enzymes Analysis

CO P 1 Assay the various methods for different enzyme activities in plants
CO P 2 Compile the experimental methods to determine the specific activities of enzymes
CO P 3 Rate the optimum pH and temperature of the enzymes
CO P 4 Identify the content of nucleic acids
CO P 5 Evaluate the concentration of Deoxy ribonucleic acid (DNA) & Ribonucleic acid (RNA)

Core Practical 4 - Clinical Biochemistry

CO 1 Analyse the biochemical constituents in urine and serum
CO 2 Assess the marker enzymes activity
CO 3 Plan out heamatological studies
CO 4 Apply proper methods of specimen collection, handling and transport

CO 5 Compute the normal values of biochemical parameters

Allied Paper 1 - General Chemistry

CO 1 Demonstrate the basic principles, laws and theories of chemistry
CO 2 Predict the groups of elements.
CO 3 Analyses the chemical bonds.
CO 4 Discuss the nomenclature and structure of organic compounds

Allied Paper 2 - Biophysical Chemistry

CO 1 Demonstrate the basic understanding of the major physico-chemical forces
CO 2 Explain the importance of biological system and their application in modern analytical system
CO 3 Communicate the types and uses of electrodes .
CO 4 Discuss the biochemical phenomenon of cells.

Allied Paper 3 - Basic Biochemistry

CO1 Demonstrate the structure and biological functions of bio molecules
CO2 Analyse the significance of biological macromolecules
CO3 Predict the role of sugars in blood group substances
CO4 Compare the structure and importance of fatty acids and lipids

Allied Paper 4 - Cell Biochemistry

CO 1 Identify basic components of prokaryotic& eukaryotic cell
CO 2 Compare the structure of plant and animal cell
CO 3 Revise the structural components of sub cellular organelles
CO 4 Demonstrate the molecular mechanism of causative agents

Allied Practical 1 - Chemistry

CO 1 Analyse the organic compounds
CO2 Estimate the various acids and alkalis
CO 3 Demonstrate the hardness of water
CO 4 Analyse the different salts

Allied Practical 2 - General Biochemistry

CO P 1 Discuss the analytical separation methods for biochemical compounds
CO P 2 Assay the content of sugars ,aminoacid ,protein from food stuffs
CO P 3 Analyse the carbohydrate, protein and lipids
CO P 4 Evaluate the fatty acid content

MBE 1 - Human Physology

CO 1 Explain the structure and functions of major organ in human system.

CO 2 Discuss the digestive process of food contents
CO 3 Analyse the blood components to identify diseases
CO 4 Explain the gaseous exchange in lungs
CO 5 Revise the structure and functions of excretory organs

MBE 2 – Immunology

CO 1 Discuss the structure and functions of all immune components
CO 2 Design the role of immune cells and its products during infections
CO 3 Compute knowledge of serological techniques to detect the level of antigen
CO 4 Assay the methods of Antibody production
CO 5 Create awareness about the allergic substances and their adverse effects
CO 6 Revise the knowledge of transplantation and immune suppressor drugs

MBE 3 - Plant Biochemistry

CO 1 Identify the types plants used for traditional medicines
CO 2 Evaluate secondary metabolites and their therapeutic potential
CO 3 Design the sources of drugs
CO 4 Identify secondary metabolites and formulation of herbal drugs
CO 5 Apply the knowledge to be employed in tissue culture laboratory

NME 1 - Basic Biochemistry

CO1 Demonstrate the structure and biological functions of bio molecules
CO2 Analyse the significance of biological macromolecules
CO3 Predict the role of sugars in blood group substances
CO4 Compare the structure and importance of fatty acids and lipids

NME 2 - Clinical Diagnosis Of Prevalent Diseases

CO1 Discuss the causes, diagnosis, management and treatment of some common diseases.
CO2 Explain the normal and abnormal values of biochemical substances in serum and urine.
CO3 Predict the metabolic disorders
.

SBE 1 – Herbal medicine

CO 1 Explain the sourses of tredicinal medicine
CO 2 Demonstrate about proceesing methods of drug from herbs
CO 3 Assess the active principle of selected plants

SBE 2 - Drug Biochemistry

CO 1 Explain the sources of drugs
CO 2 Assess the metabolism of drugs and its delivery system
CO 3 Compute the mechanism of action of drugs to avoid the side effects

SBE 3 - Nutritional Aspects of Biochemistry

CO 1 Discuss the nutritional aspect of macromolecule and principle of diet therapy
CO 2 Explain the protective foods and its significance
CO 3 Demonstrate the diet therapy for different groups of people

Extra Credit Paper 1 – Biomedical Instrumentation

CO 1 Discuss diagnostic and therapeutic applications of biological instrumentation
CO 2 Explain the bioelectrical signals
CO 3 Compute the instrumentation for medical use of radio isotopes

Extra Credit Paper 2 – First Aid Management

CO 1 Explain the basic assessment of an emergency situation
CO 2 Demonstrate an awareness of sign, symptoms and treatment for common medical emergencies
CO 3 Critique the injury assessment in factories and in rural areas

B.Sc. Bio-Technology

PROGRAMME OUTCOME

PO 1 Pursue higher studies

PO 2 Pursue professional job oriented courses

PROGRAMME SPECIFIC OUTCOME

PSO 1 Apply the techniques in bioprocess engineering, medicine, r-DNA technology and other fields requiring by products

PSO 2 Combine the subjects of biology and engineering together

PSO 3 Pursue higher studies in the stream of M.Sc., Biotechnology

PSO 4 Get jobs related to the same field of biotechnology with highlight in medical coding

Course Outcome

CORE PAPER I – MICROBIOLOGY

CO1 Identify the invisible microorganisms and use it all oriented fields.

CO 2 Identify the microorganism's beneficial and harmful views.

CO 3 Select the economically important microorganisms in various manufacturing fields like baking, beverages and antibiotics, etc.

CO 4 Create awareness of the disease causing microorganisms and their detection.

CO 5 Use the eco friendly nature of the microorganisms to prevent harmful effects of chemicals CO6 Demonstrate the various microbiological techniques to identify the microorganisms.

CORE PARE II - MOLECULAR BIOLOGY

CO1 Outline the biomolecules, especially proteins, DNA and RNA.

CO2 Analyze the life's basic and essential functions, that is, "Central Dogma".

CO3 Assess the various techniques and tools for the improvement of living organisms.

CO4 Handle the Biomolecules for the research field.

CO5 Predict the sudden changes in the genetic material.

CO6 Apply the biomolecules for the engineering and manipulating works.

CORE PAPER III - PRINCIPLES OF GENETIC ENGINEERING

CO1 Discuss the basic principles, tools and techniques of the genetic manipulation of organisms.

CO2 Compile the secrets of the genetic make-up of an individual

CO3 Outline the novel as well as conserved varieties of organisms.

CO4 Identify the conserved sequences of the heredity activities.

CO5 Assess the gene transfer by various modes.

CO6 Prediction of parental identity and crime investigation.

CORE PAPER IV: ENZYME and ENZYME TECHNOLOGY

CO1 Discuss the essential, proteinaceous enhancers of various chemical reactions.
CO2 Outline the various sources of enzymes, their extraction, purification and exploitation.
CO3 Demonstrate the mechanism of enzyme reactions and their various classes and shapes.
CO4 Explain the kinetics of Enzyme reactions and various theories.
CO5 Utilize the applications of Biochips and Biosensors in various industries and even in Defence system.

CORE PAPER V – BIOINSTRUMENTATION

CO1 Outline the basic principle, structural design and working of various laboratory instruments
CO2 Apply the various instruments in different fields.
CO3 Demonstrate the mechanism, exploitation and handling of instruments. CO4 Discuss the instruments in lab practices, Industries and various other fields. CO5 Explain the radio isotopes and their uses.
CO6 Analyze the uses of the instruments.

CORE PAPER VI - PLANT BIOTECHNOLOGY

CO1 Study the Nuclear genome, Chondriome and plastome of plant.
CO2 Select the explants for the plant tissue culture through various methods.
CO3 Compile the genetic manipulation to create novel, improved and resistant Varieties of plants.
CO4 Analyze the theoretical as well as practical streams of the paper.
CO5 Outline the manufacture of Biofertilizers and Biopesticides.

CORE PAPER VII - ANIMAL BIOTECHNOLOGY

CO1 Create new varieties of animals by manipulation and improving the varieties.
CO2 Select genetically modified organisms of various kinds.
CO3 Apply the invitro fertilization technique in animals and human.
CO4 Formulate the animal tissue culture to improve the varieties as well as desired traits.

CORE PAPER VII - PHARMACEUTICAL BIOTECHNOLOGY

CO1 Outline the field of drug manufacturing.
CO2 Explain various pharmaceutical processes, basic construction of a pharma industry.
CO3 Apply the basic techniques, strategies, rules and marketing of pharma product
CO4 Apply different methodology adopted for the product marketing.
CO5 Analyze Patent and Intellectual Property Rights of medicinal products.

CORE PAPER IX - ENVIRONMENTAL BIOTECHNOLOGY

CO1 Plan the needs and awareness on the environmental protection.
CO2 Identify the restoration method of the nature by reforestation by exploiting plant tissue culture.
CO3 Apply the techniques of bioremediation, bioaugmentation and bioleaching process for the safer environment.
CO4 Assess the microbial application for the waste disposal and recycling.
CO5 Create awareness in the Society about pollution and its control methods.

ALLIED PAPER I - FOOD TECHNOLOGY

CO 1 Outline the basics of technological applications on food.
CO2 Demonstrate the preparation, presentation and extension of the shelf-life of food items.
CO3 Rate the safety, hazard analysis and critical control point.
CO4 Outline the various processes and techniques on the preservation of the food items.

ALLIED PAPER II – IMMUNOLOGY

CO1 Explain the immune system in the protection of host against foreign particle.
CO2 Apply various techniques to determine and to treat the infections.
CO3 Analyse the physical, chemical and physiological characteristics of the components of the immune system.
CO4 Demonstrate the vaccination processes.
CO5 Discuss the transplantation process and its principles.

ALLIED III - INTRODUCTION TO BIOTECHNOLOGY

CO 1 Apply the tools and techniques of Genetic engineering
CO 2 Discuss various vectors and processes for designing a novel variety of organism.
CO 3 Apply the techniques of Crime investigation and Conserved sequences prediction in the forensic science.

ALLIED IV - APPLIED BIOTECHNOLOGY

CO1 Explain the plant and animal tissue culture methods.
CO 2 Discuss the Biodegradation methods of the Xenobiotic compounds.
CO 3 Outline the Enzymes and various products of Pharmaceutical industry.

MAJOR BASED ELECTIVE I – BIOSTATISTICS

CO1 Compute the Mathematical knowledge on the research field.
CO2 Assess the various methods on collection of data, segregation and calculation.
CO3 Formulate the Comparison, exploration and solution finding through ANOVA.
CO4 Apply this paper for the Research works

.**MAJOR BASED ELECTIVE II - FERMENTATION TECHNOLOGY**

CO1 Create opportunity to get into various beverage manufacturing industries.

CO2 Explain basic principles, techniques and materials involved in fermentation process.
CO3 Outline the different methods followed during manufacturing of various products, prevention and preservation methods.
CO4 Compare latest technology implementation on manufacturing industries

MAJOR BASED ELECTIVE III - BASIC BIOINFORMATICS

CO1 Understand computerised of techniques to study the biomolecules and their mechanisms.
CO2 Apply the basic tools and techniques to explore the information of the biomolecules.
CO3 Identify various databases necessary to study the basics of nucleic acids, protein and metabolic activities.

NON MAJOR BASED ELCTIVE I - BIOPROCESS TECHNOLOGY

CO1 Outline the fermentation technology and the parts of fermentor.
CO2 Apply the basic tools and techniques to explore the information of the fermented products.

NON MAJOR BASED ELCTIVE II - ECO BIOTECHNOLOGY

CO1 Apply the techniques like bioremediation and biodegradation to restore the normal environmental conditions.
CO2 Identify the different types of microorganisms for the production of eco friendly Products like bio fuel.

SKILL BASED ELCTIVE I - INTELLECTUAL PROPERTY RIGHTS

CO1 Utilize Intellectual Property Rights (branch of law) to protect the applications of thoughts, ideas and information which are of commercial value.
CO 2 Understand the law relating to patents, copyrights, trademarks, trade secrets and other similar rights.

SKILL BASED ELCTIVE II : AGRICULTURAL BIOTECHNOLOGY

CO 1 Use the techniques for the cultivation of mushrooms.
CO 2 Demonstrate the preparation of Single Cell Protein.

SKILL BASED ELCTIVE III: HUMAN GENOME PROJECT

CO 1 Outline the methods of gene sequencing and the applications of computation.
CO 2 Compare the genomes of different organisms.

EXTRA CREDIT PAPER I: MEDICAL BIOTECHNOLOGY

CO 1 Use the living cells and cell materials to research and produce pharmaceutical and diagnostic products that help treat and prevent human diseases.
CO 2 Apply the biotechnology tools for producing medical products that can be used for the diagnosis, prevention, and treatment of diseases

EXTRA CREDIT PAPER II: MEDICAL BIOTECHNOLOGY

CO 1 Apply the tools from nanotechnology to apply it in the of study biological phenomena.
CO 2 Use the Nanoparticles as probes, sensors or vehicles for biomolecule delivery in cellular stems.

B.Com

Programme Outcome

PO 1 Apply the fundamentals of commerce and finance
PO 2 Plan to face modern day challenges in commerce and business
PO 3 Find employment in the respective fields of Commerce and Business

Programme Specific Outcome

PSO 1 Demonstrate relevant financial accounting career skills and apply both qualitative and quantitative knowledge in their careers in business
PSO 2 Demonstrate the skills in various disciplines of commerce like Finance, Human Resource, Marketing and Accounting
PSO 3 Clear professional examinations like Chartered Accountant, Company Secretary, Cost And Work Accountancy
PSO 4 Demonstrate relevance of foundational and theoretical knowledge
PSO 5 Plan for higher education

Course Outcome
Core Course – I –Business Accounting

CO 1 Prepare Final accounts and accounts of Non Trading Concerns
CO 2 Outline the concepts Consignment, Joint Venture and their Accounting Procedures of the same
CO 3 Compute the various Methods of charging Depreciation
CO 4 Compute the Insurance Claims and calculation of Royalty
CO 5 Apply Single Entry System to maintain accounts

Core Course –II – Business Economics

CO 1 Discuss the origin of economic concepts
CO 2 Discuss the concept of demand, types, elasticity, indifference curve consumer equilibrium
CO 3 Explain the theory of production, problem, function, economies of large scale production
CO 4 Outline the Law of supply, concepts of cost and revenue
CO 5 Analyze the different forms of market
CO 6 Explain the various economic concepts and its applicability in the field of commerce

Core Course – III – Marketing

CO 1 Assess marketing and its functions
CO 2 Explain modern marketing concepts
CO 3 Discuss about product and its classifications
CO 4 Identify various types of pricing and also the features of pricing policies
CO 5 Outline the various promotional tools like Advertising and Personal Selling
CO 6 Explain the concept of Supply Chain Management

Core Course Practical -I – Modern Marketing Practices

CO 1 Apply concepts Marketing to face day-to-day challenges
CO 2 Integrate the concepts and skills of Marketing from previous learning experiences And apply them in appropriate situations
CO 3 Create a collaborative learning environment
CO 4 Develop critical thinking, effective thinking, effective reasoning and creativity in the various spheres of Marketing
CO 5 Exhibit interpersonal development and interpersonal competency
CO 6 Demonstrate practical competency

Core Course – IV – Human Resource Management

CO 1 Outline the functions of Human Resource Management, the role of Human Resource Manager and Human Resource Information System (HRIS)
CO 2 Explain the various stages in Selection and Recruitment Process
CO 3 Discuss about the various types of interviews, how to conduct an interview for an appointment
CO 4 Discuss about placement and induction
CO 5 Discuss about different methods of training and various methods of evaluating the effectiveness of training
CO 6 Select different methods of performance appraisal of an employee

Core Course Practical - II – Modern Human Resource Management Practices

CO 1 Apply of Human Resource course work and previous knowledge to actual problems and to face day-to-day challenges
CO 2 Integrate the concepts and skills of Human Resource from previous learning experiences and apply them in appropriate situations.
CO 3 Create a collaborative learning environment
CO 4 Demonstrate critical thinking, effective thinking, effective reasoning and creativity in **t**he various spheres of Human Resource Management.
CO 5 Exhibit interpersonal development and interpersonal competency.
CO 6 Exhibit practical competency

Core Course – V – Financial Accounting

CO 1 Identify the concept of Branch accounting and its various systems
CO 2 Prepare departmental accounting
CO 3 Discuss the system of Hire – Purchase and Installment methods of doing accounts
CO 4 Compute partnership accounts from admission to dissolution

Core Course – VI – Banking Theory Law & Practice
CO 1 Identify the Rights and Obligations of Banker
CO 2 Apply different types of Bank Accounts

CO 3 Demonstrate process of opening an account, depositing and withdrawing cash and to take drafts
CO 4 Explain the legal implications of wrong entries in Pass Book
CO 5 Explain the various types of Negotiable Instruments
CO 6 Demonstrate the significance of crossing of cheques
CO 7 Analyze the principles of sound lending and different types of credit

Core Course – VII – Income Tax

CO 1 Identify the basic concept of Income Tax
CO 2 Discuss about the basic concept of residential status
CO 3 Outline income from house property as a concept
CO 4 Analyze the income from business or profession
CO 5 Explain the concept of depreciation and its provisions
CO 6 Analyze the concept of income from other sources
CO 7 Compute Problem in capital gain

Core Course Practical – III – Computerized Accounting – Tally

CO 1 Prepare Accounts using computer through Tally
CO 2 Create various types of accounts needed for different concerns through the Tally Package
CO 3 Prepare Journals and Ledger entries for all kinds of business concerns
CO 4 Prepare inventories – stock vouchers are possible through Computerized Tally Accounting
CO 5 Prepare Accounts using cost centre helps in preparing branch accounts
CO 6 Prepare of final accounts

Core Course – VIII – Cost Accounting

CO 1 Identify the concept of Cost Accounting
CO 2 Prepare Cost Sheet and Tender
CO 3 Discuss Material Control with Pricing methods
CO 4 Assess various Incentive Methods and Wage Payment
CO 5 Outline the concept of Overhead Cost
CO 6 Discuss the Process Costing Technique

Core Course – IX – Corporate Accounting

CO 1 Outline the features of Managerial Remuneration and to provide knowledge on Preparation of final accounts of Joint Stock Companies
CO 2 Assess the procedure for Liquidation and Calculation of Deficiency / Surplus with Respect to creditors and contributories
CO 3 Compute Problems on Amalgamation and Absorption of Companies
CO 4 Discuss External and Internal Reconstruction
CO 5 Prepare final accounts of Banking and Insurance Companies
CO 6 Prepare consolidated Balance Sheet of Holding and Subsidiary Companies

Core Course – X – Entrepreneurial Development

CO 1 Explain basic concepts of entrepreneurial, entrepreneurship
CO 2 Design Project Preparation and Evaluation
CO 3 Plan various mode and modality of Project Management and Control
CO 4 Assess various forms of Incentives and Subsidies available to the entrepreneurs
CO 5 Explain the functions of various Financial Institution
CO 6 Apply entrepreneurship Skill for economic empowerment

Core Course – XI – Financial Management

CO 1 Discuss the concepts, functions and decisions of Financial Management
CO 2 Plan Capital Structure Decisions
CO 3 Analyze the basic concepts of Cost of Capital
CO 4 Assess Capital Budgeting Decisions
CO 5 Discuss the evaluation procedure in Valuation of Securities
CO 6 Plan and formulate Working Capital Management Decision

Core Course – XII – Management Accounting

CO 1 Explain the concept of Management Accounting
CO 2 Discuss idea on financial statement analysis in practical point of view
CO 3 Discuss the concept of fund flow and cash flow statement
CO 4 Outline the budget control, keeping in mind the scope and concept
CO 5 Apply the concept of marginal costing with managerial decision making
CO 6 Analyze and interpret various ratios by which the students can get an idea about liquidity,
solvency and profitability position of the company

First Allied Course – I – Accounting Principles and Practices – I

CO 1 Communicate the basic account concepts and accounting rules
CO 2 Compute the various classifications of accounts and how to identify it
CO 3 Identify how to pass Journal entries and posted into Ledger
CO 4 Design the preparation of Trial Balance and various Subsidiary Books
CO 5 Explain the preparation of Profit & Loss and Balance Sheet

First Allied Course – I – Accounting Principles and Practices – II

CO 1 Identify accounting procedures followed in Partnership firm
CO 2 Discuss the Accounting Treatment related to Admission of a Partner
CO 3 Communicate the accounting procedures followed in case of Retirement of a Partner
CO 4 Compute the different modes of Dissolution of Firm and Treatment of Assets and Liabilities in case of Dissolution
CO 5 Explain the concept of Insolvency of a Partner

First Allied Course – I- Accounting Practices – Practical –I & II

CO 1 Assess the application of Accounting Principles followed in different Business Organisation
CO 2 Discuss various types of Accounts and Preparation of Trial Balance, Final Accounts

Second Allied Course – I – Business Management

CO 1 Explain General Management Concepts and Principles
CO 2 Apply Management Concepts and Approaches including Planning, Organizing and Controlling in their future career
CO 3 Discuss various Managerial skills like Decision – making, Problem solving, Managing and Leading people
CO 4 Analyze to integrate various functional areas of business to guide Innovation, Formulate to guide Information Strategy and solve complex Business problems

Second Allied Course – II – Business Law

CO 1 Explain business laws and its concepts
CO 2 Outline concepts relating to contract and various types of contracts
CO 3 Discuss the concept of sale of goods
CO 4 Discuss various Legislations relating to agency
CO 5 Communicate the various aspects of insurance
CO 6 Explain the conceptual framework of Bailment and Pledge

Major Based Elective Course – Group – IV – B) Organizational Behaviour

CO 1 Identify basic idea and introduction on organizational behaviour as a concept
CO 2 Discuss concept and different theories on Learning
CO 3 Discuss an idea about group behaviour and group cohesiveness
CO 4 Outline the leadership qualities and styles
CO 5 Discuss the concept of conflict management
CO 6 Discuss the concept of perception

Major Based Elective Course –Group –I (A) – Auditing

CO 1 Discuss the objectives of auditing and various activities involved in the audit process
CO 2 Prepare audit programme, audit note book for effective implementation of audit plan
CO 3 Design the vouching process
CO 4 Compile the modality of valuation of assets and liabilities
CO 5 Formulate an effective investigation process to suit the specific purpose
CO 6 Prepare consolidated Balance Sheet of Holding and Subsidiary Companies

Major Based Elective Course –Group –I (B) – Consumer Protection

CO 1 Explain the need for consumer protection
CO 2 Outline the role of consumer movement and the rights of the consumers
CO 3 Identify the provisions in the Consumer Protection Act in India
CO 4 Assess various kinds of malpractices and legislative regulations to protect the welfare of
the consumers

Major Based Elective Course – Group – II – A) Business Communication

CO 1 Demonstrate good understanding of effective business writing and effective business correspondence
CO 2 Develop and deliver effective presentations
CO 3 Utilize effective interpersonal communication skills that maximize team effectiveness
CO 4 Apply report – writing skill to formulate different kinds of Report
CO 5 Use different types of communication like oral, written and gestural communication
CO 6 Utilize modern forms of communication like fax, email, video-conferencing, internet, websites and their uses in business

Major Based Elective Course – Group – III – A) E-Commerce

CO 1 Explain the fundamentals of E-Commerce
CO 2 Identify the various applications of E-Commerce
CO 3 Outline concept of online marketing
CO 4 Explain concept of E-Payments among students
CO 5 Discuss the various security measures to be followed during the transactions
CO 6 Do online trading independently and earn while they learn

Major Based Elective Course – Group – III – B) E-Banking

CO 1 Identify the Basic E-Banking Concepts
CO 2 Utilize ATM Banking, Internet Banking and Mobile Banking facilities
CO 3 Demonstrate the Technical features of Debit cards and Credit cards
CO 4 Design an outline of Electronic Fund Transfer System
CO 5 Explain the working of RTGS System
CO 6 Discuss the safety measures in Online Banking

Non Major Elective Course – I – Practical Banking

CO 1 Explain basic concepts of banking
CO 2 Discuss the recent trends in banking like Net banking, ATM etc
CO 3 Analyze various types of accounts and operations through cheque

Non Major Elective Course –II – Fundamentals of Book-Keeping

CO 1 Discuss the accounting concepts and double entry system
CO 2 Prepare ledger, Subsidiary books, cash book and ledgers for business concern
CO 3 Prepare the final accounts such as Profit & Loss Account and Balance Sheet of a sole Trading concern

Skill Based Elective Course – Group – I – A) Stock Market Practices

CO 1 Discuss the structure of primary and secondary markets
CO 2 Identify the concept of new issues market and its functions
CO 3 Outline the various functions of stock exchanges
CO 4 Assess the listing Procedure of securities in a stock exchange
CO 5 Explain various functions of OTCEI, NSE, BSE etc
CO 6 Identify procedure for operating D-Mat accounts

Skill Based Elective Course – Group – I – B) Personal Investment

CO 1 Identify the characteristics of different types of investment
CO 2 Assess the risk involved in various types of investments
CO 3 Analyze the benefits of holding diversified investments
CO 4 Compare and Contrast the different modes of investment to multiply income

Skill Based Elective Course – Group – II – A) Principles of Insurance

CO 1 Identify various features of insurance
CO 2 Analyze the Life Insurance Policy, its types and predict settlement of claims
CO 3 Discuss various types of fire and marine insurances
CO 4 Evaluate the role of agents in insurance business

Skill Based Elective Course – Group – III – A)Non-Banking Financial Institutions

CO 1 Explain the role of NBFIs in the financial market
CO 2 Discuss various financial services rendered by NBFIs
CO 3 Analyze the structure and broad functioning of NBFIs
CO 4 Identify the SEBI Regulations towards NBFIs

Skill Based Elective Course – Group – III – B) Customer Relationship Management

CO 1 Discuss relationship theory from the point of view of customers and the organization
CO 2 Evaluate the CRM implementation strategy
CO 3 Discuss as how to formulate and assess strategy and tactical CRM decisions
CO 4 Critically analyze an organization's relational strategies with all the stakeholders

Extra Credit Course – I Micro Credit

CO 1 Outline the concept of SHG and Micro Credit
CO 2 Discuss the process of availing Micro Credit
CO 3 Develop project proposal for MSME
CO 4 Setup MSME and become Micro Entrepreneur

Extra Credit Course – II Event Management

CO 1 Plan basic key elements of Events
CO 2 Develop Event plan for various types of Events
CO 3 Make logistic arrangements for successful execution of Event
CO 4 Execute the event and evaluate the degree of its success

B.Com. (Applied)

Programme Outcomes

PO1 Enhance professional knowledge in all applied areas.
PO2 Develop professional skills in the field of commerce, accountancy and taxation.

Programme Specific Outcomes

PSO 1 Provide practical exposure through inplant training and project.

Course Outcome

Core Course 1 – Fundamentals of Accounting

CO1 Apply accounting concepts for preparing accounts.
CO2 Identify errors in accounting transactions.
CO3 Prepare the Performa invoice for the concern.
CO4 Assess the self balancing and sectional ledger for companies.
CO5 Compute the value of depreciated assets in the factories.
CO6 Analyze the financial position of the company.

Core Course 2 – Human Resource Management

CO1 Demonstrate Human Resources and their effective management in organization.
CO2 Utilize Human Resource Information systems for organizational development.
CO3 Discuss selection strategies for a specific job.
CO4 Discuss the current legal and ethical requirements of the recruitment and selection process.
CO5 Analyze advanced training strategies for various training programs.
CO6 Assess various performance management systems.

Core Course 3 – Advanced Accountancy

CO1 Explain accounting theory in partnership firms.
CO2 Prepare the piece meal distribution statement.
CO3 Compute the fire insurance claims.
CO4 Prepare the ledger accounts for Branch Accounts
CO5 Evaluate the royalties accounting.
CO6 Design the statement of hire purchase system and installment system.

Core Course 4 – Managerial Economics

CO1 Discuss foundational economic tools and concepts within the context of managerial decision-making and corporate strategy.
CO2 Identify demand function, statistical significance, and product elasticity.

CO3 Evaluate elasticity and estimate elasticity empirically.
CO4 Explain pricing policies, market structures, and macroeconomic policies and outcomes.
CO5 Explain the difficulties in calculating in National income.
CO6 Discuss the managerial skills of firms.

Core Course 5 – Company Accounts

CO1 Assess the value of shares and goodwill of the firm.
CO2 Compute journal entries, issue of shares and preference shares of company.
CO3 Explain the statement of profit prior to incorporation.
CO4 Prepare Merger and Amalgamation accounts.
CO5 Compute the holding and subsidiary company accounts.
CO6 Prepare the bank and insurance accounts.

Core Course 6 – Cost Accounting

CO1 Utilize fundamental concepts of cost accounting.
CO2 Discuss the procedure for issue of raw material in the manufacturing company.
CO3 Compute labour cost control.
CO4 Design the statement of overhead analysis.
CO5 Reconcile the company's cost and financial statements.
CO6 Compute process costing in a factory.

Core Course 7 – Business Statistics

CO1 Discuss the statistical concepts.
CO2 Compute the Measures of Dispersion
CO3 Prepare the regression, correlation analysis, least squares and time series of variables.
CO4 Explain the measures of central tendency.
CO6 Design the index numbers.

Core Course 8 – Commercial Law
CO1 Explain the legal system of Indian Contract Act 1872.
CO2 Discuss the performance of contract.
CO3 Outline the indemnity and guarantee.
CO4 Explain the sale of goods act.
CO6 Demonstrate the conditions and rights of unpaid seller.

Core Course 9 – Direct and Indirect Tax Laws

CO1 Compute the residential status of a person.
CO2 Calculate the income under the heads of salary and house property.
CO3 Compile the income under the heads of business or profession.
CO4 Analyze the concept of exempted income
CO5 Outline the central excise duty.
CO6 Discuss the provisions of GST.

Core Course 10 – Company Law and Secretarial Practice

CO1 Explain the characteristics and kinds of companies.
CO2 Outline general procedures relating to registration and alteration of articles and memorandum of association.
CO3 Discuss the kinds and powers of Board of Directors.
CO4 Outline the appointments, duties, rights and liabilities of company secretary.
CO5 Describe provisions relating to allotment, issue and transfer of shares, debentures and deposits etc.
CO6 Explain procedures and regulations regarding transfer of shares.

Core Course 11 – Financial Management

CO1 Describe the functions of financial management.
CO2 Discuss the key elements in capital structure decision.
CO3 Outline the various sources of financing
CO4 Demonstrate dividend policies and decisions.
CO5 Apply working capital management techniques to offer solutions to hypothetical cases to companies.
CO6 Evaluate the suitability of long term investment projects by applying capital budgeting Techniques

Core Course 12 – Management Accounting

CO1 Explain the concepts of management accounting.
CO2 Compile financial statement analysis.
CO3 Design fund flow and cash flow statement.
CO4 Analyze the material and labour variances.
CO5 Prepare various kinds of budgets.
CO6 Apply Cost-Volume-Profit techniques to determine optional managerial decisions in business

Core Course 13 – Business Communication

CO1 Explain the fundamental concept of business communication.
CO2 Design enquiry and reply letters.
CO3 Outline the drafting of job application letter and report writing.
CO4 Demonstrate modern communication methods
CO5 Outline the collection letters and business letters.

First Allied 1 – Marketing management

CO1 Identify the core concepts of marketing.
CO2 Develop marketing strategies based on product, price, place and promotion.
CO3 Explain the marketing mixes and selling propositions for specific product offerings.
CO4 Discuss the promotion
CO5 Formulate unique marketing strategies based on psychological and sociological influences of consumers.

First Allied 2 – Advertising Management

CO1 Explain the concepts of Advertising and advertising strategies.
CO2 Demonstrate the role advertising in the prevailing competitive environment.
CO3 Discuss the intricacies involved in training methods and product promotion.
CO4 Analyze the changing trends in the field of advertising.

Second Allied 1 – Entrepreneurial Development

CO1 Explain the origin and evolution of entrepreneurship.
CO2 Identify the concepts of factory design and layout.
CO3 Discuss the guidelines of Planning Commission.
CO4 Outline the role of government policies and licensing of industries.
CO5 Demonstrate the tax concession and incentives to small scale enterprise.

Second Allied 2 – Industrial Legislations

CO1 Explain the concept of industrial legislations and its relevance.
CO2 Discuss the importance of industrial legislations in protecting the interest of the workers
and employees
CO3 Demonstrate the rights, duties, responsibilities and statutory benefits of employees.
CO4 Outline the payment of wages act of the employees.

MBE 1 – Banking Theory Law and Practice

CO1 Explain the structure of Indian Banking system against the background of the regulatory
environment
CO2 Discuss the banker and customer relationship in Business.
CO3 Outline the features and types of negotiable instrument
CO4 Explain the rights and duties of paying and collecting banker.
CO5 Demonstrate the types of securities.

MBE 2 – Auditing Principles and Practices

CO1 Explain the origin and functions of auditing.
CO2 Discuss the concepts of internal control.
CO3 Outline the procedures of vouching.
CO4 Analyze the verification and valuation of assets and liabilities.
CO5 Evaluate the concepts of investigation.
CO6 Asses the reserves and provisions.

MBE 3 – Principles and Practices of Business Management

CO1 Outline the functions of management.
CO2 Explain about principles and methods of planning.
CO3 Discuss the organization chart and span of control.
CO4 Explain the characteristics and theories of motivation.

CO5 Identify and describe multicultural dimension of control process in management.

NME – 1 General Commercial Knowledge

CO1 Compile various forms of business organization.
CO2 Explain the skill in office services.
CO3 Discuss the sole proprietorship and partnership forms of organization.

NME – 2 Investment Avenues

CO1 Explain concept of investment avenues.
CO2 Analyze the classification of deposits.
CO3 Discuss the concepts of mutual funds, investment in shares and investment in instruments of post offices

SBE – 1 Services Marketing

CO1 Discuss the basic concepts of services marketing.
CO2 Demonstrate marketing of banking services and financial services.
CO3 Explain the dimensions of entertainment services and marketing of professional services

SBE – 2 Financial Services

CO1 Outline the concepts of financial services.
CO2 Explain the functions of merchant banking.
CO3 Discuss the concepts and advantages of leasing, hire purchase and mutual funds.

SBE – 3 Investment Management
CO1 Discuss institutional investors and its operations.
CO2 Explain the characteristics of the principles assets class.
CO3 Demonstrate the importance of establishing investor preference.

In plant Training

CO1 Select the career alternatives prior to graduation.
CO2 Identify their interest and abilities in their field of study.
CO3 Apply theoretical knowledge in gaining practical exposure.
CO4 Rate communications, interpersonal and other skills required for their career.
CO5 Prepare a record of work experience.
CO6 Acquire employment contacts loading directly to a full-time job following graduation from the college.

Project

CO1 Create the ability to make link across different areas of knowledge and to generate develop and evaluate idea and information so as to apply these skills to the project task.
CO2 Communicate effectively at present ideas clearly and coherently to specific audience in

B.Sc. Computer Science

Programme Outcome

PO 1 Structuring the Syllabi in such a way that it has given way for jobs, higher studies and self
employment.
PO 2 Computer Science: Imparting foundation for higher studies along with employability skills.

Programme Specific Outcome
PSO 1 Imparting foundation for higher studies.
PSO 2 Creating strong foundation for higher studies.
PSO 3 Giving theoretical base for practical oriented papers in system perspective.
PSO 4 Imparting creativity in practical oriented papers like PHP and .NET.
PSO 5 Developing theoretical knowledge in operating system features and various modules.
PSO 6 Giving knowledge about various data structures and algorithms

Course Outcome
Core Course 1 - Web Designing
CO1 Describe the Internet, Networking e-mail, WWW & Internet technologies
CO2 Understand the concept of Internet Browsers
CO3 Design & Create anchor tag, hyperlink in HTML
CO4 Design Head, Body section, Link and colorful web pages
CO5 Create Tables and Cells, coloring cells and other functions
CO6 Create DHTML and style sheets using Inline, Internal and External styles, Frames and Forms

Core Course 2 - Web Designing and 'C' Programming Lab
CO1 Develop coding for designing web pages using anchor tag and hyperlink
CO2 Create Colorful web pages
CO3 Use tags to create tables in web pages
CO4 Develop coding for designing web pages using style sheets
CO5 Develop coding of designing web pages using frames
CO6 Design web pages using forms

Core Course 3 - 'C' Programming
CO1 Acquire knowledge of the history and importance of 'C'
CO2 Identify 'C' character set, tokens, keywords, Identifiers, Data types, variables
CO3 Classify and understand various types of input, output operations, decision making and looping statements
CO4 Discuss the concept of arrays
CO5 Explain the operations in arrays, strings, user defined functions
CO6 Outline the structure, operations in structure and file handling techniques

Core Course 4 - Web Designing and 'C' Programming – Lab
CO1 Develop coding for simple 'C' programs
CO2 Write programs for matrices
CO3 Write programs using pointers
CO4 Write programs for recursion

CO5 Write programs using call by value and call by reference
CO6 Write programs for file creation using various file modes

Core Course 5 - Programming in C++

CO1 Explain concepts of Object Oriented Programming, data types and its applications
CO2 Discuss the concepts of Classes, Member functions
CO3 Explain the concepts of Constructors and Destructors
CO4 Assess the concept and write programs using Operator Overloading, Friend functions and String Manipulators.
CO5 Write the types of inheritance
CO6 Write programs acquired from knowledge of learning C++

Core Course 6 - C++ and Java Programming Lab

CO1 Demonstrate skills using Function Overloading in C++
CO2 Write programs in Matrix operations using C++
CO3 Write programs using Class and nested classes
CO4 Write simple applications using Array of objects
CO5 Write simple applications on Operator Overloading
CO6 Write simple applications of using Friend Functions, Inheritance and Multiple Inheritance

Core Course 7 - Programming in Java

CO1 Explain concepts, benefits and applications of OOP
CO2 Explain Java program structure, installing and configuring Java
CO3 Write program for simple programs in Java
CO4 Discuss concept of decision making, branching and looping statement and write simple programs
CO5 Outline the concept of classes, objects, methods, constructors, method overloading, static members and inheritance and write simple programs
CO6 Explain the concept of interface

Core Course 8 - C++ and Java Programming Lab

CO1 Write programs using control structures, classes and objects in Java
CO2 Write programs using constructors, overloading concepts
CO3 Develop programs using array
CO4 Write programs using nested methods and interfaces
CO5 Develop programs using overriding
CO6 Write programs using inheritance and multithreading

Core Course 9 - Operating Systems

CO1 Discuss the basic concepts and terminologies in Operating Systems
CO2 Assess about Memory Management and its Techniques
CO3 Explain Scheduling concepts in Processor Management
CO4 Explain the characteristics of Device Management
CO5 Analyze various Levels involved in a File System
CO6 Use various Operating Systems effectively

Core Course 10 - Fundamentals of Data Structures

CO1 Explain the concept of Stacks in Data Structures
CO2 Discuss the concept of Queues and Circular list in Data Structures
CO3 Acquire knowledge of the implementation of Linked Lists
CO4 Explain the basic terminologies and traversals of Trees
CO5 Use basic terminologies and traversals of Graphs
CO6 Explain Searching and Sorting Algorithms

Core Course 11 - Data Base Management Systems
CO1 Discuss the concept of Database and its applications
CO2 Analyze the basic structure of SQL Queries
CO3 Explain the Entity - Relationship model and various types
CO4 Describe Object Based Databases
CO5 Explain the Physical structure of Database
CO6 Outline the concepts of Transaction Management

Core Course 12 - Database Systems Lab
CO1 Create table and apply the basic MySQL operations
CO2 Develop MySQL queries to implement set operations
CO3 Develop MySQL queries to implement aggregate functions
CO4 Develop MySQL queries to implement join operations
CO5 Develop MySQL queries to implement nested sub queries
CO6 Develop MySQL queries to implement String operations

Core Course 13- Microprocessor and Applications
CO1 Discuss INTEL 8085 and its configuration
CO2 Explain concepts of Addressing modes and the 8085 processor Pins
CO3 Outline simple Assembly Language Programs
CO4 Explain the concept of DMA Controller, Memory Interfacing and I/O Interfacing
CO5 Explain the basic concept of A/D and D/A converters
CO6 Discuss the concept of Intel 8237

Core Course 14 - Programming in PHP
CO1 Explain the history and creating PHP script
CO2 Discuss the data types, variables, constants, manipulating variables with operators and handling form input
CO3 Acquire knowledge in conditional statements, complex statements, loops, string and numeric function
CO4 Outline the concept of creating arrays, arrays with loops and iterators, arrays with forms, array functions, date and times
CO5 Work with files and handling file operations
CO6 Work with databases and SQL Data (Addition, Modification), Handling errors

Core Course 15 - Programming in PHP Lab
CO1 Demonstrate the skills of writing programs using conditional statements
CO2 Write a program using multi dimensional array
CO3 Design a simple web page to generate multiplication table for a given number
CO4 Write program to download a file from the server
CO5 Write a program using cookies, session concepts and drawing objects
CO6 Design a web page with authentication in PHP with MySQL

Major Based Elective

Computer Graphics (MBE I)

CO1 Discuss the concept and applications of Graphics
CO2 Explain the basics of different kinds of monitors
CO3 Explain the concept of Line, Curve, Character Attributes and algorithms
CO4 Discuss the concept of two-dimensional transformations and viewing algorithms
CO5 Explain the concept of Graphical user interfaces, interactive input devices, and various interactive picture construction techniques
CO6 Explain the concept of Three-dimensional display methods, and various 3D transformations

Management Information System (MBE I)

CO1 Explain the objectives of MIS
CO2 Acquire knowledge in Software Trends.
CO3 Outline the Information System in Business.
CO4 Discuss the Applications of IT in Business.
CO5 Exhibit Ethical and Social Dimensions of IT

Software Engineering (MBE II)

CO1 Explain software requirement analysis, prototyping, design, validation testing, implementation, and software maintenance activities
CO2 Discuss software engineering methods and can select and tailor appropriate methods for projects
CO3 Apply software engineering practice over the entire software development processes
CO4 Contribute effectively to project development, discussions, presentations, and reviews
CO5 Act as an effective team member in software development
CO6 Demonstrate skills for continuous professional development

Data Communication and Networking (MBE II)

CO1 Explain about the history, types of Network and its Architectures
CO2 Discuss the overview of Networking models and preference of TCP_IP model
CO3 Outline about the Electronic Communication of the Digital Data
CO4 Explain about the Basic Principles of Networking of Computers
CO5 Explain about the Transmission in Local Area Networks
CO6 Discuss Switching and Forwarding in Wide Area Networking

System Analysis and Design (MBE II)

CO1 Explain life cycle of system development
CO2 Develop the analysis plan, process modeling and data modeling
CO3 Outline the design phase of input, output, process and storage
CO4 Explain the implementation activities and maintenance
CO5 Explain the concept of MIS

Non Major Elective

Fundamentals of Information Technology (NME I)

CO1 Acquire knowledge of characteristics and generations of computers
CO2 Explain the Functions and components of a computer and its memory units
CO3 Outline the internal process of computers

CO4 Discuss the various types of Input devices
CO5 Discuss the various types of Output devices
CO6 Explain the memory allocation process

Basics of Internet Concepts (NME II)
CO1 Explain the features of Internet services
CO2 Assess the protocols that are available in the networks
CO3 Analyze various types of browsers
CO4 Discuss concepts of Internet Addressing, Domain Names and URL
CO5 Explain process of e-mail and its uses
CO6 Exhibit ethics of e-mail

Skill Based Elective

Multimedia Packages (SBE I)
CO1 Discuss the basic concept of Adobe Photoshop
CO2 Outline the concept of Brush tools, Pen tools, Colors, and swatches techniques
CO3 Explain the concept of creating, modifying the existing brushes, Fill layers, Fill commands,
creating galaxy, Photo frames and shadow
CO4 Apply the concept of various Filters
CO5 Discuss about Adobe Image Ready Software
CO6 Create animations using Adobe Image Ready

Business Process Outsourcing (SBE I)
CO1 Outline the need for outsourcing
CO2 Analyze the work of call centers and BPO
CO3 Explain the frame work and business models of BPO
CO4 Outline the code of ethics and legal issues
CO5 Discuss about service level agreement
CO6 Discuss HR challenges in BPO industry

VB.NET and ASP.NET Programming (SBE II)
CO1 Explain .NET framework and components of .NET
CO2 Explain the concept of OOP, Features, Benefits, Implementing OOP in .NET
CO3 Create and manage applications, windows, forms, controls, menus, dialog boxes
CO4 Create C# application, deployment, web forms, web controls, events
CO5 Discuss the concept of Custom controls and validation of user input
CO6 Work with files, file operations, databases and SQL Data

Cloud Computing (SBE II)
CO1 Outline the working of Cloud Computing.
CO2 Explain the concept of Cloud Architecture
CO3 Discuss the Cloud Services
CO4 Discuss the Security services in Cloud
CO5 Explain the Applications of Cloud.

VB. NET and ASP.NET Programming Lab (SBE III)
CO1 Demonstrate skills of writing program using list box, checked list box controls in VB.NET
CO2 Write program using picture box, Combo box control in VB.NET
CO3 Write program using timer control in VB.NET
CO4 Write a program for creating a login form using ASP.NET

CO5 Write a program for creating Forms using ASP.NET
CO6 Write a program for EB bill, Pay bill preparation and Grid view control using
ASP.NET

Visual Programming Lab (SBE III)
CO1 Use Form Design in VB
CO2 Write program using Text Boxes, Frame, Labels and Command Buttons
CO3 Write program using Timer Control
CO4 Write program using Shape Control
CO5 Write simple applications of using ADO Control
CO6 Write simple applications in VB

Extra Credit
Extra Credit Paper 1 - Android Application
CO1 Demonstrate downloading and installing Eclipse
CO2 Configure the Android Plug-in for Eclipse and build activities
CO3 Explore the Android SDK
CO4 Explain Android Application Life
Cycle. CO5 Use the Cell Phone's GPS
Functionality

Extra Credit Paper 2 - Mini Project
CO1 Demonstrate the skills of Software development by doing projects
CO2 Develop a model by using software engineering process
CO3 Apply the Programming skill by doing a project
CO4 Develop team spirit by doing the project
CO5 Use database effectively
CO6 Write project documentation both the written and oral forms.
CO3 Establish a network of people from different organizations.
CO4 Plan their work independently through self-reflection and evaluation.
CO5 Identify problems identification, formulation and solutions
CO6 Draw appropriate suggestions and conclusions.

Extra Credit Paper
Foreign Exchange

CO1 Outline the objectives & functions of foreign exchange.
CO2 Explain the Import & Export financing.
CO3 Discuss the role of Export & Import bank of India for lending loans

International Marketing

CO1 Discuss the scope & advantages of International marketing.
CO2 Explain the concepts of licensing, franchising, joint venture.
CO3 Explain the functions & role of GATT, WTO, ECGC, EXIM Bank.

B.Sc. Electronics

Programme outcome

PO 1 Develop technical skills for industry, research and higher education in the field of Electronics
PO 2 Impart quality education in electronics and be successful in their professional carrier.
PO 3 Become Qualified technicians in solving the technical problems using electrical principles and tools.
PO 4 Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.
PO 5 Demonstrate knowledge and understanding of the electronic principles and apply these to ones own work, as a member and leader in a team, to manage projects and in multidisciplinary environments

Programme Specific outcome

PSO 1 Create the technical skill of handling of electronic devices, digital electronics and electrical devices.
PSO 2 Analyze the operation and application of Operational amplifier
PSO 3 Discuss the basic principle of Communication from basic level to advanced level.
PSO 4 Evaluate the problem solving techniques for Control of a system which helps for the project development.
PSO 5 Impart technical skill in handling various instruments in electronic field
PSO 6 Develop the technical skill in Microprocessor and Microcontroller which is used for project development.
PSO 7 Compile assembly language programs for Microprocessor and Microcontroller.
PSO 8 Prepare the students in both hardware and software field to meet ever challenging need of the electronic industry.

Course Outcome
Core Course 1 - Electronic Devices

CO1 Explain about Passive and Active Components.
CO2 Demonstrate the concepts of Semiconductor devices.
CO3 Explain the operation of Bipolar Junction Transistor and different types of biasing.
CO4 Apply the operation of Field Effect Transistor.
CO5 Explain the Opto electronic devices.
CO6 Apply the basic concept of electronic devices
CO7 Differentiate the different types of diodes and Thyristors.

Core Course 2- Electrical and Electronics Circuits:

CO1 Apply the fundamental knowledge of Alternating Current and Direct Current circuits.
CO2 Discuss the basic laws of Electrical Circuit.

CO3 Explain the concepts of Network theorems and analysis.
CO4 Analyze the concepts of H-parameter
CO5 Differentiate the operation of FET and BJT

Core Course 3- Linear Integrated Circuits

CO1 Discuss the operation and application of Operational amplifier
CO2 Revise the Integrated Chip fabrication techniques
CO3 Explain the Inverting and non -inverting amplifiers
CO4 Differentiate the operation of I-V and V-I converters
CO5 Analyze the different types of filters
CO6 Utilize the concepts Wave generators
CO7 Demonstrate the Analog to Digital and Digital to Analog Converters

Core Course 4- Principles of Communication System

CO1 Analyze different types of noise occur in communication system
CO2 Discuss the principles of Modulation
CO3 Apply different modulation techniques
CO4 Explain the operation of Receivers in Communication System
CO5 Identify various forms of communication system such as satellite communication, cellular concept.

Core Course 5- Digital Electronics

CO1 Compute Binary addition, subtraction, Multiplication and Division
CO2 Demonstrate Basic logic gates and universal gates
CO3 Compute Boolean expression and algebraic methods.
CO4 Discuss different families of digital integrated circuits.
CO5 Identify and troubleshoot in combinational logic circuits and Sequential logic circuits

Core Course 6- Microprocessor and Microcontroller

CO1 Discuss the design issues of 8085 Microprocessor
CO2 Explain Data transfer methods of 8085 Microprocessor
CO3 Assess the interfacing devices
CO4 Compile Assembly language programs
CO5 Discuss the architecture of Microcontroller 8051

Core course 7- Programming in C and C++

CO1 Discuss the features of “C” programming
CO2 Demonstrate the basic structure and data types of C
CO3 Apply decision making concepts in C
CO4 Prepare programmes under the concept of arrays in C++
CO5 Demonstrate exercises through structure and Pointers in C
CO6 Use different programs based on the usage of C++-files

Core Course 8- Management and Functional Behaviour

CO1 Explain Management skills in industries.
CO2 Discuss the basic concepts and frameworks of human resource management (HRM).
CO3 Utilize the skills, synthesis and communication in managerial decision making situations

Core Course 9- Industrial Electronics

CO1 Discuss the power semiconductor devices.
CO2 Demonstrate the basic idea of phase controlled rectifier and different types of choppers.
CO3 Explain the different types of inverters. CO4
Differentiate the types of cycloconvertors. CO5
Discuss the applications of electronic devices.
CO6 Utilize the concept of ultrasonic waves and applications.

Allied 1-Semiconductor and Digital Electronics

CO1 Demonstrate the construction and working of semiconductor devices
CO2 Compare the different types of Rectifiers
CO3 Analyze the working of NPN and PNP transistor
CO4 Utilize different types of multi vibrators
CO5 Compute Binary conversions and number codes
CO6 Assess the knowledge of universal gates
CO7 Explain the operation of encoder and decoder
CO8 Construct the combinational logic and sequential logic.

Allied 1-Operational Amplifier and Communication System

CO1 Analyze the operation and application of Operational amplifier
CO2 Differentiate inverting and non-inverting amplifiers
CO3 Utilizing the knowledge of Analog to Digital and Digital to Analog Converters
CO4 Explain the concepts and operation of IC 555 timer
CO5 Demonstrate the voltage regulators and Power supplies
CO6 Assess the basics of communication system and types of noise
CO7 Differentiate the modulation techniques and types of receivers.

Allied II- Robotics

CO1 Explain the basic concepts in Robotics and basic structure of Robot
CO2 Discuss the different types of Robots
CO3 Assess the different types of end effectors and sensors
CO4 Formulate image processing and analysis
CO5 Demonstrate Installation, safety, training and maintenance of Robot
CO6 Apply the current applications of Robots.

Allied II- Control System

CO1 Assess different types of Control System
CO2 Design the different types of Block Diagram reduction techniques
CO3 Compare different types of Motors and Controllers
CO4 Compute the Time Response analysis and Frequency Response analysis
CO5 Design Bode Plot techniques
CO6 Evaluate the problem solving methods in stability analysis.

MBE 1- Embedded System and Embedded C

CO1 Explain the embedded systems.
CO2 Analyze communication buses and devices network.
CO3 Prepare "C" Programmes using Embedded C.
CO4 Utilize the basic structure and data types of C.
CO5 Utilize the concept of Constructors and destructors in C++.
CO6 Develop the programming skills in C++.

MBE II - Sensors, Transducers and Measurement

CO1 Discuss the science of measurement and transducers.
CO2 Explain the primary sensing elements.
CO3 Compute the measurement of non-electrical quantities.
CO4 Utilize the concept of cathode ray oscilloscope.
CO5 Demonstrate the bio- medical instrumentation.

MBE III- Advanced Communication

CO1 Explain satellite communication.
CO2 Utilize the cellular concept.
CO3 Demonstrate the fiber optic communication.
CO4 Explain the concepts of RADAR system.
CO5 Analyze the operation of telecommunication.

NME 1- Computer Electronics

CO1 Explain the parts of the computer
CO2 Discuss the peripheral devices of the computer
CO3 Demonstrate the network and e-mail.

NME 2- Everyday Electronics

CO1 Explain the Home gadgets, entertainment devices, communication Device.
CO2 Discuss the block diagrams of devices
CO3 Demonstrate the working of each device.

SBE I - PCB designing and PC Assembling

CO1 Discuss and design Printed Circuit Boards
CO2 Construct Printer Circuit Boards

CO3 Plan the parts of computer.
CO4 Explain PC assembling.

SBE II - Applications of Electronics

CO1 Compile various electronic application in our day today life
CO2 Construct Electronic applications as own.
CO3 Explain the operation of basic Electronic applications

SBE III- Entrepreneurial Electronics

CO1 Apply the use of electronic equipments.
CO2 Analyze the equipments for servicing.
CO3 Discuss the working of heating appliances.
CO4 Demonstrate Motor and Refrigeration appliances.

Extra Credit- Mobile Processor

CO1 Explain the architecture of Mobile processors.
CO2 Discuss the various Components of Mobile processors.
CO3 Analyze the various Mobile Companies.

Extra Credit- Applied Instrumentation

CO1 Explain the usage Electronics Instruments in various fields..
CO2 Discuss the operation of Nucleonic sensors,
CO3 Analyze the various Mobile Companies.

B. Sc. Hospital Administration

Program Outcome

PO 1 Perform as a successful professionals in the field of Hospital Administration

PO 2 Take up new challenging jobs in the recent trends in Hospital Administration

Program Specific Outcome

PSO1 Adopt Hospital job opportunities easily and explain how to improve the quality health care of hospitals effectively with the help of their project work.

Course Outcome

Core Course 1 - Basic Biological Sciences

CO1 Explain various diseases and its treatment
CO2 Explain the signs and symptoms of various diseases
CO3 Assess the causes of various diseases
CO4 Discuss about the management and prevention of diseases
CO5 Explain the diseases and disorders of female reproductive system

Core Course 2 - Hospital Core Services

CO1 Identify the various functions of hospital core services
CO2 Explain the location and design of various department of hospital
CO3 Outline various functions of department in hospital
CO4 Evaluate the organization, facilities and space requirements of various departments
CO5 Assess environmental control and infection control

Core Course 3 - Hospital Supportive Services

CO1 Analyze various supportive services in hospitals
CO2 Demonstrate admitting department and electrical system
CO3 Explain food service department and housekeeping services
CO4 Explain about maintenance of department and transportation
CO5 Demonstrate pharmacy and medical records department

Core Course 4 - Ward Management

CO1 Assess various functions of ward management
CO2 Evaluate hierarchical structure in ward and ward teaching
CO3 Prepare patient assignments and establishment of priorities
CO4 Evaluate ward environment and safety measures
CO5 Explain the types of reports and records

Core Course 5 - Financial Management

CO1 Explain financial concepts on Accounting and its process
CO2 Assess book keeping and rules for transactions
CO3 Prepare Profit and loss account and functions of balance sheet
CO4 Analyze working capital management
CO5 Demonstrate budgetary control and its types

Core Course 6 - Research Methodology

CO1 Explain research and its methods
CO2 Evaluate the research problem and its design
CO3 Analyze the uses of computer in research
CO4 Formulate the sampling techniques used for research
CO5 Identify the data collection and its methods
CO6 Analyze the format of report writing

Core Course 7 - Personnel Management

CO1 Apply concepts, principles and role of personnel management.
CO2 Use techniques and sources of recruitment and selection process.
CO3 Analyze job changes, wage and salary administration.
CO4 Evaluate personnel problems, industrial relations and collective bargaining.
CO5 Evaluate E-HR management and worker`s participation in management.

Core Course 8 - Hospital Vital Statistics

CO1 Analyze various health indicators.
CO2 Analyze fertility related statistics.
CO3 Use measurements in epidemiology.
CO4 Apply hospital statistics.
CO5 Use central tendency.

Core Course 9 - Hospital Information System

CO1 Explain computer, its components, programming languages and medical computing.
CO2 Explain management information system concepts
CO3 Evaluate functional capability of computerized hospital information system.
CO4 Use computerized patient data base management.
CO5 Utilize telemedicine and cyber medicine.

Core Field Work 10 - Hospital In Plant Training

CO1 Explain the location and layout of various departments in hospital.
CO2 Use the modern inventory procedures of various departments in hospital.
CO3 Evaluate the procedures followed in different departments of hospital.
CO4 Analyze the functions of different departments in hospital.
CO5 Identify the bedside equipments in hospital.

Core Course 11 - Materials Management

CO1 Explain the integrated materials management.
CO2 Discuss about the materials planning and budgeting.
CO3 Use inventory control and computers in materials management.
CO4 Demonstrate materials purchase management.
CO5 Analyze the stores management.

Core Course 12 – Internship

CO1 Analyze location and layout of various departments in hospital.
CO2 Use modern inventory procedures of various departments in hospital.
CO3 Evaluate the procedures followed in different departments of hospital.
CO4 Analyze the functions of different departments in hospital.
CO5 Identify the bedside equipments in hospital.

Core Course 13 – Project

CO1 Rate the Clinical and Management concepts of hospital
CO2 Compile the Organizational profile and Theoretical concepts of research topic
CO3 Analyze about the Respondents and data collection techniques
CO4 Plan data analysis and interpretation
CO5 Assess the findings, suggestions and conclusion on research topic

Allied Course 1 - Basic Concepts of Management

CO1 Assess various functions of management
CO2 Explain planning, policy and procedure in management
CO3 Analyze organizational structure and departmentation
CO4 Demonstrate communication, decision making process in management
CO5 Analyze the steps in controlling and management by exception.

Allied Course 2 - Organisational Behaviour

CO1 Demonstrate various techniques, process, features, types and measurement of different concepts of organizational behavior
CO2 Adapt organizational climate and morale.
CO3 Apply organizational behavior and effective control system
CO4 Apply the acquired motivational and leadership styles
CO5 Analyze Learning process and attitude.

Allied Course 3 - Operations Research For Hospital Management

CO1 Explain basic concepts of Operations Research
CO2 Apply scientific methods used in operation Research
CO3 Analyze basic theory used in operations research
CO4 Evaluate basic components of networking

Allied Field work 1 - Hospital Orientation Programme

CO1 Use various departments and its functions of a Multispecialty hospital

Allied Course 4 - Computer Applications In Health Care Services

CO1 Explain the computer application in hospital services
CO2 Evaluate the role of information system in hospital
CO3 Use MS Word, MS Excel and MS PowerPoint
CO4 Explain Internet and its access method

Allied Practical 1 - Ms Office Practical
CO1 Apply computer operations required in hospital

Major Based Elective Course 1 - Hospital Organizational Services

CO1 Explain hospital as matrix organization, functions and role of hospital.
CO2 Evaluate the hospital planning and human resource management.
CO3 Demonstrate health system engineering and diagnostic related group.
CO4 Discuss Kaiser Project and management by objectives.

Major Based Elective Course 2 - Health Care Management

CO1 Explain the concept of health.
CO2 Explain the concept of diseases and health planning.
CO3 Analyze maternal health services and family planning services.
CO4 Analyze child health services.

Major Based Elective Course 3 – Pharmacology

CO1 Explain the main divisions of pharmacology.
CO2 Explain certain cardio vascular drugs, respiratory system drugs and drugs acting on blood.
CO3 Discuss the hormone and hormone antagonist.
CO4 Identify the drugs acting on central nervous system, gastro intestinal tract and chemotherapy.

Non Major Based Elective Course 1 - Guide To Health

CO1 Explain the concepts of health
CO2 Evaluate the common diseases and its signs and symptoms

Non Major Based Elective Course 2 - Principles Of Public Relations

CO1 Explain the concepts and functions of public relation.
CO2 Explain media and its types.

Skill Based Elective Course 1 - First Aid

CO1 Discuss about First aid and its management
CO2 Utilize first aid box and its content

Skill Based Elective Course 2 - Medical Records Management

CO1 Analyze medical record and its management.
CO2 Evaluate medical record standards and its quality

Skill Based Elective Course 3 - Nutrition And Therapeutic Diet

CO1 Identify food, nutrition and health.
CO2 Evaluate the classification of food, vitamins, diet as a therapeutic agent and adulteration of foods.
CO3 Formulate the inventory control techniques.

Extra Credit Course 1 – Hospital Infection Control Management

CO1 Identify high risk areas of infection
CO2 Explains infection control committee formation and functions

Extra Credit Course 2 - Developmental Psychology

CO1 Explain the developmental changes in prenatal, infancy and babyhood.
CO2 Explain the developmental changes in early childhood, late childhood and puberty adolescence, adulthood, middle age and old age.

B.Sc. Mathematics

Programme Outcome

PO1 Utilize the knowledge of mathematics and mathematical tools to solve real life problems.
PO2 Apply critical thinking and create efficient solutions for complex mathematical problems.
PO3 Understand the issues in the society and utilize their knowledge for sustainable development of the nation.
PO4 Apply appropriate IT tools to solve problems.

Programme Specific Outcome

PSO1 Acquire the concept of differentiation , multiple integration, trigonometric and hyperbolic functions, applications of vector differentiation and vector integration.
PSO2 Discuss the algebraic structures group, ring, field, Vector spaces, Inner product space.
PSO3 Explain the concepts of limits, continuity, derivatives and Mean Value theorems and its applications.
PSO4 Predict the effect of forces on moving bodies and bodies at rest.
PSO5 Apply the Laplace transforms to evaluate the ordinary differential equations and to evaluate the certain integrals.
PSO6 Select appropriate test to check the convergence of the series.
PSO7 Acquire the knowledge about complex numbers, Analytic functions and complex integration.
PSO8 Design programs to solve numerical and statistical problems.
PSO9 Apply MATLAB codings to solve problems on matrices and Differential equations.
PSO10 Apply principles and concepts of graph theory in practical situations

Course Outcome
Core Course 1-Calculus

CO 1 Derive formula to find radius of curvature in Cartesian and polar forms.
CO 2 Explain evolute and involute and to describe the method of finding evolute of any curve.
CO 3 Discuss properties of definite integrals and to obtain reduction formulae.
CO 4 Describe the evaluation of double integrals both in Cartesian and polar forms.
CO 5 Communicate the notions of Jacobian and change of variables to evaluate double integrals.
CO 6 Explain Beta and Gamma functions and discuss their properties.
CO 7 Describe the evaluation of definite integrals using Beta and Gamma functions.

Core Course 2-Theory of Equations and Vector Analysis

CO 1 Discuss the relation between roots and coefficient of equations and describe the method of solving reciprocal equations.
CO 2 Explain the method of finding quotient and remainder when a polynomial is divided by a binomial.
CO 3 Apply Descartes' rule of signs to discuss the nature of roots.
CO 4 Explain differentiation of vectors, gradient, divergence and curl.
CO 5 Apply integral theorems like Gauss" divergence theorem and Stoke's theorem.

Core Course 3-Analytical Geometry of Three Dimensions and Trigonometry

CO 1 Explain the method of finding projections and direction cosines of a line in three dimensional Analytical Geometry.
CO 2 Recognize various forms of plane equations and straight line equations.
CO 3 Describe the method of finding shortest distance between two lines.
CO 4 Derive the equations of a sphere and right circular cone.
CO 5 Recognize the expansions of cos nθ, sin nθ and tan nθ, sin θ, cos θ.
CO 6 Comprehend the relations between hyperbolic functions.

Core Course 4-Numerical Methods

CO 1 Analyze the methods to find the solution of Algebraic and Transcendental equations.
CO 2 Explain interpolation and use Newton's formulae, Lagrange's interpolation formula to solve the problems.
CO 3 Apply Trapezoidal, Simpson's 1/3 rule and Simpson's 3/8 rule to evaluate integrals.
CO 4 Discuss Boole's and Weddle's rules and apply Romberg Integration.
CO 5 Describe various methods to solve linear systems of equations

Core Course 5-Algebra – I

CO 1 Communicate the concepts of groups, permutation groups, subgroups, cyclic groups.
CO 2 Explain close sets and Lagrange's theorem, Quotient groups and homomorphisms.
CO 3 Analyze concepts of rings.
CO 4 Discuss the properties of ring, characteristic of ring, subrings, Ideals & homomorphism.
CO 5 Comprehend unique factorization domain and Euclidean domain.

Core Course 6-Algebra – II

CO 1 Discuss subspaces, linear transformation and span of a set.
CO 2 Explain Linear independence and dimension of vector spaces.
CO 3 Demonstrate types of matrices and apply Cayley-Hamilton theorem.
CO 4 Acquire the concepts inner product space, orthogonal complement and bilinear forms.

Core Course 7-Real Analysis

CO 1 Demonstrate field axioms and theorems about field properties.
CO 2 Discuss about neighbourhoods, open sets, closed sets, limit points.
CO 3 Explain intermediate value theorem, Inverse function theorem, Uniform continuity
CO 4 Comprehend the concepts of derivability and continuity .
CO 5 Discuss inverse function theorem for derivative, Darboux's theorem, Rolle's theorem and Lagrange's mean value theorem, Cauchy mean value theorem.

Core Course 8-Statics

CO 1 Discuss about forces acting at a point, parallel forces and moments.
CO 2 Describe couples, Equilibrium of three forces acting on a rigid body.
CO 3 Explain about the coplanar forces.
CO 4 Demonstrate laws of friction, angle of friction with examples.

CO 5 Evaluate centre of gravity of different geometrical structures like triangle, quadrilateral etc.
CO 6 Derive the equation of common Catenary and discuss the properties.

Core Course 9-Differential Equations and Fourier Series

CO 1 Describe practical rule for solving exact differential equation and rules for finding integrating factor.
CO 2 Explain the method of solving linear Differential equations with constant coefficients. and simultaneous Differential equations with examples.
CO 3 Analyze the method of forming Partial differential equations for various situations. and solving partial differential equations.
CO 4 Demonstrate the condition for existence of Laplace Transforms and to obtain Laplace transforms of various functions.
CO 5 Formulate Fourier series for different functions.

Core Course 10-Sequences and Series

CO 1 Analyze convergence of sequences, divergence of sequences and Cauchy sequences.
CO 2 Acquire the knowledge about limit superior and limit inferior of sequences.
CO 3 Describe partial sum, convergent series, Cauchy's general principle of convergence of a series.
CO 4 Apply Cauchy's n^{th} root test and D'Alembert's ratio test to check the convergence of the series.
CO 5 Comprehend series of arbitrary terms, alternating series and apply some tests for series of arbitrary terms.

Core Course 11-Complex Analysis

CO 1 Explain about analytical functions and functions of complex variables.
CO 2 Discuss Cauchy Riemann equations.
CO 3 Describe harmonic functions and conformal mappings.
CO 4 Demonstrate elementary transformations and fixed points of bilinear transformations.
CO 5 Apply Cauchy integral formula and Cauchy's theorem on integrals.
CO 6 Analyze Taylor's series, Laurent's series, Zeros of analytical functions and singularities.
CO 7 Evaluate residues using Cauchy's residues theorem.

Core Course 12-Dynamics

CO 1 Describe relative velocity, angular velocity and acceleration.
CO 2 Evaluate moment of Inertia in particular cases using parallel and perpendicular axes theorems.
CO 3 Discuss about projectiles, path and range of a projectile and range on an inclined plane.
CO 4 Analyze about impulsive forces, collision of elastic bodies, impact of two bodies and loss of kinetic energy due to impact.
CO 5 Explain the motion under the action of central forces.
CO 6 Discuss about simple harmonic motion, motion of a rigid body about a fixed axis.

Core Course Practical 1-Programming in C

CO 1 Prepare programs to find mean, standard deviation and correlation coefficient.
CO 2 Compile programs for sorting n numbers and n strings.
CO 3 Formulate programs to find the roots of the quadratic equation.
CO 4 Design a program to solve differential equations by R-K 4^{th} order method.
CO 5 Design programs to evaluate integrals using Trapezoidal and Simpson's rule.

Core Course Practical 2-MATLAB

CO 1 Demonstrate algebraic and symbolic calculations using MATLAB.
CO 2 Evaluate the sum, product, inverse and eigen values of matrices.
CO 3 Compile programs for differentiation and integration.
CO 4 Formulate Taylor polynomial using MATLAB.
CO 5 Design program to create fplot and summation of series.

ALLIED COURSE FOR B.Sc. MATHEMATICS

ALLIED COURSE 1- Mathematical Statistics I

CO 1 Compute various measures of Statistical constants.
CO 2 Analyze the characteristics of Probability Distributions.
CO 3 Apply Baye's theorem in Decision making.
CO 4 Explain moments, probability and cumulant generating functions.

ALLIED COURSE 2- Mathematical Statistics II

CO 1 Compute coefficient of correlation, regression and rank correlation.
CO 2 Discuss the procedure for testing of hypothesis for large samples.
CO 3 Apply Chi-square distribution to make inference about population variance.
CO 4 Demonstrate the relation between t and F distributions.

ALLIED PRACTICAL –Excel Lab for Mathematical Statistics

CO 1 Discuss the diagrammatic presentation of a data using line chart, bar chart and pie diagram.
CO 2 Evaluate measures of dispersion, skewness and rank correlation using Excel.
CO 3 Design a program for simple linear and non linear regression models.
CO 4 Demonstrate fitting of probability distributions.
CO 5 Apply Gauss Divergence theorem and Stoke's theorem to evaluate Surface and Volume integrals.
CO 5 Assess t-test, F-test and Chi-square test for independence of attributes.

ALLIED COURSE FOR B.Com.,

ALLIED COURSE 1- Business Mathematics

CO 1 Discuss the methods of interest calculations and their applications.
CO 2 Evaluate finance and economics problems mathematically.
CO 3 Apply the principles of Calculus in Business problems.
CO 4 Formulating a linear programming problem and solving using simplex method .

ALLIED COURSE 2- Business Statistics

CO 1 Utilize Statistical analysis in business problems and finding their inference. CO 2 Select appropriate Statistical techniques for business data.
CO 3 Apply regression and correlation analysis for forecasting.
CO 4 Discuss all measures of central tendencies and dispersion for raw and grouped data.

ALLIED COURSE FOR B.Sc., COMPUTER SCIENCE ALLIED COURSE 1- Numerical and Statistical Methods

CO 1 Acquire the knowledge of numerical solution for algebraic and transcendental equations.
CO 2 Describe interpolation and to find interpolating polynomials. CO 3 Discuss the numerical solution of differential equation.
CO 4 Analyze correlation and regression.
CO 5 Explain the fitting of Binomial and Poisson distributions.

ALLIED COURSE 2- Operations Research

CO 1 Explain the mathematical formulation of a linear programming problem. CO 2 Discuss the optimization of a linear programming problem.
CO 3 Explain Transportation and Assignment problems. CO 4 Identify the shortest path in a given network.

ALLIED COURSE 3 – Practical Mathematics

CO 1 Apply Bisection and False position methods to solve algebraic and transcendental equations.
CO 2 Identify cubic polynomials by interpolation formula using forward and backward methods.
CO 3 Evaluate numerical solution by Differentiation and Integration using Trapezoidal and Simpson's 1/3 rule.
CO 4 Utilize Simplex and Big-M method for solving linear programming problems. CO 5 Discuss fitting of Binomial and Poisson distributions.

ALLIED COURSE FOR B.Com.,(For Maths Students)

ALLIED COURSE 1- Business Mathematics
CO 1 Discuss the methods of interest calculations and their applications.
CO 2 Evaluate finance and economics problems mathematically. CO 3 Apply the principles of Calculus in Business problems.
CO 4 Formulating a linear programming problem and solving using simplex method .

ALLIED COURSE 2- Business Statistics
CO 1 Utilize Statistical analysis in business problems and finding their inference.
CO 2 Select appropriate Statistical techniques for business data. CO 3 Apply regression and correlation analysis for forecasting.
CO 4 Discuss all measures of central tendencies and dispersion for raw and grouped data.

ALLIED COURSE FOR B.Com.,(For Non-Maths

Students) ALLIED COURSE 1- Foundation Mathematics

CO 1 Discuss the methods of interest calculations and their applications.
CO 2 Evaluate finance and economics problems
mathematically. CO 3 Apply the principles of Calculus in
Business problems.
CO 4 Formulating a linear programming problem and solving using simplex method .

ALLIED COURSE 2- Foundation Statistics

CO 1 Utilize Statistical analysis in business problems and finding their inference.
CO 2 Select appropriate Statistical techniques for business
data. CO 3 Apply regression and correlation analysis for
forecasting.
CO 4 Discuss all measures of central tendencies and dispersion for raw and grouped data.

ALLIED COURSE FOR B.Sc., ELECTRONICS

ALLIED COURSE 1 - Mathematical Techniques

– I

CO 1 Discuss the problems arising in research and industry through statistics.
CO 2 Explain the fundamentals and common operations of
Matrices. CO 3 Explore the measures of central tendency.
CO 4 Apply the problem solving techniques in basic Laplace Transform and Inverse Laplace
Transform.

ALLIED COURSE 2 - Mathematical Techniques – II

CO 1 Discuss the problems arising in research and Industry through numerical methods.
CO 2 Demonstrate algebraic and transcendental equations.
CO 3 Identify the techniques to solve the ordinary differential equations and
partial differential equations.
CO 4 Explain the basic concepts of Fourier
series. CO 5 Assess problem solving abilities.

ALLIED COURSE FOR B.B.A.,

ALLIED COURSE 1-Business Mathematics and Statistics

CO 1 Apply arithmetic and algebraic skills.
CO 2 Explain the fundamentals and common operations of
Matrices. CO 3 Discuss the origin and scope of Statistics.
CO 4 Utilize elementary probability theory and probability distributions for
business strategies.

ALLIED COURSE 2-Operations Research

CO 1 Develop Operations Research models in the verbal description of the real
system. CO 2 Use mathematical software to solve the proposed model.
CO 3 Discuss the different applications of Operations Research.
CO 4 Analyze the mathematical tools to solve optimization
problems. CO 5 Identify the management problems through
operations research.

ALLIED COURSE FOR B.C.A.,
ALLIED COURSE 1-Mathematics for Computer Applications

CO 1 Explain different techniques to solve Integration problems. CO 2 Analyze the data graphically and statistically.
CO 3 Discuss the applications of Mathematics in Finance.
CO 4 Discuss linear programming problems mathematically.

ALLIED COURSE 2-Statistics for Computer Applications

CO 1 Demonstrate the basic concepts of statistical techniques. CO 2 Apply statistical methods for business data.
CO 3 Analyze the various measures of central tendency depending upon the data. CO 4 Evaluate the changes in price and quality through the Index numbers.
CO 5 Apply time related set series of values in Economics, Business research and planning.

MAJOR BASED ELECTIVE
COURSE MBE I-1/1-Graph Theory

CO 1 Demonstrate applications of graphs.
CO 2 Discuss connected graphs, disconnected graphs, Euler's graphs, Hamiltonian paths and circuits.
CO 3 Describe trees, fundamental circuits, cuts and cut vertices.
CO 4 Design the matrix representation of graphs, incidence matrix, cut set matrix, path matrix and adjacency matrix.

MBE I-2/1-Discrete Mathematics

CO 1 Discuss the Cartesian product of two sets, relations, operations on relations and equivalence classes.
CO 2 Comprehend one to one functions, onto functions, invertible functions, composition functions.
CO 3 Apply the techniques of Mathematical induction, recurrence relations, generating functions.
CO 4 Discuss lattices, properties of Lattices.
CO 5 Explain Boolean Algebras, Boolean polynomials and Karnaugh maps. CO 6 Acquire the basic concepts of logics.

MBE II-1/2-Operations Research

CO 1 Explain the formulation of LPP.
CO 2 Evaluate LPP using graphical method and simplex methods.
CO 3 Formulate the dual of LPP and solve LPP through duality and dual simplex method. CO 4 Formulate transportation problem from LPP and solve by MODI method.
CO 5 Explain the methods of solving assignment problems. CO 6 Describe two person zero sum games.
CO 7 Demonstrate the rules of network construction. Describe the method of PERT/CPM.

MBE II-2/2-Astronomy

CO 1 Discuss how gravity is related to the formation, interaction and evolution of the solar system.
CO 2 Assess the life cycle of stars.
CO 3 Use of light to learn about the Universe. CO 4 Explain the contributions of Kepler's laws. CO 5 Compile Astronomical observations.

MBE III-1/3-Mathematical Modelling

CO 1 Design mathematical models for growth and decay processes using ordinary differential equations.
CO 2 Explain the concepts of difference equations and method of solving difference equations.
CO 3 Prepare mathematical models through difference equations. CO 4 Create mathematical models through PDE.
CO 5 Formulate mathematical models through graphs.

MBE III-2/3-Number Theory

CO 1 Discuss the fundamental theorem of arithmetic.
CO 2 Analyze permutations and combinations, Fermat's Little theorem, Wilson's theorem.
CO 3 Demonstrate the use of computer in number theory.
CO 4 Recognize the basic properties of congruences.
CO 5 Explain Tchebychev's theorem.
CO 6 Apply Chinese remainder theorem for congruences.

SKILL BASED ELECTIVE COURSES SBE (Group I)- 1/1 – Combinatorics

CO 1 Analyze the concepts of Permutations and Combinations with repetitions.
CO 2 Identify about Binary relations and its representation. CO 3 Discuss more on Functions.

SBE(Group I)-2/1 – Design and Analysis of Algorithm

CO 1 Analyze the performance of algorithms. CO 2 Utilize the Divide-and-Conquer methods.
CO 3 Identify the shortest path using Prim's and Kruskal's Algorithms.
CO 4 Design algorithms for set operations.

SBE(Group II)-1/2 –Quantitative Aptitude

CO 1 Utilize the knowledge to meet the competitive examinations. CO 2 Identify correct answers for objective type questions.
CO 3 Apply shortcut method to solve difficult problems.

SBE(Group II)-2/2 –Applications of Geometry

CO 1 Evaluate area and volumes to plane figures and solid figures.

CO 2 Apply the formulae of heights and Distances to problems on train, boats and streams. CO 3 Outline the concept of permutations and combinations to solve problems on sets.
CO 4 Demonstrate Barcharts and line graphs for data interpretation.

SBE(Group III)-1/3 –Financial Mathematics

CO 1 Evaluate square roots and Cube roots.
CO 2 Discuss profit and loss, Ratio and proportion.
CO 3 Describe partnership, Simple Interest & Compound
Interest. CO 4 Assess True Discount and Banker's Discount.
CO 5 Demonstrate Bar Graphs, Pie Charts and Line Graphs.

SBE(Group III)-2/3 –Applications of Graph theory

CO 1 Demonstrate applications of graphs.
CO 2 Discuss connected graphs, disconnected graphs, Euler's graphs, Hamiltonian paths and circuits.
CO 3 Describe trees, fundamental circuits, cuts and cut vertices.
CO 4 Design the matrix representation of graphs, incidence matrix, cut set matrix, path matrix and adjacency matrix.

NON MAJOR ELECTIVE
COURSES NME 1 – Basic Statistics

CO 1 Analyze the basic concepts of Statistics.
CO 2 Discuss data Interpretation using tabulation in Bargraphs & Pie diagrams.
CO 3 Describe the central tendencies.
CO 4 Discuss measures which are used to analyse the data.
CO 5 Analyze correlation and rank correlation.

NME 2 – Mathematics for Competitive Examinations

CO 1 Utilize the concepts of profit and loss and simple interest in real life.
CO 2 Discuss about simple interest and compound interest.
CO 3 Discuss the basic ideas of Time, Distance and work with related illustrations.

EXTRA CREDIT COURSE-1 –Introduction to Stochastic Processes

CO 1 Analyze the intimate relationship between Stochastic process and Probability distributions.
CO 2 Demonstrate Markovian process for optimally making decisions.
CO 3 Apply Queueing and Reliability theory using probability distributions.

EXTRA CREDIT COURSE-2 –Basic Topology

CO 1 Discuss functions, relations, Countable and Uncountable sets.
CO 2 Acquire knowledge about Closed sets, limit points, continuous functions.
CO 3 Analyze the concepts of connectedness and compactness.

PG(SF)

M.Sc. BIOTECHNOLOGY

PROGRAMME OUTCOME

PO 1 Plan towards a PhD and a full-blown career in academia and can be a preferred profession of a postgraduate qualification, with many technical or scientific professions being good examples.

PROGRAMME SPECIFIC OUTCOME

PSO 1 Identify the career as senior Associate Scientist, Research Biochemist, Senior Regulatory Affairs Associate, Biotechnology Researcher, Associate Engineer, Quality Controller and Regional Manager and in industries such as Pharmaceuticals, Manufacturing, Biotechnology, Research Organizations, and FMCG , besides colleges and universities as teachers.

CORE COURSE I - BIOCHEMISTRY

CO1 Evaluate the chemical combination, reproduction, metabolism, heredity etc.
CO2 Apply the foundation knowledge for the higher concepts in medicines.
CO3 Outline the actual concept of biology, metabolic cycle etc.
CO4 Compile the study about substances like enzymes, carbohydrates, amino acids, fats, proteins, hormones, DNA, RNA, pigments etc.,
CO5 Design an idea of how the use of fertilizers can increase plant growth, yield, quality etc.

CORE COURSE II - MOLECULAR GENETICS

CO1 Demonstrate the structure and function of genes at a molecular level and thus employ methods of both molecular biology and genetics.
CO2 Design the different types of plasmids for the genetic manipulation in living organisms.
CO Outline the technique used to identify which genes or genetic mutations produce a certain phenotype.
CO4 Select whereby biological information is stored, copied, repaired and decoded to create protein and other molecules within cells and tissues.
CO5 Evaluate the studies regarding mutations and its types, genetic disorders etc.

CORE COURSE III – MICROBIOLOGY

CO1 Compile numerous sub disciplines including virology, parasitology, mycology and bacteriology.
CO2 Outline the contribution of microbiology by learning the role of microbes in diseases.
CO3 Create the list of microorganisms that are important research organism.
CO4 Utilize the knowledge of microbes to produce biotechnologically important enzymes, removal of wastes and other socio causes.
CO5 Identify that bacteria can cause diseases while there are few beneficial bacteria too.

CORE COURSE IV - FUNDAMENTALS OF GENOMICS AND PROTEOMICS

CO1 Discuss the structure, function, evolution and mapping of genomes.
CO2 Analyze the study of entire genomes, including the complete set of genes, their nucleotide sequence and organization, and their interactions within a species and with other species.
CO3 Formulate the advances in genomics by DNA sequencing technology.
CO4 Outline the studies of inter genomic processes such as epitasis , hetrorosis and pleiotropy as well as the interaction between loci and alleles within the genome.
CO5 Assess the recent development in genomic data which have opened up new possibilities for medical clinicians and researches as information can be gained more efficiently.

CORE COURSE V- ENZYME AND ENZYME TECHNOLOGY

CO1 Outline the production, isolation, and uses of enzymes.
CO2 Use r-DNA technology and protein engineering for the production of more efficient and useful enzymes.
CO3 Analyze the study of enzymes, their kinetics, structure and function.
CO4 Apply the concepts of enzyme kinetics in technical approaches.
CO5 Compare the studies between co factors, co enzymes, and energy molecules.

CORE COURSE VI – IMMUNOTECHNOLOGY

CO1 Explain the branch of medicine and biology concerned with immunity.
CO2 Compare and study with the immune system for all organisms.
CO3 Evaluate the physiological function of immune systems in healthy and diseased state.
CO4 Identify the applications in numerous disciplines of medicines, particularly in the fields of Lorgan transplantation, oncology, rheumatology, virology, bacteriology, particularly psychiatry and dermatology.
CO5 Analyze the types of immune systems functioning in living body and its related functions.

CORE COURSE VII - BIOLOGY OF CLONING VECTOR

CO1 Compute the important component of molecular biology workflow used to assemble recombinant DNA molecules and to direct their replication.
CO2 Apply the uses of plasmids as vectors maintain a modified origin of replication that allows their replication within their host.
CO3 Design the desired gene for antibiotic resistant which helps in the improvement of antigen invasions.
CO4 Assess the basic concept of cloning vector taken from a virus, a plasmid or a cell of higher organisms.
CO5 Identify the various vectors contains features that allow for the convenient insertion or removal of DNA fragment to or from a vector.

CORE COURSE VIII - RECOMBINANT DNA TECHNOLOGY

CO1 Evaluate the procedure to isolate, characterize and manipulate genes.
CO2 Outline the study on transcription, mutation on highly specific way and reinsert the modified sequence into a living organism.
CO3 Rate the production of crucial proteins required for health problems and dietary

purposes affordably and sufficiently through this r-DNA technology.

CO4 Select the multi disciplinary applications and potential to deal with important aspects of life like improving health, enhancing food resources , resistant to divergent adverse environmental effects etc.,

CO5 Apply the techniques of r-DNA technology, gene therapy and genetic modifications for the purpose of bioremediation and treating serious diseases.

CORE COURSE XI - CELL AND TISSUE CULTURE TECHNOLOGY

CO1 Demonstrate the method of "invitro" culture of plant or animal, tissue or organ in a nutrient medium under aseptic condition.

CO2 Design the culture technique through which living cells can be maintained for a considerable period.

CO3 Identify the methodology for culture of whole plant by very small parts such as root, shoot, shoot tips etc.

CO4 Use very simple media for the culture of highly differentiated cells, easy handling and less man power.

CO5 Compare the important information about root-shoot relationship.

CORE COURSE X - PLANT MOLECUALR BIOLOGY AND ANIMAL BIOTECHNOLOGY

CO1 Discuss the concept of animal cell extracted from their tissues or cells or organs.

CO2 Compare the study of basic differences of normal and cancer cells can be studies through animal cell culture.

CO3 Prepare the animal cell culture to replicate the viruses instead of animals for the production of vaccines.

CO4 Explain the aims to enhance crop yields improve food quality and preserve environmen through Plant biotechnology

CO5 Demonstrate the use of transgene or marker assisted genes in high improvement of crop yields.

MAJOR BASED ELECTIVE I - INDUSTRIAL BIOTECHNOLOGY

CO1 Explain the most promising new approaches to pollution prevention, resources conservation and the cost reduction.

CO2 Analyze the larger impact of industrial biotechnology on the world than health care and agricultural technology.

CO3 Identify the related businesses in a way cost and create new markets while protecting the environment.

MAJOR BASED ELECTIVE II - PHARMACEUTICAL BIOTECHNOLOGY

CO1 Apply the biotechnology methods for the production of pharmaceutical drugs, research and development.

CO2 Analyze the new therapeutic approaches such as RNA interference can play a role in drug research and development.

CO3 Utilize pharmaceutical biotechnology in the development of new products, processes and methods in drug production.

MAJOR BASED ELECTIVE III - BIOINFORMATICS, INTELLECTUAL PROPERTY RIGHTS, ECO BIOTECHNOLOGY AND BIOSTATISTICS

CO1 Compute the major activity in bioinformatics to develop software tools to generate useful biological knowledge.

CO2 Utilize Intellectual Property Rights (branch of law) to protect the applications of thoughts, ideas and information which are of commercial value. It thus covers the law relating to patents, copyrights, trademarks, trade secrets and other similar rights.

CO3 Discuss the applications of statistics to a wide range of topics used in biology and to encompass the design of biological experiments, especially in medicine, pharma, agriculture and fishery.

CO4 Explain the study of biotechnology applied in natural environment and development, use and regulation of biological systems for the remediation of contaminated environment and for eco friendly processes.

MAJOR BASED ELECTIVE IV: BIOENTERPRENUERSHIP

CO1 Create opportunity with scarce of resource as bioenterprenuership.

CO2 Demonstrate to people to start their own business like sericulture, laboratories for hospitals, nutrition and dietetics, etc.

CO3 Discuss the various doors for the development of new technologies, strategies for experiments etc, improving the yields with low cost input through the field of agricultural biotechnology, Self employment helps in developing confident, improve skills and place in the society.

CO4 Apply the knowledge on raising money by the innovator, the entrepreneur, and the professional manager of biotechnology companies.

M.Sc. Electronics

Programme outcome

PO 1 Develop the impact of the electronics and communication solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development,

PO 2 Construct, choose and apply the techniques, resources and modern electronic tools required for Electronics applications.

PO 3 Identify, formulate and solve complex problems to achieve demonstrated conclusions using mathematical principles.

Programme Specific outcome

PSO 1 Implant the capacity to apply the concepts of Electronics, Communications, Signal processing, VLSI, Control systems etc., in the design, development and implementation of application oriented engineering systems.

PSO 2 Develop the skill and programming concepts of embedded system

PSO 3 Create the knowledge of Networks, Communication system and signal processing

PSO 4 Develop the skill in creation and simulation of VLSI techniques helps to develop their project.

PSO 5 Identify the applications of MEMS, Nanotechnology and Biomedical instruments.

PSO 6 Competence in using electronic modern IT tools (both software and hardware) for the design and analysis of complex electronic systems in furtherance to research activities and successful career.

Course Outcome
Core Course 1- Design of Analog Circuits

CO1 Explain the transistors and their construction.
CO2 Differentiate the structure of JFET and MOSFET.
CO3 Discuss the types of MOSFET and applications.
CO4 Apply the knowledge of operational amplifiers.
CO5 Demonstrate the applications of operational amplifiers.
CO6 Discuss the optoelectronic and electronic devices.

Core Course 2- Digital Control System

CO1 Explain the concepts of basic digital control system
CO2 Evaluate the Sampling Process and Theorems
CO3 Differentiate the Z-transforms and inverse Z-transform
CO4 Analyze the state variable techniques and state diagrams of digital system
CO5 Compute the stability of LTI systems.
CO6 Discuss of Basic computer Architecture and Digital Signal Processor.

Core Course 3- VLSI Design and VHDL programming:

CO1 Explain VLSI design and Integrated Circuits manufacturing.
CO2 Revise the fabrication process of Integrated Circuits.
CO3 Demonstrate the deposition process.
CO4 Analyze the MOS transistor structure.
CO5 Discuss the basic concepts of VHDL.
CO6 Outline the concepts of VHDL.

Core Course 4 -Microcontroller 8051 and Embedded system:

CO1 Analyze architecture of Microcontroller 8051
CO2 Explain the peripherals of 8051
CO3 Discuss the ALU of 8051.
CO4 Compare Microprocessor and Microcontroller application for control purpose.
CO5 Outline the embedded systems.
CO6 Utilize the communication buses and devices network.

Core Course 5 -Computer Networks:

CO1 Explain the basic ideas of network.
CO2 Discuss the principles of data link layer and network layer.
CO3 Demonstrate the operation of application layer.
CO4 Apply the concept of privacy of email.
CO5 Discuss the principles of HTTP, HTML, URLs.

Core Course 6- Digital Communication:

CO1 Analyze the concept of Pulse Code Modulation
CO2 Explain the operation of different types of Modulation.
CO3 Utilize the binary modulation techniques.
CO4 Discuss the coding Concepts
CO5 analyze the concepts of multiple access techniques
CO6 Differentiate the various technologies of digital communication

Core Course 7- Digital Signal Processing:

CO1 Compare different types of Signals and systems.
CO2 Assess the concept of Linear Time Invariant System and the properties of Fourier series.
CO3 Formulate the Fourier transform.
CO4 Design the Finite Impulse Response and Infinite Impulse Response filters.
CO5 Discuss the Speech processing
CO6 Explain the different types of processors

Core Course 8- Embedded System

CO1 Discuss the Embedded System and its related concepts
CO2 Outline the Architecture of different types of Microcontrollers
CO3 Apply the knowledge of Programming Concepts of Embedded System

CO4 Discuss the Software and Architecture of Real Time Operating System
CO5 Design development tools of Embedded Software
CO6 Analyze the Debugging techniques in embedded system.

Core Course 9- Industrial management

CO1 Outline the basic managerial concept on personal management.
CO2 Utilize managerial skills for successful operations and performance of organizations.
CO3 Explain the industrial relation and trade unions.
CO4 Discuss the procedure of grievance and discipline.
CO5 Analyze the concept of collective bargaining.
CO6 Discuss the workers participation in management.

Core Course 10- MEMS and their Application

CO1 Explain the concept of MEMS and Microsystems.
CO2 Utilize the applications of Microsystems.
CO3 Discuss the fabrication process of micro system.
CO4 Identify the Microsystems design.
CO5 Analyze the concept of micro manufacturing and micro system packaging.

MBE 1- Nanotechnology and its applications

CO1 Explain the core concept of nanotechnology.
CO2 Utilize the basic nano tools.
CO3 Analyze the working of nano tubes.
CO4 Differentiate the concepts of DVD, phase changing memory, nanotube RAM and nano wires.
CO5 Apply the knowledge of nanotechnology in medical science.

MBE II- Medical Electronics

CO1 Outline the human physiological system.
CO2 Discuss the concepts of bio potential electrodes and transducers.
CO3 Explain the concept of bio potential recorders.
CO4 Apply the knowledge on specialized medical equipments and bio telemetry.
CO5 Utilize the application of bio-medical instrumentation.

MBE III- Microcontroller ATMEGA and Embedded system

CO1 Outline the Atmega 8 bit microcontroller.
CO2 Create AVR assembly language programming.
CO3 Prepare AVR program in C.
CO4 Analyze peripheral interfacing.
CO5 Design the concept of Arduino and programming.

MBE IV -Computer System and Architecture

CO1 Outline the basic structure of computer.
CO2 Explain the control design of computers.

M. Sc. Hospital Administration

Program Outcome

PO 1 Examine the dynamic nature of healthcare administration and demonstrate the problem solving and leadership skills to manage resources as needed within this environment.

Program Specific Outcome

PSO 1 Adopt Hospital job opportunities easily and explain how to improve the quality Health care of hospitals effectively with the help of their project work.

Course Outcome

Core Course 1 - Hospital Operations-I

CO 1 Explain the accident and Emergency services and Ambulance services.
CO 2 Analyze the Intensive Care Unit and Mortuary services.
CO 3 Demonstrate the Sterile supply services in Hospitals and Operations theatre.
CO 4 Explain the Outpatient services and Pharmacy services.
CO 5 Discuss about the Medical Records Department.

Core Course 2 - Management Principles And Techniques

CO 1 Analyze the development of Management thoughts.
CO 2 Evaluate the Planning and Decision making.
CO 3 Discuss the organising theory and Departmentation.
CO 4 Apply the acquired Motivation, Leadership and Communication skill.
CO 5 Explain Controlling, and Management by Exception.

Core Course 3 - Human Resource Management

CO 1 Explain Human Resource Management, features importance and functions.
CO 2 Discuss HR Planning, Job analysis and Job design.
CO 3 Evaluate Training, Management development and Performance appraisal.
CO 4 Explain wage and salary administration.
CO 5 Explain Industrial disputes and HR Techniques.

Core Course 4 - Marketing Of Hospital Services

CO 1 Identify the Marketing segmentation and Marketing Mix.
CO 2 Analyze Marketing environment and Consumer behaviours.
CO 3 Evaluate Product mix management.
CO 4 Explain Promotion and Adversity
CO 5 Explain Marketing and Research and Marketing information system.

Core Course 5 - Hospital Operations-II

CO 1 Explain about House Keeping Services.
CO 2 Explain about therapeutic services which includes Physical Medicine and Rehabilitation.
CO 3 Discuss about the supportive services which includes Linen, Laundry services and Dietary services.
CO 4 Analyze Risk management services.
CO 5 Evaluate Fire Hazards and fire fighting techniques

Core Course 6 - Accounting For Hospital Managers

CO 1 Explain about Accounting.
CO 2 Use Journal, ledger and trial balance.
CO 3 Compare capital and revenue, receipts and payment, and income and expenditure account.
CO 4 Explain the scope and cost accounting on services, operating, costing and budgeting

Core Course 7 - Hospital Inventory Management

CO 1 Explain the integrated marketing management.
CO 2 Evaluate the purchase management.
CO 3 Communicate about import procedure, letter of credit, and import substitution.
CO 4 Use stores management and inventory control techniques
CO 5 Explain the management information system in marketing management.

Core Course 8 - Organisational Behaviour

CO 1 Explain the organisational goal and its triad.
CO 2 Demonstrate personality and perception and its theories
CO 3 Evaluate the method of learning, attitude formation, and conflict management
CO 4 Apply the organisational changes and Development.
CO 5 Evaluate the Organisational effectiveness and climate.

Core Course 9 - Biostatistics And Operations Research

CO 1 Analyze the statistical method and its function.
CO 2 Explain the diagrammatical and graphical representation of data.
CO 3 Use the correlation and regression program and its types.
CO 4 Analyze the Inventory control, its decision and its problem.
CO 5 Evaluate the basic problems in replacement and system reliability.

Core Course 10 - Introduction To Computer Applications In Hospital Management

CO 1 Explain about computer, its hardware and software.
CO 2 Use the basic language and evolution of computer.
CO 3 Explain the role of computer and information system in hospital.
CO 4 Use on MS-Office ,MS-Excel, PowerPoint and Access.

Core Practical 1 - MS office Practicals

CO 1 Apply computer operations required in hospital.
CO 2 Use MS-Office, MS-Excel, PowerPoint and Access.

Core Course 11 - Quality Management In Hospital

CO 1 Explain about total quality management.
CO 2 Plan Quality Assurance.
CO 3 Explain Bench Marketing and Quality function deployment.
CO 4 Demonstrate ISO 9000 quality management system.
CO 5 Apply accreditation procedures.

Core Course 12 - Research Methodology

CO 1 Explain research methods for research work settings involved in health care system in survey and secondary data analysis
CO 2 Plan research design and hypothesis
CO 3 Use various methods of data collection and sampling procedures.
CO 4 Evaluate processing and analysis of data
CO 5 Explain interpretation

Core Course 13 – Internship

CO1 Analyze location and layout of various departments in hospital.
CO2 Use modern inventory procedures of various departments in hospital.
CO3 Evaluate procedures followed in different departments of hospital.
CO4 Analyze the functions of different departments in hospital.
CO5 Identify the bedside equipments in hospital.

Core Course 14 – Project
CO 1 Explain about Research work.
CO 2 Use Method of data collection.
CO 3 Apply sample designing
CO 4 Apply Hypothesis setting techniques
CO 5 Evaluate the process of research work.

Major Based Elective Course 1 - Community Health And Population Dynamics

CO 1 Demonstrate Concepts of health and Concepts of Diseases.
CO 2 Analyze epidemiology.
CO 3 Evaluate the health care delivery system.
CO 4 Explain the Antenatal and Postnatal Care.

Major Based Elective Course 2 - Hospital Planning And Administration

CO 1 Evaluate the historical development of hospitals.
CO 2 Explain the hospital budgeting and application of modern techniques.
CO 3 Demonstrate the functional area management in hospital and recent trends in hospital management.
CO 4 Evaluate the labour laws in Indian settings.

Major Based Elective Course 3 - Hazards Management

CO 1 Explain Hospital Hazards Management.
CO2 Explain the hospital related infection, its prevention and its controlling committee.
CO 3 Discuss about Bio-Medical Waste Management and disposal of Human and Sewage Disposal
CO 4 Assess Medical Insurance and its types.

Major Based Elective Course 4 - Hospital Disaster Management

CO 1 Explain the management of manmade disaster
CO 2 Explain the management of natural disaster
CO 3 Predict certain epidemic diseases, its management, prevention methods and precaution
CO 4 Evaluate the role of hospital, community, voluntary agencies and government in Disaster management

Non Major Elective Course 1 - Food And Nutrition

CO 1 Explain the food groups and nutritive value of foods
CO 2 Explain the milk and milk product composition, carbohydrates and fats
CO 3 Use methods of food preservation and food hazards
CO 4 Use energy value of foods and energy requirements and provide knowledge in Nutritional requirements of infants, children, adults, pregnant mothers, lactating women and old people

M.Sc. Mathematics

Program Outcome

PO1 Utilize the knowledge and skills to produce innovative solutions to mathematical and interdisciplinary problems.

PO2 Acquire effective mathematical skills, ethical attitude and competence to excel as a successful individual.

PO3 Formulate and develop mathematical arguments in a logical manner.

Program Specific Outcome

PSO1 Identify linear transformations of finite dimensional vector spaces and compose their matrices in specific bases.

PSO2 Discuss uniform convergence and Inverse function theorem.

PSO3 Explain the most widely used probability distributions and recognize them in applications.

PSO4 Explain how a metric generate a topology, and the metrizability problems.

PSO5 Identify appropriate stochastic process model(s) for a given research or applied problem.

PSO6 Utilize certain basic types of higher-order linear Ordinary Differential Equations and to apply the corresponding methods of solution.

PSO7 Discuss Matching and colouring of graphs.

PSO8 Acquire knowledge about Banach and Hilbert spaces.

Course Outcome

Core Course 1- Linear Algebra

CO 1 Compute solution of Linear systems and discuss about Vector spaces.

CO 2 Discuss the Algebra of Linear Transformations and their representation.

CO 3 Explain the Algebra of Polynomial and Prime Factorization of a Polynomial.

CO 4 Assess Characteristic Values and Annihilating Polynomials.

CO 5 Analyze the proof of The Primary Decomposition Theorem.

Core Course 2 - Real Analysis

CO 1 Communicate finite, countable, uncountable sets, compact sets and perfect sets.

CO 2 Describe the Riemann-Stieltjes integral.

CO 3 Discuss about sequences and series of functions.

CO 4 Apply special functions, the Gamma function and functions of several variables.

CO 5 Demonstrate the contraction principle, Inverse function theorem and derivatives of higher order.

Core Course 3 – Advanced Numerical Analysis

CO 1 Analyze the methods to find solutions of simultaneous equations.

CO 2 Demonstrate the formation of Linear difference equations.

CO 3 Use Hermite interpolating polynomial to do problems.

CO 4 Discuss various methods to find the solutions of ordinary differential equations .

CO 5 Apply various methods to evaluate the numerical solution of partial differential equations.

Core Course 4 – Theory of Probability

CO 1 Discuss Algebra of Sets, Functions and Random variables.
CO 2 Compile simple properties of Probability and discuss the types of Probability spaces.
CO 3 Demonstrate the properties of Expectation, Moments and Inequalities.
CO 4 Outline the convergence of Random Variables.
CO 5 Apply Bochner's theorem for Characteristic Functions.

Core Course 5 - General Topology

CO 1 Communicate the basic concepts in topological spaces.
CO 2 Discuss basis for a topology, order topology, the product topology on X xY and the subspace topology
CO 3 Explain the theorems on continuous functions.
CO 4 Discuss about connected spaces and compact spaces.
CO 5 Analyze about countability axioms and separation axioms.
CO 6 Describe Urysohn Lemma and the Urysohn Metrization theorem.
CO 7 Analyze the proof of Tychonoff theorem.

Core Course 6 - Complex Analysis

CO 1 Communicate Analytic functions, polynomials and rational functions with examples.
CO 2 Apply the proof of Cauchy's theorem for a rectangle and Cauchy's theorem in a disc.
CO 3 Analyze the proof of the general form of Cauchy's theorem.
CO 4 Discuss about harmonic functions, Mean Value property, Poisson's formula and reflection principle.
CO 5 Explain about Partial fractions, Infinite products, Canonical products, the Gamma function and Entire functions.
CO 6 Demonstrate the proof of Riemann mapping theorem and Schwartz-Christoffel formula.

Core Course 7- Abstract Algebra

CO 1 Discuss counting principle and Sylow's theorem.
CO 2 Explain polynomial rings and commutative rings.
CO 3 Communicate the concepts of vector space and modules.
CO 4 Discuss extension fields and finite fields.
CO 5 Explain about Galois theory, Solvability by radicals and Galois group over the rationals.
CO 6 Demonstrate the concept of Linear Transformations.

Core Course 8-Measure and Integration

CO 1 Acquire the knowledge of Lebesgue outer measure, measurable sets and measurable functions.
CO 2 Formulate Riemann and Lebesgue integrals of functions of real variable.
CO 3 Describe L^p spaces.
CO 4 Derive Jensen's inequality, the inequalities of Holder and Minkowski's.
CO 5 Demonstrate Hahn decomposition and Jordan decomposition.
CO 6 Analyze the proof of Radon Nikodyn theorem.

Core Course 9- Stochastic Processes

CO 1 Explain Stochastic processes, Stationary processes and Markov chains with examples.
CO 2 Discuss the stability of a Markov system.
CO 3 Describe Poisson processes and Markov processes with discrete state space.
CO 4 Discuss about Renewal processes and obtain the proofs of renewal theorem.
CO 5 Demonstrate queueing systems.
CO 6 Explain about the queueing model M/M/1.

Core Course 10- Ordinary Differential Equation

CO 1 Analyze the general solution of the homogeneous equations and the method of variation of parameters.
CO 2 Describe the power series solutions and special functions.
CO 3 Discuss regular singular points, Gauss's hypergeometric equation.
CO 4 Explain the Legendre polynomials and their properties.
CO 5 Apply Bessel functions, Gamma function.
CO 6 Demonstrate the methods of solving system of first order equations.
CO 7 Utilize the Sturm separation theorem, The Sturm Comparison theorem.

Core Course 11- Functional Analysis

CO 1 Analyze the proofs of Hahn Banach theorem and the open mapping theorem.
CO 2 Discuss about Hilbert spaces with examples.
CO 3 Explain about orthogonal complements and orthonormal sets.
CO 4 Formulate the proof of Spectral theorem.
CO 5 Demonstrate Banach algebra with examples.
CO 6 Analyze the proof of the Gelfand- Neumark theorem.

Core Course 12- Fluid Dynamics

CO 1 Communicate the terms velocity of a fluid at a point, streams lines, path lines, velocity potential and the vorticity vector.
CO 2 Derive Euler's equations of motion and Bernoulli's equation.
CO 3 Discuss the case of steady motion under conservative body forces.
CO 4 Analyze three dimensional flows and two dimensional flows.
CO 5 Formulate the Navier-Stokes equations of a viscous fluid.

Core Course 13- Partial Differential equations

CO 1 Explain Cauchy's problem for first order equations.
CO 2 Apply Charpits method, Jacobi's method for obtaining solutions of first order equations.
CO 3 Discuss about linear partial differential equations with constant coefficients and equations with variable coefficients.
CO 4 Demonstrate the methods of obtaining solution of linear hyperbolic equations.
CO 5 Evaluate the solutions of Laplace's equation.
CO 6 Describe boundary value problems.

Core Practical - Object Oriented Programming with C++

CO 1 Compile a program to sort numbers using different methods.
CO 2 Prepare a program using classes and objects.
CO 3 Design a program to add and subtract complex numbers using operator overloading .
CO 4 Formulate a program to arrange strings in alphabetical order using pointer.
CO 5 Design a program to solve quadratic equation by bisection method.
CO 6 Apply a program to solve differential equations by Runge Kutta 4^{th} order method.

MAJOR BASED ELECTIVE COURSE
MBE Course I:1- Graph theory

CO 1 Explain graphs, graph isomorphism, subgraphs and cycles with examples.
CO 2 Describe trees, cut edges and cut vertices by giving examples.
CO 3 Demonstrate Euler tours and Hamilton cycles.
CO 4 Discuss about matchings and coverings in bipartite graphs.
CO 5 Explain edge colourings and Vizing's theorem.
CO 6 Discuss about vertex colourings and Brook's theorem.
CO 7 Apply Euler's formula and discuss about five colour theorem and four colour conjectures.

MBE Course I:2- Theory of Automata
CO 1 Discuss Equivalence of Deterministic and Non Deterministic Finite State Automata.
CO 2 Create minimum Automaton and examples.
CO 3 Analyze the Language Generated by Grammar and discuss Chomsky Classification of Languages.
CO 4 Derive the equivalence of two Finite Automata and Two Regular Expressions.
CO 5 Apply Pumping Lemma for construction of regular sets.

MBE Course II:1- Differential Geometry

CO 1 Comprehend the concepts arc length, tangent, curvature and torsion.
CO 2 Derive the general solution of the natural equations.
CO 3 Discuss about evolutes and involutes.
CO 4 Evaluate first fundamental form and second fundamental form,
CO 5 Analyze proof of Meusnier's theorem and Euler's theorem.
CO 6 Explain Dupin's Indicatrix.
CO 7 Apply Gauss and the Codazzi equations.

MBE Course II:2- Fuzzy Mathematics

CO 1 Discuss the basic concepts of fuzzy sets.
CO 2 Demonstrate the operations on Fuzzy Sets, t-norms and t-conorms.
CO 3 Analyze the arithmetic operations on Intervals and operations on Fuzzy numbers.
CO 4 Demonstrate the concepts of fuzzy relations and fuzzy graphs.
CO 5 Apply Fuzzy Ranking methods to solve Decision making problems.

MBE Course III:1 – Mechanics
CO 1 Communicate the basic concepts in mechanics like generalized coordinates, holonomic constraints, virtual work, potential energy, kinetic energy, angular momentum and

generalized momentum.
CO 2 Derive the Lagrange's equations for holonomic and non holonomic systems.
CO 3 Demonstrate the method of obtaining integrals of the motion for conservative systems, natural systems and Liouville's system.
CO 4 Formulate Lagrange's equations involving Rayleigh's dissipation functions.
CO 5 Discuss about Gyroscopic systems and Gyroscopic stability of a system.
CO 6 Explain Hamilton's principle of obtaining stationary values of a definite integral.

MBE Course III:2 - Algebraic Topology

CO 1 Discuss the homotopy of paths and covering spaces.
CO 2 Demonstrate the Fundamental theorem of Algebra and the Borsuk-Ulam theorem.
CO 3 Explain the fundamental group of S^n .
CO 4 Analyze the proof of Jordan separation theorem and Jordan Curve Theorem.
CO 5 Describe the Classification theorem.

MBE Course IV:1 -Calculus of Variations and Integral equations

CO 1 Communicate variational notations and the simplest form of variational problems.
CO 2 Evaluate the solutions of Euler equation.
CO 3 Describe the variational problems involving several independent variables.
CO 4 Explain Hamilton's principle and Rayleigh principle.
CO 5 Analyze the relation between linear differential equations and Volterra integral equations.
CO 6 Formulate Fredholm equations with separable kernels and Fredholm equations with symmetric kernels.
CO 7 Demonstrate Hilhert-schmidt method and iterative methods of solving integral equations.

MBE Course IV:2- Optimization Techniques

CO 1 Apply the Generalized Simplex table in matrix form.
CO 2 Demonstrate Revised Simplex Algorithm.
CO 3 Use Branch and Bound Algorithm, Cutting Plane Algorithm to solve Integer Linear Programming.
CO 4 Apply recursion in Dynamic Programming.
CO 5 Explain Simulation modelling.

NON MAJOR ELECTIVE COURSE
NME Course 1- Numerical and Statistical Methods

CO 1 Acquire Knowledge to solve algebraic and transcendental equations.
CO 2 Formulate Newton's formula for interpolation.
CO 3 Derive Lagrange's interpolation formula for unevenly spaced points.
CO 4 Enable to calculate various measures of central tendency and measures of dispersion, skewness and kurtosis for the given data.
CO 5 Evaluate correlation and regression.
CO 6 Apply χ^2 – test for population variance, χ^2 – test to test the goodness of fit.

M.A. MUSIC

Programme outcome

PO 1 Gain employment in public sectors as Music teachers, anchoring opportunity in Media
PO 2 Become entrepreneurs by opening Music school and music classes
PO 3 Perform as artists in All India Radio, temple festivals and other social functions
PO 4 Gain employment in Public sectors under cultural quota

Programme specific outcomes

PSO 1 Acquire knowledge from History of Music and Musicology under core paper , Folk Arts and folk Music of Tamilnadu under Allied paper gives scope to prepare for NET, SLET and TET Examination
PSO 2 Demonstrate the theory and practical aspects of Music
PSO 3 Acquire knowledge about major ragas in practical
PSO 4 Identify the ragas and their forms in Classical Music ragalaskhanas in theory and various kritis, Keerthanas and other forms
PSO 5 Explain knowledge about various Dance forms of different states with their costume, makeup and special features
PSO 6 Discuss the ancient music system from the lakshana granthas, literature with the modern system of Music
PSO 7 Gain Practical and theoretical knowledge of ritualistic Music both in Tamil and mother languages especially songs from Tiruppavai sung in the month of Margazhi in the morning prayer
PSO 8 Gain inspiration by studying various Vaggeyakaras, their life history and contribution to music which help the students to compose various songs and to know the power of music
PSO 9 Demonstrate the contribution of various kings to the field of music and dance helps the students for their historical research
PSO 10 Gain knowledge to do research by studing Research Methodology paper
PSO 11 Perform in music concerts in Media, Sabhas , Temples etc and to train students for competitions and other programme
PSO 12 Become professional trainees

Course Outcome
Core Course 1 Raga and Tala systems of Music

CO 1 Acquire knowledge of raga system
CO 2 Acquire knowledge of Janya raga and its classification
CO 3 Acquire knowledge Tala systems
CO 4 Assess the role of Gamakas in Music
CO 5 Discuss the Lakshana of Vakra & Varja ragas

Core Course 2 Historical concepts of Music

CO 1 Acquire knowledge about the Raga classifications of Ancient Music
CO 2 Discuss the Evolution of Musical forms –kriti&Varna
CO 3 Acquire knowledge about the development of scales
CO 4 Acquire knowledge of the Contribution of Telugu & Sanskrit Vaggeyakaras
CO 5 Identify the Vageyakara mudras from the composers contribution

Core Course 3 Kalpitha Sangitha 1

CO 1 Acquire knowledge of advanced musical form Svarajati of Syama sastri
CO 2 Sing Mela raga compositions
CO 3 Sing Minor ragas compositions
CO 4 Sing Group kriti of Thyagaraja
CO 5 Sing Miscellaneous musical forms

Core course 4 Musicology

CO 1 Discuss the evolution of melas and the scheme of 144 melas
CO 2 Evaluate the significance of Mudras
CO 3 Acquire knowledge of Ritualistic Music and its applications
CO 4 Explain the Tuning methods of musical instruments
CO 5 Acquire knowledge of basics in Research methodology

Core Course 5 Music of the ancient and Modern Period

CO 1 Disuss Important sources that construct the history of music
CO 2 Acquire knowledge of Vedic Music
CO 3 Discuss the Music in Kudumiyanmalai Inscriptions
CO 4 Outline the Musical references in Tamil works
CO 5 Explain Music in Sanskrit works

Core Course 6 Kalpita sangita II

CO 1 Sing Ata tala varna in 2 degrees of speed
CO 2 Sing group kritis like Pancharatna which enable to sing in Thayagaraja Aradhana an Inter-national festival
CO 3 Sing group kritis like Navavarnam/Navagraham
CO 4 Sing kritis in sudda madhyama
CO 5 Sing prathi madhyama ragas

Core Course 7 Art and Applied Music
CO 1 Apply the techniques used in manodharma sangeetha
CO 2 Acquire Advanced knowledge of 22 srutis
CO 3 Discuss the structure of the Art form Bhajana and Kathakalakshepam
CO 4 Acquire knowledge to write in notation for kritis

Core Course 8 Advance study of Music
CO 1 Acquire knowledge of the Origin and development of Indian Musicography
CO 2 Discuss the contribution of Maratta rulers to the field of Dance and Music

CO 3 Acquire knowledge of the references to Music In Ramayana and Mahabharatha
CO 4 Acquire knowledge of Tevara pans

Core Course 9 Historical aspects of Music
CO 1 Knowledge of the evolution of Ragamalika and Padam
CO 2 Important Landmarks in the history of Music
CO 3 Structure of an opera
CO 4 Life history of Composers
CO 5 Ragalakshana of Shadava ragas

Core Course 10 Kalpitha Sangitha III
CO 1 Sing varna in rare tala
CO 2 Sing group kritis like Pancharatna which enable to sing in Thayagaraja Aradhana an Inter-national festival
CO 3 Ability to sing kritis in Janya ragas
CO 4 Sing Miscellaneous musical forms

Core Course 11Folk Music and Folk Arts of Tamilnadu
CO 1 Acquire knowledge of the Characteristic feature of Folk Music
CO 2 Outline the knowledge of theatrical Arts and traditional Arts
CO 3 Acquire Knowledge of Folk tunes used in Folk Music
CO 4 Assess the role of musical forms in Folk Music
CO 5 Acquire knowledge of Construction of few musical instruments

Core Course 12 Kalpita sangita IV
CO 1 Sing Pada varna
CO 2 Sing group kriti like Navaratnamalika/Navaratri Kriti
CO 3 Sing thyagarajar's group kriti
CO 4 Sing Kshetrajna Pada in Telugu
CO 5 Sing Janka ragas & Janya raga compositions
CO 6 Sing Miscellaneous compositions in Telugu and Sanskrit

Core Course 13 Manodharma Sangitha III
CO 1 Sing raga alapana in Janaka ragas
CO 2 Sing raga alapana in Bhashanga ragas
CO 3 Sing raga alapana in Upanga raga
CO 4 Sing Kalpana svara in Janaka ragas
CO 5 Sing Kalpana svara in Janya ragas
CO 6 Sing Kalpana svara in Upanga raga

Core Course 14 Concert
CO 1 Plan for Musical concerts
CO 2 Gain confidence for stage performance
CO 3 Sing with accompaniment
CO 4 Perform stage performance
CO 5 Acquire knowledge of method for concert singing

Major Based Elective Enchanting Melody through I & II Vocal/ Veena Practical

CO 1 Play to learn Veena (for Vocal major students)
CO 2 Sing Vocal (for Veena major students)
CO 3 Practice Basic exercises
CO 4 Sing/ play simple Art Musical forms
CO 5 Sing /play Devotional songs

Major Based Elective III & IV Enchanting Melody through Vocal /Veena

CO 1 Play to learn Veena (for Vocal major students)
CO 2 Sing Vocal (for Veena major students)
CO 3 Practice Basic exercises
CO 4 Sing/ play simple Art Musical forms
CO 5 Sing /play Devotional songs, English note and Tillana

Non Major Elective Tamil Isai Padalgal (Practical)

CO 1 Acquire knowledge about the Tamil composers
CO 2 Sing tamil compositions of various vageyakaras
CO 3 Sing Tevara padigam
CO 4 Sing Tiruppavai, Tiruvempavai and Tiruppugazh
CO 5 Sing folk form Kavadi Chindu

M.A. SANSKRIT

Programme Specific Outcomes (Post Graduate – Sanskrit)

PSO1: Analyse and appreciate the classical prose, poetry, drama and campu literature of the language

PSO2: Identify and illustrate the morphological, semantic and syntactic structure of the classical language – Samskrit through the Paninian rules

PSO3 Compare, interpret and elucidate the core concepts of Darshana literature

PSO4: Describe and appreciate the ancient Indian ethics and values

PSO5: Evaluate and appreciate the ancient Indian aesthetics

PSO6: Identify, interpret and illustrate the concepts and nuances regarding ancient Indian textual criticism

PSO7: Exhibit good skills in all communicative aspects of the language

PSO8: Organize research content applying research methodology (project work)

PSO9: confidence to appear for NET, SET etc

****

Course Outcomes- (Post graduate – Sanskrit)

CC-I - Mahakavyam- Shishupalavadham of Magha

CO1: Identify, analyse, interpret and evaluate classical poetry

CO2: Explain the grammatical peculiarities in the work

CO3: Identify and define the figures of speech employed in the work

CO4: Develop imaginative and visualizing skills

CO5: Memorize unique verses

CO6: Recall alliterations

CC-II - Gadyakavyam – Kadambari of Bana Bhatta

CO1: Appreciate the unique, rich and grand style of Bana's ancient classical prose

CO2: Classify and illustrate the classical Samskrit prose and its varieties

CO3: Reconstruct the ethical and moral codes practised

CO4: Estimate the social, political and economical condition of ancient Bharatam

CO5: Reproduce passages of a very high literary value

CO6: Recall high level vocabulary and the proper context of their usages

CC- III - Natakam – Abhijanashakuntalam of kalidasa

CO1: Appreciate the classical play

CO2: Classify and illustrate the classical samskrit plays and their varieties

CO3: Derive the ethical and moral codes practised

CO4: Reconstruct the social, political, judicial and economical condition of ancient Bharatam

CO5: Estimate the concern for environmental issues

CO6: Identify literary merits

CC - IV- Vyakaranam-I – Siddhanta and Laghu Siddhanta Kaumudi

CO1: Manage to interpret Paninian rules

CO2: Recall the technical terms used in the rules of Panini

CO3: Intrepret Paninian rules by the study of the meta rules

CO4: Demonstrate applications by examples and counter examples

CO5: Explain morpho-phonemic changes by analysis of Panini's rules

CO6: Recall the rules of panini

CC-V- Kavyashastram – I- Sahityadarpana

CO1: Practice advanced literary criticism

CO2: Explain and demonstrate the concepts of literary criticism and their applications

CO3: Identify and explain criticisms that led to change of earlier concepts of literary criticism

CO4: Expound the newly evolved concepts of literary criticism

CO5: Study examples and counter examples for practical applications of literary criticism

CO6: Conduct a critical review of literature

CC –VI - Darshanam – I – Tarkasangraha

CO1: Explain the basic concepts of the Nyaya system, one of the six Darshanas

CO2: Recall the fundamentas of Nyaya metaphysics

CO3: Establish Nyaya epistemology

CO4: Integrate Nyaya refinement methods to minimize language ambiguities

CO5: Justify the categories in the system

CO6: Practice and appreciate the applications Nyaya

CC- VII- Vyakaranam - II – SiddhantaKaumudi (karakam)

CO1: Explain the syntax of the language

CO2: Establish the semantic foundations of the Sanskrit syntax

CO3: Distinguish Karaka and Vibhakti

CO4: Correlate and appreciate the generative phenomenon of modern linguistics with Paninian Karaka

CO5: Account for the usage of cases by the rules of Panini that specify the corresponding morpho-syntactic derivations

CO6: Justify the exceptions through the morphologically/semantically/ syntactically conditioned rules of Panini

CC- VIII- Darshanam – II – Saddarshanasamuccaya

CO1: Classify astika and nastika dashanas

CO2: Restate the basic and unique concepts of different darshans CO3:

Identify the similarities and dissimilarities in the different views CO4:

Appreciate the richness of the philosophical traditions

CO5: Develop abstract thinking

CC- IX - Vyakaranam –III – Laghusiddantakaumudi (Samasa)

CO1: Categorize the different compounds in the language

CO2: Analyse the deep and surface structures of the compounds

CO3: Interpret the compound by morphological, syntactic and semantic analysis

CO4: Differentiate and classify the compounds

CO5: Identify and interpret the major types and sub-types of compounds

CO6: Explain compounds by a proper lexemic analysis

CC- X- Darshanam –III – Samkhya-Karika

CO1: Interpret the philosophy of Sankhya

CO2: Explain the metaphysical concepts of Sankhya

CO3: Evaluate the epistemology of Sankhya

CO4: Summarise the theory of causation of Sankhya

CO5: Expound the creation of the world in Sankhya system

CO6: Elucidate the theory of reality in Sankhya system

CC - XI - Kavyashastram –II – Kaavyaprakasha

CO1: Explain concepts related to the poetics of Mammata

CO2: Identify Classifications of poetry based on suggestion

CO3: Exemplify classifications of poetry

CO4: Analyse suggestive poetry

CO5: Explain and illustrate secondary suggestive poetry

CO6: Define and illustrate non-suggestive poetry

CC-XII - Vyakaranam –IV – Siddhantakaumudi (Bhu & Edh)

CO1: Recognise the pattern of inflectional verbal morphology of Samskrit

CO2: Identify root and suffix of the verbal forms

CO3: Apply rules of Panini to derive the verbal forms

CO4: Analyse the differences in the verbal forms based on pada and lakara classification

CO5: Write the etymological derivation of the prescribed verbal forms

CO6: Interpret the sutras of Panini and their extended applications

CC- XIII - Niti – Arthashastram and Yajnavalkyasmrti

CO1: Elaborate upon judicial matters as in the prescribed section of Arthasastra

CO2: Expound vyavahara as in Yajnavalkya-smrti

CO3: Analyse the trends of the two authors by a comparative study

CO4: Identify the similar and dissimilar approaches

CO5: Develop a conceptual understanding of judiciary relating to law suits

CO6: Reconstruct the socio-economic background of the judicial system

CC- XIV - Campu- Campu Ramayanam (Sundarakandam)

CO1: Analyse and study the structure of the classical genre campu

CO2: Reproduce the main features of the storyline in Valmiki Ramayana

CO3: Identify and appreciate the literary enrichment techniques of the poet

CO4: Discuss the character sketches

CO5: Extricate the ethics and moral values as reflected in the text

CO6: Construct a critical review of the literature

MBE –I - History of Classical Literature

CO1: Record the history of Gadya literature

CO2: Relate the history of Padya literature

CO3: State the history of Campu literature

CO4: Describe the history of Nataka literature

CO5: List out the authors and their contributions

CO6: Explain the changes in trends of literary development

MBE –I – History of History of Vedic Literature

CO1: Restate the history of Vedas

CO2: Reproduce the history of Vedangas

CO3: Recall the history of Purana literature

CO4: Describe the history of Dharma shastra literature

CO5: Analyse the evolution of knowledge systems

CO6: Construct the backgrounds that paved way for scientific and technological contributions

MBE –II – Linguistics

CO1: Recognize the nature of language and the need for language studies

CO2: Investigate phonology, morphology, syntax and semantics

CO3: Correlate modern linguistic aspects with the ancient language studies in Sanskrit

CO4: Explain and appreciate language-free and language-specific concepts

CO5: Justify the scientific structure of Sanskrit

CO6: Manage to study and teach the language in a scientific way

MBE –II – Comparative Philology

CO1: Expound morphological and genealogical classification of languages

CO2: Develop skills to carry out comparative studies of languages on structural

aspects CO3: Recall the theories and concepts involved in comparative study

of languages CO4: Trace and account for semantic changes in languages

CO5: Identify to know the similarities and dissimilarities between languages by learning the laws

MBE –III – Yoga

CO1: Expound ways and means to develop holistic health through yoga

CO2: Analyze and explain morals, values and ethics as in yoga sutras

CO3: Acquire factual, conceptual, procedural and meta-cognitive knowledge of yoga

CO4: Analyse mind, and its functioning

CO5: Interpret yoga as a philosophical system

CO6: Appreciate and imbibe the great spiritual heritage and personality development skills.

MBE –III – Ayurveda

CO1: Establish Ayurveda as the ancient healing science

CO2: Explain the basic concepts of Ayurveda

CO3: Diagonise the tridosa basis of diseases

CO4: Classify and Categorize food varieties based on their gunas

CO5: Identify ways to balance tridosas by food choice

CO6: Enumerate preventive measures and ideal pattern of routine

MBE – IV - Saundaryashastram – Natyashastram

CO1: Explain the fundamentals of Indian aesthetics

CO2: Elucidate and enumerate the rasas or poetic sentiments

CO3: Analyse and enlist the constituents of rasa

CO4: Study, compare and contrast the theories related to rasa realisation

CO5: Identify and categorize nourishing and supportive rasas

CO6: Probe into the factors that mar rasa realization and list out virodhirasas

MBE – IV - Saundaryashastram – Dhvanyaloka

CO1: Explain and elaborate the theory of suggestion

CO2: Prove and establish dhvani and its distinctness

CO3: Refute the other views on dhvani

CO4: Classify dhvani and define them

CO5: Illustrate and explain all varieties of dhvani

NME - Ethics and Human Values in Sanskrit Literature

CO1: Recall ethics and human values in Vedas

CO2: Explain ethics and human values in classical literature

CO3: Investigate ethics and human values Sanskrit story literature

CO4: Develop self analysis and interest in self refinement

CO5: Identify ethical and value standards

Project

CO1: Get oriented for research

CO2: Acquire reference skills

CO3: Identify the apt topic for research

CO4: Apply the research methodology techniques

CO5: Identify the hypothesis, test it and present it in a cogent and systematic way

CO6: Able to defend the findings