CRITERIA 2- TEACHING- LEARNING AND EVALUATION

2023-2024

Key Indicator-2.6 STUDENT PERFORMANCE AND LEARNING

OUTCOME

2.6.1 Teachers and students are aware of the stated Programme and course outcomes of the Programmes offered by the institution.

Program Outcomes (POs) represents the knowledge, skills and attitudes the students should have at the end of a course completion of their respective engineering program. Course Outcomes (COs) gives the resultant knowledge and skills the student acquires at the end of each course. It defines the cognitive processes a course provides. Program Specific Outcomes (PSOs) are statements that define outcomes of a program which make students realize the fact that the knowledge and techniques learnt in this course has direct implication for the betterment of society and its sustainability.

The College adopts Outcome based education and has clearly stated learning outcomes of the Programs and Courses. The following mechanism is followed by the institution to communicate the learning outcomes to the teachers and students. Graduate attributes are described to the first-year students at the commencement of the Programme. Few hours are spent by the teachers introducing the subject to the students. Learning Outcomes of the Programs and Courses are observed and measured periodically. Hard Copy of syllabi and Learning Outcomes are available in the departments for ready reference to the teachers and students. The importance of the learning outcomes has been communicated to the teachers in every IQAC meeting and College Committee meeting. After attainment of consensus, they are widely propagated and publicized through various means such as display and/or communication specified here under.

- Website
- Classrooms
- Department
- Notice Boards
- Laboratories
- Meetings/ Interactions with employers or workshops

- Parent meet
- Faculty meetings
- Library

Course Outcomes are communicated to the students by the respective faculty. Course outcomes of laboratory courses are published in the respective laboratory and in the lab manual/Student Lab record.

1. DEPARTMENT OF COMPUTER SCIENCE

1. Programme Outcomes (PO) of B.Sc. degree programme in Computer Science

- Scientific aptitude will be developed in Students
- Students will acquire basic Practical skills & Technical knowledge along with domainknowledge of different subjects in the Computer Science & humanities stream.
- Students will become employable; Students will be eligible for career opportunities ineducation field, Industry, or will be able to opt for entrepreneurship.
- Students will possess basic subject knowledge required for higher studies, professionaland applied courses.
- Students will be aware of and able to develop solution-oriented approach towards various Social and Environmental issues.
- Ability to acquire in-depth knowledge of several branches of Computer Science andaligned areas. This Programme helps learners in building a solid foundation for higherstudies in Computer Science and applications.
- The skills and knowledge gained leads to proficiency in analytical reasoning, which canbe utilized in modelling and solving real life problems.
- Utilize computer programming skills to solve theoretical and applied problems by criticalunderstanding, analysis and synthesis.
- To recognize patterns and to identify essential and relevant aspects of problems.
- Ability to share ideas and insights while seeking and benefitting from knowledge andinsight of others.
- Mould the students into responsible citizens in a rapidly changing interdependent Society.

2. Programme Specific Outcomes of B.Sc. Degree Programme in Computer Science

PSO1: Think in a critical and logical based manner

PSO2: Familiarize the students with suitable software tools of computer scienceand industrial applications to handle issues and solve problems in mathematics orstatistics and real time application related sciences.

PSO3: Know when there is a need for information, to be able to identify, locate, evaluate,and effectively use that information for the issue or problem at hand.

PSO4: Understand, formulate, develop programming model with logical approaches to anAddress issues arising in social science, business and other contexts.

PSO5: Acquire good knowledge and understanding to solve specific theoretical andappliedproblems in advanced areas of Computer science and Industrial statistics.

PSO6: Provide students/learners sufficient knowledge and skills enabling them to undertake further studies in Computer Science or Applications or InformationTechnology and its allied areas on multiple disciplines linked with Computer Science.

PSO7: Equip with Computer science technical ability, problem solving skills, creative talent and power of communication necessary for various forms of employment.

PSO8: Develop a range of generic skills helpful in employment, internships& societal activities.

PSO9: Get adequate exposure to global and local concerns that provides platform for further exploration into multi-dimensional aspects of computing sciences.

Semester- I

List of Courses with Outcome

CC1 - Python Programming

CO1: To make students understand the concepts of Python programming.

CO2 To apply the OOPs concept in PYTHON programming.

CO3: To impart knowledge on demand and supply concepts

CO4: To make the students learn best practices in PYTHON programming

CO5: To know the costs and profit maximization

CC2 - Practical: i) Python Programming

CO1: Be able to design and program Python applications.

CO2: Be able to create loops and decision statements in Python.

CO3: Be able to work with functions and pass arguments in Python.

CO4: Be able to build and package Python modules for reusability.

ii) Office Automation

CO1: To understand the concepts of MS word

CO2: To learn the features of Word

CO3: To do calculations in excel

CO4: To Design invitations etc using Word

CO5: To understand and design presentations

Elective Course 1

(Generic / Discipline Specific) –Discrete Mathematics

CO1: Know how to solve various problems on discrete mathematics

CO2: Use approximation to solve problems

CO3: Differentiation and integration concept are applied

CO4: Apply, direct methods for solving linear systems

CO5: Discrete solution of ordinary problems

Skill Enhancement Course- SEC-1 Office Automation

CO1: Understandthebasicsofcomputersystemsanditscomponents.

CO2: Understand and apply the basic concepts of word processing package.

CO3: Understandand apply the basic concepts of electronic spreadsheet software.

CO4: Understand and apply the basic concepts of database management system.

CO5: Understand and create a presentation using PowerPoint tool.

Foundation Course FC - Problem Solving Techniques

CO1: Study the basic knowledge of Computers. Analyse the programming languages.

CO2: Study the data types and arithmetic operations. Know about the algorithms.

Develop program using flow chart and pseudocode.

CO3: Determine the various operators. Explain about the structures.

Illustrate the concept of Loops

CO4: Study about Numeric data and character-based data analyse about Arrays.

CO5: Explain about DFD Illustrate program modules.

Creating and reading Files

Semester -II

List of Courses with Outcome

3 - Data Structure and Algorithms

CO1: Understand the concept of Dynamic memory management, data types,algorithms, Big O notation

CO2: Understand basic data structures such as arrays, linked lists, stacks and queues

CO3: Describe the hash function and concepts of collision and

its resolution methods

CO4: Solve problem involving graphs, trees and heaps

CO5: Apply Algorithm for solving problems like sorting, searching, insertion and deletion of data

4 - Practical: I) Data Structure and Algorithms

CO1: Understand basic data structures such as arrays, linked lists, stacks and queues

CO2: Describe the hash function and concepts of collision and its resolution methods

CO3: Solve problem involving graphs, trees and heaps

CO4: Apply Algorithm for solving problems like sorting,searching, insertion and deletion of data

ii) Web Design

CO1: To understand the concepts of links

CO2: To learn tags, lists

CO3: To learn frames and its applications

CO4: To apply forms and to create pages

CO5: To apply sound effective Course

(Generic / Discipline Specific) –Digital Logic Fundamentals

CO1: Understand the concept of various number systems

CO2: Understand basic concepts of digital systems

CO3: Describe the storage structures

CO4: Solve problems using SOP and POS

CO5: Apply concepts for simplifications

Enhancement Course- SEC-2 Introduction To HTML

CO1: Understand the concept of various tags

CO2: Understand basic designing

CO3: Describe the hash function and concepts of tables,designing etc

CO4: Solve problem involving style sheets

CO5: Apply the attributes in designing web pages

Semester-III

List of Courses with Outcome

Java Programming

CO1: To recall the basic concepts of Object-Oriented Programming

CO2: To apply the tools of Object – Oriented Paradigm in Java programming

CO3: To understand the fundamentals of applet, event – driven programming

CO4: To analyze the ability to develop Applet programs with tools of Java

CO5: To design the skills to develop software

Programming Lab

CO1: Illustrate and make effective use of Java Programming to develop software

CO2: Develop Java application programs using OOP principles.

CO3: Apply Constructors and Overriding methods

CO4: Develop Multithreaded programs

CO5: To implement error handling techniques using exception handling.

Scripting Languages

CO1: To understand the basic concepts of HTML and web programming.

CO2: To Demonstrate the concepts of scripting languages for developingweb-basedprojects

CO3: Ability to compare the differences betweenScripting languagesand programming languages

CO4: To understand CSS files HTML Multimedia

CO5: Ability to develop projects using HTML and Webpages

Digital Design

CO1: To recall the concept of digital systems, to operate on various number systems and simplify Boolean functions and to distinguish logical and combinational circuits.

CO2: Illustrate the concept of digital and binary systems logic circuits

CO3: Be able to develop combinational

CO4: Be able to design and analyze sequential logic circuits.

CO5: Construct and implementation of digital circuits and systems.

Fundamentals of Internet and Emerging Technologies

CO1: To recall the background, drivers and history in the invention of computers so thatthestudent gains a big picture of the subject.

CO2: To provide a high level understanding various branches of Computer Science sothatstudents can detect their interest and specialization

CO3: To identify the computational models such as cloud computing and make studentsadoptone for their use

CO4: To Understand the Artificial Intelligence technologies, Networks and Cybersecurityand its impact on human life in future

CO5: Elaborate Computer Ethics and help the society retain human values whiletechnologyis developing.

Basic Programming Design

CO1: Define the basic design in programming

CO2:Summarize various techniques in program testing

CO3: To develop and evaluate Programming Languages

CO4: To analyze computer hardware and software programs

CO5: To evaluate the Internet Applications

Semester-IV

List of Courses with Outcome

Data Structures

CO1: To understand the concepts of basic data structures.

CO2: To acquire the knowledge about stack, Queues and Linked list.

CO3: To have general understanding of the network structures through trees and graph.

CO4: To make the students to understand the basic algorithms for sorting.

CO5: Define data structure Algorithms.

Data Structures lab

CO1: To develop skills in implementing sort and search data structure algorithms

CO2: To implement queue and stack techniques

CO3: To design tree traversals

CO4: To implement binary search tree

CO5:To Compile sorting algorithms

Machine LearningTechniques

CO1: To introduce students to the basic concepts of Machine Learning.

CO2: To acquire various techniques in Machine learning.

CO3: To have a thorough understanding of the Supervised and Unsupervised learning techniques

CO4: To study the probability-based learning techniques

CO5: To understand graphical models of machine learning algorithms

PYTHON

CO1: To understand the basic concepts in python

CO2: To understand the concepts and develop python programs

CO3: To acquire the knowledge about menu driven programs

CO4: To improve the knowledge in CSV files

CO5: To understand the functions of python

Computer Architecture

CO1: Understand the basics of Computers and its Organization

CO2: Know the various Technologies behind the ComputerArchitecture

CO3: An ability to apply knowledge about hardwareimplementation andalgorithms

CO4: To evaluate various input output organisations

CO5: To develop the architecture using various memories

Semester -V

List of Courses with Outcome

Relational DatabaseManagement Systems

CO1: To outline relational database concepts

CO2: To relate transaction management concepts in database system.

CCO3: To utilize Normalizations techniques.

CO4: To write SQL programs that use: procedure, function, package, cursor andExceptions.

CO5: To Use current techniques and tools necessary for complex computing practices.

Data Communication and Computer networks

CO1: To define the concepts in Computer Network and DataCommunication

CO2: To outline the various protocols used in network

CO3: To compare OSI Layers in Computer networks

CO4: To list about Switching Techniques

CO5: To discuss wireless LAN ‘s

PHP and mySQL

CO1: To define and use open-source database management system MySQL

CO2: To explain dynamic web pages and websites.

CO3: To identify web pages with database.

CO4: To compare the concepts of open sources

CO5: To assess the knowledge about Arrays

PHP

CO1: To develop knowledge about basic PHP Programs.

CO2: To evaluate PHP scripts and functions

CO3: To develop arrays in PHP

CO4: To design loops in PHP

CO5: To compare the scripts and functions in PHP

Machine Learning lab

CO1: Applythe concepts and practical knowledge in analysis, design and Development ofcomputing systems

CO2:Tomake use of applicationmultidisciplinaryproblems.

CO3:Todiscusstheknowledge about various algorithms

CO4:Tointerpretthe knowledge about various datasets

CO5:Develop data framesinMachineLeaning

Green Foot Lab

CO1: To know about the various Applications of Multimedia.

CO2: To develop two- dimensional graphical applications

CO3: To design multimedia animations

CO4: To know the knowledge about video works in multimedia applications

CO5: To implement interactive games.

1. Mobile application Development

CO1: To recall the basics, field of computing sciences and Multidisciplinary of MobileApplications

CO2: To build interactive applications

CO3: To develop multiple activities and indent in mobile applications

CO4: To understand Fragments of mobile application development

CO5: To develop mobile application development using SQLite Database

2. Introduction to security in Computing

CO1: To relate the concepts of basic concepts in security in computing

CO2: To explain about the various encryption and decryption security algorithms

CO3: To enquire Number theory and key algorithms

CO4: To list the authentication

CO5: To identify the intruder of security in computing

3. Cloud Computing

CO1: To understand the History of cloud computing

CO2: To know in detail about the various Cloud Computing concepts

CO3: To enquire cloud computing Architecture

CO4: To understand SOA components

CO5: To know about cloud security and privacy

Semester-V1

List of Courses with Outcome

Operating System

CO1: To acquire the fundamental knowledge of the operating systemarchitecture and components and to know the various operations performed by the operating system.

CO2: Understand the basic working process of an operating system.

CO3: Understand the importance of process and scheduling.

CO4: To explain the issues in synchronization and memory management.

CO5: To discuss about mass storage structures

Software Engineeringand Testing

CO1: To define the fundamental knowledge of Software Engineering

CO2: To classify the various testing methods.

CO3: To analyze various software life cycle models

CO4:To interpret User Interface design

CO5:To select software project managements

Computer Graphicsand Visualization

CO1: To understand the overview of the graphics visualization

CO2: To acquire the fundamental knowledge of Computer GraphicsandVisualization.

CO3: To understand the Algorithms in Computer Graphics

CO4: To acquire the transformation technique in Graphics

CO5: To understand the Interactive methods easily

Computer GraphicsLab

CO1: To illustrate skills in programming computer graphics

CO2: To apply multimedia concepts

CO3: To compile the algorithms to draw line, circle etc

CO4: To develop image using Scaling, Rotating and translation technique

CO5: To demonstrate the image using random and bouncing balls

My SQL Lab

CO1: To illustrate skills in database

CO2: To apply database concepts

CO3: To create database and operate update, remove etc

CO4: To develop various query functions

CO5: To demonstrate the security by setting password and its privileges.

Internet of Things(IoT)

CO1:To define the fundamentals of IOT

CO2: To outline about IOT working

CO3: To discuss the Architecture of IOT

CO4: To outline how IOT is used in Education and Agricultural level

CO5: To explain security in IOT

Digital Image Processing using SciLab

CO1: To get knowledge about the basic programs on Digital ImageProcessing

CO2: To acquire the knowledge from Thresholding Technique

CO3: To read the colour image and separate the planes

CO4: To perform the brightness of the image

CO5:To manipulate the contrast image.

1. Programme Outcomes (PO) of M.Sc. degree programme in Computer Science

PO1: Computational Knowledge Understand the basic foundations of Computer Science, ComputingFundamentals with Basic Mathematics.

PO2: Problem Analysis Analyze and identify customer requirements in multidisciplinary domains, create high-level designs and implement robust software applications using the latest technological skills

PO3: Design and Development Design and develop solutions for complex problems in various domains. Serve as the Programmers or the Software Engineers with sound knowledge of practical and theoretical concepts for developing software.

PO4: Research Activity Understand the fundamentals of research and inculcate the ability to undertake original research at the cutting edge of computer science & its related areas. Produce researchers who can investigate problems in different application domains and creatively develop, and evaluate computational solutions

PO5: Software tool usage Adapt and apply modern computing skills and tools to resolve problems with software development tools, software systems, and modern computing platforms.

PO6: Professional ethics Understand professional ethics and Cyber regulations and develop systems with social commitments.

PO7: Individual and Team Leadership Skill Capability to lead themselves and the team to achieve organizational goals.

PO8: Decision Making Skill Foster analytical and critical thinking abilities for data-based decision-making.

PO9: Social Responsibility Access Social and Environmental issues for local and global needs and give relevant solutions to them.

PO10: Entrepreneurship Identify opportunities for entrepreneurship by creating and adding value for the betterment of an individual and society at large

2.Programme Specific Outcomes of M.Sc. Degree Programme in Computer Science

PSO1 – Placement To prepare the students who will demonstrate respectful engagement with others' ideas, behaviours, and beliefs and apply diverse frames of reference to decisions and actions.

PSO 2 – Entrepreneur To create effective entrepreneurs by enhancing their critical thinking, problemsolving, decision making and leadership skills that will facilitate startups and high-potential organizations.

PSO3 – Research and Development Design and implement HR systems and practices grounded in research that comply with employment laws, leading the organization towards growth and development.

PSO4 – Contribution to Business World To produce employable, ethical and innovative professionals to sustain in the dynamic business world.

PSO 5 – Contribution to the Society To contribute to the development of society by collaborating with stakeholders for mutual benefit.

Semester I

List of Courses with Outcome

Analysis & Design of Algorithms

CO1: Enable the students to learn the Elementary Data Structures and algorithms.

CO2: Presents an introduction to the algorithms, their analysis and design

CO3: Discuss various methods like Basic Traversal and Search Techniques, divide and conquer method, Dynamic programming, backtracking

CO4: Understood the various design and analysis of the algorithms.

Object Oriented Analysis and Design & C++

CO1: Present the object model, classes and objects, object orientation, machine view and model management view.

CO2: Enables the students to learn the basic functions, principles and concepts of object-oriented analysis and design.

CO3: Enable the students to understand C++ language concerning OOAD

Python Programming

CO1: Presents an introduction to Python, creation of web applications, network applications and working in the clouds

CO2: Use functions for structuring Python programs

CO3: Understand different Data Structures of Python

CO4: Represent compound data using Python lists, tuples and dictionaries

Advanced Software Engineering

CO1: Introduce Software Engineering, Design, Testing and Maintenance.

CO2: Enable the students to learn the concepts of Software Engineering.

CO3: Learn about Software Project Management, Software Design & Testing.

Algorithm Lab

CO1:This course covers the basic data structures like Stack, Queue, Tree, and List.

CO2: This course enables the students to learn the applications of the data structures using various techniques

CO3: It also enables the students to understand C ++ language concerning OOAD concepts

CO4: Application of OOPS concepts.

Python Lab

CO1:This course presents an overview of elementary data items, lists, dictionaries, sets and tuples

CO2: To understand and write simple Python programs

CO3: To Understand the OOPS concepts of Python

CO4: To develop web applications using Python

Semester II

List of Courses with Outcome

Data Mining and Warehousing

CO1: Enable the students to learn the concepts of Mining tasks, classification, clustering and Data Warehousing.

CO2: Develop skills in using recent data mining software for solving practical problems.

CO3: Develop and apply critical thinking, problem-solving, and decision- making skills.

Advanced Java Programming

CO1: Enable the students to learn the basic functions, principles and concepts of advanced

Java programming.

CO2: Provide knowledge on concepts needed for distributed Application

Architecture.

CO3: Learn JDBC, Servlet packages, jQuery, Java Server Pages and JAR file format

Artificial Intelligence & Machine Learning

CO1: Enable the students to learn the basic functions of AI and Heuristic Search Techniques.

CO2: Provide knowledge on concepts of Representations and Mappings and Predicate Logic.

CO3: Introduce Machine Learning to Data Mining, Big Data and Cloud.

CO 4: Study about Applications & Impact of ML.

IoT

CO1:To get familiar with the evolution of IOT with its design principles.

CO2:To outline the functionalities and protocols of Internet communication.

CO3: To analyze the hardware and software components needed to construct IOT applications.

CO4:To identify the appropriate protocol for API construction and writingembedded code.

CO5:To realize various business models and ethics in the Internet of Things.

Data Mining Lab using R

CO1: To enable the students to learn the concepts of Data Mining algorithm namely classification, clustering, and regression

CO2:To understand & write programs using the DM algorithms

CO3: To apply statistical interpretations for the solutions

CO4: Able to use visualization techniques for interpretations

Advanced Java Lab

CO1:To enable the students to implement the simple programs using JSP, JAR

CO2:To provide knowledge on using Servlets, Applets

CO3:To introduce JDBC and navigation of records

CO4:To understand RMI & its implementation

CO5:To introduce to Socket programming

Semester III

List of Courses with Outcome

Digital Image Processing

CO1: Learn basic image processing techniques for solving real problems.

CO2: Gain knowledge in information and image enhancement techniques

CO3: Learn Image compression and Segmentation procedures.

Soft Computing

CO1: To learn the basic concepts of Soft Computing

CO2: To become familiar with various techniques like neural networks, geneticalgorithms and fuzzy systems

CO3: To apply soft computing techniques to solve problems

Advance Computer Networks

CO1: Have a detailed knowledge of the concept of networks

CO2: Know the idea of protocols, OSI layers and their functions.

CO3: Get knowledge of protocols used in different layers.

CO4: Know about the function of the Internet

Research Methodology

CO1: Understand the fundamental concepts and principles of research methodology in computer science

CO2: Identify and select appropriate research methodologies based on the research problem

CO3: Formulate research questions and hypotheses in the context of computer science research

CO4: Design and execute research studies using quantitative and qualitative approaches

CO5: Apply ethical considerations in conducting computer science research

CO6: Develop critical thinking and problem-solving skills required for computer science Research

Mobile Computing

CO1: To identify basic concepts and principles in mobile communication & computing,

cellular architecture.

CO2:To describe the components and functioning of mobile networking.

CO3:To classify variety of security techniques in mobile network.

CO4:To apply the concepts of WLAN for local as well as remote applications.

CO5:To describe and apply the concepts of mobility management.

CO6:To describe Long Term Evolution(LTE) architecture and its interfaces

Mini Project

CO1:To enable the students to study Project development

CO2: to undertake a unique project title

CO3: to get a novel idea for the project

CO4: to define the problem

CO5: to design and implement using a n available software development tool /Programming

CO6: Prepare a report

P**ractical - Digital Image Processing Using Sci Lab**

CO1:Describe digital image representation, manipulation and illustrate the use ofhistograms

CO2: Applying various Geometric transformations on image and Illustrate Two-dimensional Fourier transform.

CO3: Use and compare, various Linear filtering methods.

CO4: Applying various Ideal filters in the frequency domain and understand the conceptof edge detection.

CO5: Compose various Morphological operations on binary images and generatethem transformed images.

2. DEPARTMENT OF BACHELOR OF BUSINESS ADMINISTRATION

1. PROGRAMME OUTCOMES (PO) OF BBA. DEGREE PROGRAMME IN BUSINESS ADMINISTRATION

PO1-Disciplinary knowledge: Capable of demonstrating comprehensive knowledge and understanding of one or more disciplines that form a part of an undergraduate Programme of study.

PO-2-Communication Skills: Ability to express thoughts and ideas effectively in writing and orally;Communicate with others using appropriate media; confidently share one's views and express herself/himself; demonstrate the ability to listen carefully, read and write analytically, and present complex information in a clear and concise manner to different groups.

PO-3 - Critical thinking: Capability to apply analytic thought to a body of knowledge; analyse and evaluate evidence, arguments, claims, beliefs on the basis of empirical evidence; identify relevantassumptions or implications; formulate coherent arguments; critically evaluate practices, policies and theories by following scientific approach to knowledge development.

PO-4 - Problem solving: Capacity to extrapolate from what one has learned and apply their competencies to solve different kinds of non-familiar problems, rather than replicate curriculum content knowledge; and apply one's learning to real life situations.

PO-5 -Analytical reasoning: Ability to evaluate the reliability and relevance of evidence; identify logical flaws and holes in the arguments of others; analyse and synthesize data from a variety of sources; draw valid conclusions and support them with evidence and examples, and addressing opposing viewpoints.

PO-6-Research-related skills: A sense of inquiry and capability for asking relevant/appropriate questions, problem arising, synthesising and articulating; Ability to recognise cause-and-effect relationships, define problems, formulate hypotheses, test hypotheses, analyse, interpret and draw conclusions from data, establish hypotheses, predict cause-and-effect relationships; ability to plan, execute and report the results of an experiment or Investigation.

PO-7-Cooperation/Team work: Ability to work effectively and respectfully with diverse teams; facilitate cooperative or coordinated effort on the part of a group, and act together as a group or a team in the interests of a common cause and work efficiently as a member of a team.

PO-8-Scientific reasoning: Ability to analyse, interpret and draw conclusions from quantitative/qualitative data; and critically evaluate ideas, evidence and experiences from an openminded and reasoned perspective.

PO-9-Reflective thinking: Critical sensibility to lived experiences, with self awareness and reflexivity of both self and society.

PO-10-Information/digital literacy: Capability to use ICT in a variety of learning situations, demonstrate ability to access, evaluate, and use a variety of relevant information sources; and use appropriate software for analysis of data.

PO-11-Self-directed learning: Ability to work independently, identify appropriate resources required for a project, and manage a project through to completion.

PO-12-Multicultural competence: Possess knowledge of the values and beliefs of multiple cultures and a global perspective; and capability to effectively engage in a multicultural society and interact respectfully with diverse groups.

PO-13-Moral and ethical awareness/reasoning: Ability to embrace moral/ethical values in conducting one's life, formulate a position/argument about an ethical issue from multiple perspectives, and use ethical practices in all work. Capable of demon starting the ability to identify ethical issues related to one's work, avoid unethical behaviour such as fabrication, falsification or misrepresentation of data or committing plagiarism, not adhering to intellectual property rights; appreciating environmental and sustainability issues; and adopting objective, unbiased and truthful actions in all aspects of work.

PO-14-Leadership readiness/qualities: Capability for mapping out the tasks of a team or an organization, and setting direction, formulating an inspiring vision, building a team who can help achieve the vision, motivating and inspiring team members to engage with that vision, and using management skills to guide people to the right destination, in a smooth and efficient way.

PO-15-Lifelong learning: Ability to acquire knowledge and skills, including 'learning how to learn', that are necessary for participating in learning activities throughout life, through self-paced and self-directed learning aimed at personal.

2.PROGRAMME SPECIFIC OUTCOMES OF BBA DEGREE PROGRAMME IN BUSINESS ADMINISTRATION

POS1: To enable students to apply basic microeconomic, macroeconomic and monetary concepts and theories in real life and decision making.

PSO2: To sensitize students to various economic issues related to Development, Growth, International Economics, Sustainable Development and Environment.

PSO3: To familiarize students to the concepts and theories related to Finance, Investments and Modern Marketing.

PSO4: Evaluate various social and economic problems in the society and develop answer to the problems as global citizens.

PSO5: Enhance skills of analytical and critical thinking to analyse effectiveness of economic policies.

PSO6: To enable students to apply basic microeconomic, macroeconomic and monetary concepts and theories in real life and decision making.

PSO7: To sensitize students to various economic issues related to Development, Growth, International Economics, Sustainable Development and Environment. PSO8: To familiarize students to the concepts and theories related to Finance, Investments and Modern Marketing.

PSO9: Evaluate various social and economic problems in the society and develop answer to the problems as global citizens.

PSO10: Enhance skills of analytical and critical thinking to analyse effectiveness of **economic policies.**

SEMESTER-I

LIST OF COURSES WITH OUTCOME

PRINCIPLES OF MANAGEMENT

CO1- Describe nature, scope, role, levels, functions, and approaches of management.

CO2 -Apply planning and decision making in management.

CO3- Identify organization structure and various organizing techniques.

CO4-Understand Direction, Co-ordination & Control mechanisms.

CO5-Relate and infer ethical practices of organisation.

ACCOUNTING FOR MANAGERS - I

CO-1 Prepare Journal, ledger, trial balance and cash book.

CO-2 Classify errors and making rectification entries.

CO-3 Prepare final accounts with adjustments.

CO-4 To understand Hire Purchase system

CO-5 Prepare single and double entry system of accounting

MANGERIAL COMMUNICATION

CO-1 Analyse & apply the various managerial economic concepts in individual & business decisions.

CO-2 Explain demand concepts, underlying theories and identify demand forecasting techniques.

CO-3 Employ production, cost and supply analysis for business decision making.

CO-4 Identify pricing strategies.

CO-5 Classify market structures under competitive scenarios.

BASIC OF EVEN MANAGEMENT

CO-1 To understand basics of event management.

CO-2 To design events.

CO-3 To study feasibility of organising an event.

CO-4 To gain Familiarity with marketing & promotion of event.

CO-5 To develop event budget.

SEMESTER -II

LIST OF COURSES WITH OUTCOME

EMBA21 - ORGANIZATIONAL BEHAVIOUR

CO-1 To define organizational behaviour, Understand the opportunity through OB.

CO-2 To apply self-awareness, motivation, leadership and learning through workshop.

CO-3 To analyse the complexities and solutions of group behaviour.

CO-4 To impact and bring positive change in the culture of the organization.

CO-5 To create a congenial climate in the organization.

EMBA 22 - ACCOUNTING FOR MANAGEMENT II

CO-1 Interpret cost sheet & write comments.

CO-2 Compare cost, management &financial accounting.

CO-3 Analyse the various ratio and compare it with standard to assess deviations.

CO-4 Estimate budget and use budgetary control.

CO-5 Evaluate marginal costing and its components.

EEBA21 - BUSINESS REGULATORY FRAME WORK

CO-1 Explain Indian Contract Act.

CO-2 Understand Sales of goods act and Contract of Agency.

CO-3 Understand Indian Companies Act 1956.

CO-4 Understand Consumer Protection Act - RTI.

CO-5 Understand Cyber law.

ESBA21-MANAGERIAL SKILL DEVELOPMENT

CO-1 Identify the personal qualities that are needed to sustain in the world of work.

CO-2 Explore more advanced Management Skills such as conflict resolution, empowerment, working with teams and creating a positive environment for changes.

CO-3 Acquire practical management skills that are of immediate use in management or leadership positions.

CO-4 Employ critical-thinking and analytical skills to investigate complex business problems to propose viable solution.

CO-5 Make persuasive presentations that reveal strong written and oral communication skills needed in the workplace.

ESBA22- BUSINESS ETIQUETTE AND CORPORATE GROOMING

CO-1 Describe basic concept of business etiquette and corporate grooming.

CO-2 Outline the etiquette and grooming standards followed in business environment the significance of communication.

CO-3 Create cultural awareness and moral practices in real life workplace scenarios.

CO-4 Analyse workplace courtesy and resolve ethical issues with respect to etiquette and grooming for success

CO-5 Apply the professionalism in the workplace considering diversity and courtesy.

SEMESTER-III

LIST OF COURSES WITH OUTCOME

FINANCIAL ACCOUNTING - CMBA31

CO-1 Familiarize the students with the accounting concepts, tools and techniques influencing business organizations

CO-2 Help the students to develop their skill required for the preparation of financial statements and accounts of various business areas.

CO-3 Equip the students with the theoretical and legal concepts of consumer rights

CO-4 Support the students to apply the basic accounting knowledge into the real business

CO-5 To understand the depreciation methods

ORGANIZATIONAL BEHAVIOUR - CMBA32

CO-1 Apply theories and concepts of organizational behaviour in workplace to create an effective organisational environment

CO-2 Analyse workplace behaviours from theoretical perspective of ability, learning, attitude and values

CO-3 Determine the influence of perception, personality and emotions on workplace behaviour

CO-4 Create a conducive environment to facilitate group functioning, and conflict

CO-5 Identify forces of change and manage a change

BUSINESS LAW – CABA31

CO-1 Understand the concept of contract and various essentials of contract.

CO-2 Understand Discharge of contract and remedies for breach of contract

CO-3 Analyze and differentiate between bailment, Pledge and Agency

CO-4 Understand the idea of sale, agreement to sell and explainconditions and warranties

CO-5 Interpret critical issues of partnership and can rights and duties of partners.

ADVERTISING – CNBA31

CO-1 Acquaint the students with the basic knowledge of advertising and sales promotion

CO-2 Enable the students to understand the importance of media planning

CO-3 Support the students to provide basic knowledge on types of media available

CO-4 Equip students to prepare advertising budget and copywriting

CO-5 Equip the students with the theoretical and legal concepts of advertisement

SEMESTER-IV

LIST OF COURSES WITH OUTCOME

CMBA41- COST ACCOUNTING

CO- Prepare cost sheet to ascertain total cost and cost/unit in order to prepare quotation.

CO-2 To differentiate methods of calculating material consumption.

CO-3 Apply various labour control techniques for cost reduction and smooth functioning of business.

CO-4 Explain meaning of Overheads. Classify, Allocate, Apportion and Reapportion various overheads to calculate cost.

CO-5 Apply costing methods and costing techniques appropriately.

CMBA42-MARKETING MANAAGEMENT

CO-1 Identify the marketing functions environment and segmentation for effective positioning of the products.

CO-2 Assess the factors influencing consumer behaviour and apply recent marketing trends in business.

CO-3 Develop new products and services that are consistent with evolving marketing needs.

CO-4 Formulate effective pricing policy and select an appropriate channel of distribution.

CO-5 Summarize the nature and functions of the elements of promotion mix.

CABA41- HUMAN RESOURCE MANAGEMENT

CO-1 Develop an understanding of the human resource functions and environment to manage human resource effectively.

CO-2 Identify the human resource requirements and select suitable work force.

CO-3 Evaluate the performance of human resource and develop suitable training, development and career planning programs.

CO-4 Frame sound compensations policy for high employee retention.

CO-5 Develop an effective grievance handling resource.

CSBAP1-COMPUTER APPLICATIONS IN BUSINESS-II

CO-1 To help students to work with the well-known accounting software i.e. Tally ERP.9.

CO-2 Students will learn to create company, enter accounting voucher entries including advance voucher entries.

CO-3 Demonstrate an understanding of various predefined inventory vouchers to suit various business requirements and flexibility to create unlimited stock items.

CO-4 Demonstrate an understanding of how to maintain a payroll register.

CO-5 To prepare Accounting, Payroll, Billing, Sales and Profit Analysis, Auditing Banking Inventory, Taxation such as GST, VAT, TDS, TCS etc

CNBA41- CONSUMER BEHAVIOUR

CO-1 Understand concept of Consumer Behaviour, types of Consumers, Diversity of

Consumers.

CO-2 Acquire basic knowledge about issues and dimensions of Consumer Behaviour.

CO-3 Analysing consumer information and using it to create consumer-oriented marketing

strategies.

CO-4 Understand the formulation of marketing strategies based on consumer behaviour.

CO-5 Describe the innovation diffusion process.

SEMESTER -V

LIST OF COURSES WITH OUTCOME

MANAGEMENT ACCOUNTING – CMBA51

CO-1 Understand concepts of Management accounting and differentiate between various types

of accounting.

CO-2 Compare common size and comparative financial statements of different periods

CO- Discuss importance and limitation of Fund flow and Cash Flow statements and create them

for accounting purpose.

CO-4 Describe and Analyse relationships between cost, volume and profit for achieving

breakeven point and profit maximization.

CO-5 Apply Standard costing technique for controlling cost.

RESEARCH METHODOLOGY – CMBA52

CO-1 Gain the Knowledge & understanding of concept / fundamentals for different types of

research.

CO-2 Applying relevant research techniques.

CO-3 Evaluating relevant data collection techniques and displaying of data collected

CO-4 Classifying different techniques of sampling.

CO-5 Applying Interpretation and prepare research report.

PRODUCTION & OPERATIONS MANAGEMENT – CMBA53

CO-1 Develop an understanding of the role of production manager and also select a suitable

production system.

CO-2 Analyse and decide a good location for the plant and its layout.

CO-3 Demonstrate efficient planning and control of production activities

CO-4 Analyse and apply skills in operations function to improve plant maintenance.

CO-5 Develop strategies to ensure high quality products are manufactured and distributed.

BANKING & INSURANCE – CMBA54

CO-1 Understand the concept of Indian banking system and its recent trends understand various

principle provision that govern the Life insurance

CO-2 Understand the functioning of Reserve Bank of India and overall working of commercial

banking of India.

CO-3 Utilize effectively the recent trends in banking to run business successfully.

CO-4 Contracts understand various principles, provision that govern the Life General Insurance

Contracts.

CO-5 Distinguish between life insurance and general insurance.

RETAIL MANAGEMENT – CEBA51

CO-1 Clarify the concept and related terms in retailing

CO-2 Comprehend the ways retailers use marketing tools and techniques to interact with their customers.

CO-3 Understand various formats of retail in the industry.

CO-4 Recognize and understand the operations-oriented policies, methods, and procedures

CO-5 Understand how to create a shopping experience that builds customer

EFFECTIVE EMPLOYABILITY SKILLS -I – CEBAP5 (PRACTICAL)

CO-1 To help students explore their values and career choices through individual skill assessments.

CO-2 To make realistic employment choices and to identify the steps necessary to achieve a goal.

CO-3 To explore and practice basic communication skills

CO-4 To learn skills for discussing and resolving problems on the work site

CO-5 To assess and improve personal grooming

FIELD STUDY – CMBA5P (PROJECT)

The subject aims to give bird's eye view of the functioning of industries / business organizations to students through factory visits or any business reality.

SEMESTER-V1

LIST OF COURSES WITH OUTCOME

CMBA61 - FINANCIAL MANAGEMENT

CO-1 Apply financial data for use in decision making by applying financial theory to problems

faced by knowledge enterprises.

CO-2 Develop knowledge on leverage and cost of capital enabling to arrange funds at minimum

cost.

CO-3 Determine and maintain optimal working capital.

CO-4 Apply modern techniques in capital budgeting analysis.

CO-5 Assess the capital structure of the organization and evaluate the profitability condition.

CMBA62 -STRATEGIC MANAGEMENT

CO-1 Understand growing importance of strategies in uncertain business environment.

CO-2 Understand the basic concept of business strategy.

CO-3 Identify and evaluate different alternatives strategies for effective decision making.

CO-4 Analyse and apply skills in operations function to improve plant maintenance.

CO-5 Develop strategies to ensure high quality products are manufactured and distributed.

CMBA63 - ENTREPRENEURSHIP DEVELOPMENT

CO-1 List the characteristics of an entrepreneur, entrepreneur as well their role in the economic development of the country.

CO-2 Explain the entrepreneurial environmental factors.

CO-3 Design business plan.

CO- Raise funds and avail assistance through various funding and support agencies for their finance.

CO-5 Identify the factors influencing rise of small and medium enterprises.

CEBA62- FINANCIAL SERVICES

CO-1 Understand the functioning of the financial system and financial services.

CO-2 Apply critical, analytical and integrative thinking while understanding the functioning for

the leasing.

CO-3 Utilize factoring, forfeiting and leasing services for their enterprises.

CO-4 Assess and make wise investments in mutual funds and also get their credit worthiness evaluated for obtaining borrowings/investments.

CO-5 Develop a critical, analytical and integrative thinking for the role played by the regulators

in the smooth functioning of the markets.

CEBAP6- EFFECTIVE EMPLOYABILITY SKILLS –II

CO-1 To help students explore their values and career choices through individual skill assessments.

CO-2 To make realistic employment choices and to identify the steps necessary to achieve a goal.

CO-3 To explore and practice basic communication skills

CO-4 To learn skills for discussing and resolving problems on the work site

CO-5 To assess and improve personal grooming

3.DEPARTMENT OF PHYSICS

1. Programme Outcomes (PO) of B.Sc. degree programme in Physics

PO1: acquire a fundamental concept in the field of Physics and procedural knowledge that creates

different types of professionals related to the subject area of Physics, including professionals engaged

in research and development, teaching and government / public service.

PO2: demonstrate the ability to use skills in Physics and its related areas of technologies for formulating

and tackling Physics related problems.

PO3: inculcate innovative skills and teamwork among students to meet societal expectations.

PO4: perform analysis to assess, interpret and create innovative ideas through practical experiments.

PO5: facilitate to enter multidisciplinary path to solve day-to-day scientific problems.

PO6: carry out fieldworks and projects both independently and collaboration with others and to report in a

constructive way.

PO7: improve communication ability and knowledge transfer through ICT aided learning integrated with

Library resources.

PO8: attain competency in job market / entrepreneurship.

2. Programme Specific Outcomes (PO) of B.Sc. degree programme in Physics

PSO1: understand and experiment the basic concepts of Properties of Matter and Mechanics, Optics and

Acoustics, Heat and Thermodynamics, Electricity and Electromagnetism, Instrumentation Physics, Space

Physics, Basic Electronics, Spectroscopy, Atomic and Nuclear Physics, Communication Electronics,

Quantum Mechanics, Digital Electronics, Solid State Physics, Energy Physics and

Medical Physics.

PSO2: develop the skills on scientific programming through programming with C++ which will make them

choose their career in wide spectrum of areas.

PSO3: students will have knowledge about the working of medical instruments, laser, super conductivity,

electrical appliances, wiring and nano materials.

PSO4: students utilize their laboratory skills to take measurements in Physics laboratory, analyze the

measurements and draw valid conclusions.

PSO5: students will be able to compile oral and written scientific communications and will prove that they

can think critically and work independently.

PSO6: harness the scientific ideas to reduce pollution by promoting non-conventional and renewable energy

sources.

PSO7: students will illustrate proficiency in mathematics and the mathematical concepts needed for the

proper understanding of physics and can face competitive exams with ease.

PSO8: gain confidence and move to higher studies.

Semester III

List of courses with outcomes

ELECTRICITY & ELCTROMAGNETISM

CO-1 Understand the basics and applications of Coulomb's law, Gauss' law and

thermoelectric effects

CO-2 Explain the Kohlrausch's bridge method for determining the specific

conductivity of an electrolyte.

CO-3 Understand Ohm's law, Kirchoff's laws, growth and decay of current and

charge in different circuits.

CO-4 Analyse LCR series resonance and LCR parallel resonance circuits with

derivation.

CO-5 Understand the about magnetic vectors, B-H curve and Lorentz force.

CO-6 Explain the construction, working and application of moving coil Ballistic galvanometer and DeSauty's bridge.

CO-7 Understand the concepts of Faraday's laws, Owen's bridge and coefficient of coupling.

CO-8 Use of Earth inductor for finding horizontal component and vertical component of the Earth's magnetic field

CO-9 Derive the Maxwell's equations for material medium and for free space.

CO-10 Explain the concepts of Hertz experiment for production and detection of EM waves and to understand Poynting vector and displacement current.

SKILL BASED ELECTIVE

MAINTANANCE OF ELECTRICAL APPLIANCES

CO - 1 Understand the operations and safe handling ofcommonly used domestic appliances.

CO - 2 Understand the basic ideas about the components used in electrical appliances.

CO - 3 Understand a basic knowledge of electricity and magnetism.

CO - 4 Understand and apply knowledge to design and troubleshoot the electrical circuits.

CO - 5 Understand the basic ideas about transformers and their types and working principles.

CO - 6 Understand the concepts underlying the operation of AC and DC circuits.

CO - 7 Describe the concept of household circuits and their wiring systems in detail.

CO - 8 Understand the earthing and colour coding of the wires.

CO - 9 Managing the appliances with safety precautions using switches and fuses.

CO - 10 Understand the basic ideas behind inverters, motors, and generators.

MAJOR PRACTICAL – III

CO- 1 Study the emf, resistance and behaviour of the materials.

CO – 2 Analyze the relationship between tan a and tan b.

CO-3 To find the self inductance of a coil using series and parallel resonance circuit.

CO-4 To study the calibration of Ammeter using Potentiometer.

CO-5 To study the calibration of low range Voltmeter using Potentiometer.

Semester V

List of courses with outcomes

BASIC ELECTRONICS

CO–1 Differentiate between constant voltage source and constant current source

CO–2 Explain Norton's theorem and Thevinin's theorem

CO–3 Design a voltage regulator using Zener diode

CO–4 Consruct a half wave bridge rectifier using diodes and capacitors

CO–5 Explain the forward bias and reverse bias action of a transistor

CO–6 Analyse the circuit of a astable and monostable multivibrator

CO–7 Explain the working of a Hartley and Colpitts Oscillator

CO–8 Design the circuit for low and high pass filter and explain the frequency response curve

SPECTROSCOPY

CO-1 Explain different types of motion. Classify molecules according to rotational modes.

CO-2 Discriminate the effect of isotopic substitution

CO-3 Discuss the 3 IR regions. Justify the interaction of rotations & vibrations on molecules.

CO-4 Analyzed the IR techniques & explain its importance in research

CO-5 Distinguish Rayleigh & Raman scattering Categorize classical & quantum theory of

Raman effect

CO-6 Validate the rule of mutual exclusion

CO-7 Formulate Lambert- Beer Law & Calculate transmission from absorbance

CO-8 Relate the use of UV spectrum in research

CO-9 Explain magnetic resonance & its principles.

CO-10 List the uses of MRI Interpret NMR spectra

ATOMIC AND NUCLEAR PHYSICS

CO-1 Understand the concepts of free electron theory, band theory and positive rays.

CO-2 Derive the expressions for electrical conductivity, thermal conductivity and to explain Hall

effect and Hall coefficient.

CO-3 Explain the vector atom model, coupling schemes and Zeeman effect.

CO-4 Analyse the Stern and Gerlach experiment with derivation.

CO-5 Understand the production, properties, usage of Xrays and various X-ray diffraction

methods.

CO-6 Explain the basics of primary and secondary cosmic rays, cosmic ray shower and Van

Allen belts.

CO-7 Find the general properties of nucleus by using liquid drop model and shell model and to

understand laws of radioactivity.

CO-8 Explain the construction, working and application of G.M. counter, Wilson cloud

chamber, Cyclotron and betatron.

CO-9 Apply the concepts of nuclear fission and fusion to atom bomb and hydrogen bomb.

CO-10 Classify the elementary particles with examples and understand the concept of quark

model.

MAJOR ELECTIVE – b. COMMUNICATION ELECTRONICS

CO - 1 Analyse amplitude modulation and AM envelope. To explain AM frequency bandwidth

and phasor representation of AM with carrier.To determine the coefficient of modulation or

percentage modulation or modulation index.

CO - 2 illustrate AM power distribution and AM current relation and efficiency. Elaborate

emitter modulations or low power AM collector modulator. Classify low level transmitter and

high level transmitter

CO - 3 Analyze the comparison of AM system and Quadrature amplitude modulation. To

illustrate the Principles of AM detection and AM receivers

CO - 4 Explain about tuned radio frequency receiver or straight receiver. To elaborate double

frequency conversion AM receiver.

CO - 5 Illustrate Frequency modulation and phase modulation. To determine phase modulation

and modulation index.

CO - 6 Elaborate the conversion of FM to PM and they can picturize the phasor representation of

FM and PM. To compare AM and FM

CO - 7 Explain and Analyze FM detectors and balanced slope detector

CO - 8 Illustrate the ratio detector and to elaborate the important features of FM super

heterodyne receiver and FM noise suppression. Also to summarize about threshold extension by

FMFB technique

CO - 9 Elaborate about BFSK and to summarize about Binary phase shifting Key. The importance of Quadrature PSK and Differential PSK.

CO - 10 Comparison of digital modulations can be done to compare and classify correlative coding and Duo binary encoding

PRACTICAL - V GENERAL PRACTICAL

CO-1 To study the conversion of galvanometer in to ammeter and voltmeter.

CO-2 To determine Cauchy's constant.

CO-3 To understand the calibration of high range voltmeter using potentiometer.

CO-4 To determine the Temperature Coefficient of Resistance potentiometer.

CO-5 To verify Thevanin's and Nortan's theorem.

PRACTICAL - VI ELECTRONICS PRACTICAL

CO-1 To construct the adder and subtractor circuit using OP-AMP.

To determine the time period of an Astable multivibrator using 555 timer

CO-2 To construct the integrator and differentiator circuit using OP-AMP.

CO-3 To construct a Low Pass & High Pass Filter circuit using OPAMP

Semester IV

List of courses with outcomes

HEAT AND THERMODYNAMICS

CO-1 Acquire the knowledge of Joule-Kelvin effect, liquefaction of hydrogen and helium gases and adiabatic demagnetization.

CO-2 Use the practical applications of the low temperature concepts to refrigerator, airconditioning machine and super fluidity.

CO-3 Derive the expressions for pressure, gas laws, Maxwell's law of distribution of molecular velocities, viscosity and thermal conductivity.

CO-4 Derive and determine the Vander Wall's constants and critical constants.

CO-5 Explain the heat experiments like Forbe's method and Lee's disc method for finding thermal conductivity.

CO-6 Understand the concepts of black body radiation, Wien's law, Stefan's law and Newton's law of cooling.

CO-7 Acquire the knowledge of Zeroth law, I and II law of thermodynamics, gas equation and

Carnot's theorem.

CO-8 Apply the laws of thermodynamics to Carnot's engine, Otto engine and Diesel engine to

find efficiency.

CO-9 Derive the Clausius-Clapeyron equation and second latent heat equation and specific heat

relation.

CO-10 Understand the concepts of III law of thermodynamics, entropy and to derive Maxwell's

thermo dynamical relations.

SKILL BASED ELECTIVE

MAINTANANCE OF ELECTRONIC APPLIANCES

CO - 1 Understand the basic ideas about the components we use in electronic appliances.

CO - 2 Recognize resistors, capacitors, and connection systems.

CO - 3 Understand the fundamentals of measuring instruments.

CO - 4 Understand oscilloscopes and their various types.

CO - 5 Understand the classification of active and passive transducers and their types.

CO - 6 Understand about the transducer's applications, merits, and demerits.

CO - 7 Understand the basic concepts of communication devices and their working principles.

CO - 8 Understand the principles of operation of modern technology communication devices.

CO - 9 Learn about photography by using cameras and their accessories.

CO - 10 Learn about shutter speed, resolution, filters, and the use of various lenses in cameras.

MAJOR PRACTICAL – IV

CO- 1 To determine the Thermal conductivity of bad conductor by Lee's Disc method.

CO – 2 To determine the Specific resistance.

CO-3 Determination of Specific heat capacity of liquid.

CO-4 To verify Newton's law of cooling.

Semester VI

List of courses with outcomes

QUANTUM MECHANICS

CO-1 Understand the quantum concepts of black body radiation, Planck's theory and photoelectric effect.

CO-2 Apply the Bohr's quantization concept of angular momentum to hydrogen atom.

CO-3 Acquire the knowledge of De Broglie's hypothesis and concepts of phase and group velocities.

CO-4 Explain the concepts of diffraction and interference of electrons and wave packet

CO-5 Understand the Heisenberg's uncertainty principle and its proof between energy and time.

CO-6 Illustrate some thought experiments to explain the Heisenberg's uncertainty principle.

CO-7 Derive Schrodinger's time-dependent and timeindependentwave equations.

CO-8 Understand the concepts of wave function, eigenfunction, eigen value, operators and postulates of quantum mechanics.

CO-9 Apply the concepts of quantum mechanics to particle in one-dimensional box and to particle in a rectangular three-dimensional box

CO-10 Acquire knowledge of application of quantum mechanics to simple harmonic oscillator

and transmission across a potential barrier.

DIGITAL ELECTRONICS

CO–1 Define binary number

CO–2 Differentiate the various codes in Binary system

CO–3 Construct the circuit for the basic logic gates

CO–4 Explain the half and full subtractor using logic gates

CO–5 Draw the circuit for frequency divider

CO–6 Analyse the circuit of a astable and monostable multivibrator

CO–7 Explain the function of a multiplexer and De- multiplexer

CO–8 Differentiate A/d and D/A converter

SOLID STATE PHYSICS

CO–1 Explain the seven classes of crystals and to illustrate about the Bravais lattice in three dimensions.

CO–2 Imagine and elaborate about Simple cubic, Face centered cubic, Body centered cubic and

Hexagonal closed packed structures. To make use of Braggs's law and reciprocal lattice to SCC,

BCC and FCC lattices.

CO–3 Illustrate Langevin's theory of Paramagnetism, Weiss Paramagnetism. To analyze the

concept of Ferromagnetism and to summarize about domain theory of ferromagnetism and anti

magnetism

CO–4 Elaborate about the different types of electric polarizations and to classify and compare

about the ionic, orientation and space charge polarization

CO–5 Classify and about types of bonds in crystals. To illustrate about Vanderwaal's and

hydrogen bonding. Comparison of ionic and covalent solids.

CO–6 Elaborate about cohesive energy of ionic solids and the application towards Sodium

chloride crystal and the evaluation of Madelung Constant for sodium chloride can be done.

CO–7 Interpret the general properties of Super conductors. Elaborate the effect of magnetic field

and Meissner effect, current of effect.

CO–8 Illustrate about entrophy. To list out the application of super conductors

CO–9 Describe about the nano particles and synthesis and its classification. Explain the

techniques used in synthesis of nanomaterials and about chemical vapour deposition techniques.

CO–10 Classify and compare the properties of nano materials. Applications of nano materials

can also be explained.

MAJOR ELECTIVE – a. ENERGY PHSICS

CO - 1 Understand the importance of conventional and nonconventional energy resources.

CO - 2 Understand the applications, merits, and demerits of conventional and non-conventional

energy resources.

CO - 3 Understand the basic aspects of solar energy.

CO - 4 Understand solar energy appliances with their merits and demerits.

CO - 5 Understand the basic aspects of the photovoltaic principle.

CO - 6 Learn about photovoltaic appliances and how they work.

CO - 7 Understand the solar cell with its applications and its types.

CO - 8 Understand the basic ideas of biomass energy and recognise their merits and demerits.

CO - 9 Understand the methods and classifications of biomass energy.

CO - 10 Understand the basic principles of wind energy conversion.

CO - 11 Understand the fundamental concepts of oceans and chemical energy resources, as well

as their benefits and drawbacks.

PRACTICAL - VII GENERAL PRACTICAL

CO-1 To illustrate Hartmann's interpolation formula.

CO-2 To analyze spectrometer - i1 - i2 curve.

CO-3 To find the critical angle of a prism

CO-4 To determine dispersive Power of Grating by oblique incidence method.

CO-5 To determine moment of Magnet by Tan C position.

PRACTICAL - VIII ELECTRONICS PRACTICAL

CO-1 To design a combinational logic system.

CO-2 To verify truth table of NAND gate.

CO-3 To verify truth table of NOR gate.

CO-4 To construct the half adder and full adder circuit using AND, OR and XOR gate.

4.DEPARTMENT OF BACHELOR OF COMPUTER APPLICATION

PROGRAMME OUTCOMES

PO1 : Disciplinary knowledge:

Capable of demonstrating comprehensive knowledge and understanding of one or more disciplines

that form a part of an undergraduate Programme of study

PO2: Communication Skills:

Ability to express thoughts and ideas effectively in writing and orally; Communicate with others using

appropriate media; confidently share one's views and express herself/himself; demonstrate the ability to

listen carefully, read and write analytically, and present complex information in a clear and concise manner

to different groups

PO3: Critical thinking:

Capability to apply analytic thought to a body of knowledge; analyse and evaluate evidence, arguments,

claims, beliefs on the basis of empirical evidence; identify relevant assumptions or implications; formulate

coherent arguments; critically evaluate practices, policies and theories by following scientific approach to

knowledge development.

PO4: Problem solving:

Capacity to extrapolate from what one has learned and apply their competencies to solve different kinds of

non-familiar problems, rather than replicate curriculum content knowledge; and apply one's learning to real

life situations.

PO5: Analytical reasoning:

Ability to evaluate the reliability and relevance of evidence; identify logical flaws and holes in the

arguments of others; analyze and synthesize data from a variety of sources; draw valid conclusions and

support them with evidence and examples, and addressing opposing viewpoints.

PO6: Research-related skills:

A sense of inquiry and capability for asking relevant/appropriate questions, problem arising, synthesising

and articulating; Ability to recognise cause-and-effect relationships, define problems, formulate hypotheses,

test hypotheses, analyse, interpret and draw conclusions from data, establish hypotheses, predict cause-andeffect relationships; ability to plan, execute and report the results of an experiment or investigation

PO7: Cooperation/Team work:

Ability to work effectively and respectfully with diverse teams; facilitate cooperative or coordinated effort

on the part of a group, and act together as a group or a team in the interests of a common cause and work

efficiently as a member of a team

PO8: Scientific reasoning:

Ability to analyse, interpret and draw conclusions from quantitative/qualitative data; and critically evaluate

ideas, evidence and experiences from an open-minded and reasoned perspective.

PO9: Reflective thinking:

Critical sensibility to lived experiences, with self awareness and reflexivity of both self and society.

PO10: Information/digital literacy:

Capability to use ICT in a variety of learning situations, demonstrate ability to access, evaluate, and use a

variety of relevant information sources; and use appropriate software for analysis of data.

PO11: Self-directed learning:

Ability to work independently, identify appropriate resources required for a project, and manage a project

through to completion.

PO12: Multicultural competence:

Possess knowledge of the values and beliefs of multiple cultures and a global perspective; and capability to

effectively engage in a multicultural society and interact respectfully with diverse groups.

PO13: Moral and ethical awareness/reasoning:

Ability to embrace moral/ethical values in conducting one's life, formulate a position/argument about an

ethical issue from multiple perspectives, and use ethical practices in all work. Capable of demonstrating the

ability to identify ethical issues related to one's work, avoid unethical behaviour such as fabrication,

falsification or misrepresentation of data or committing plagiarism, not adhering to intellectual property

rights; appreciating environmental and sustainability issues; and adopting objective, unbiased and truthful

actions in all aspects of work.

PO14: Leadership readiness/qualities:

Capability for mapping out the tasks of a team or an organization, and setting direction, formulating an

inspiring vision, building a team who can help achieve the vision, motivating and inspiring team members

to engage with that vision, and using management skills to guide people to the right destination, in a smooth

and efficient way.

PO15: Lifelong learning:

Ability to acquire knowledge and skills, including „learning how to learn", that are necessary for

participating in learning activities throughout life, through self-paced and self-directed learning aimed at

personal development, meeting economic, social and cultural objectives, and adapting to changing trades

and demands of work place through knowledge/skill development/reskilling.

PROGRAMME SPECIFIC OUTCOMES

PSO1: To enable students to apply basic microeconomic, macroeconomic and monetary concepts and

theories in real life and decision making.

PSO2: To sensitize students to various economic issues related to Development, Growth, International

Economics, Sustainable Development and Environment.

PSO3: To familiarize students to the concepts and theories related to Finance, Investments and Modern

Marketing.

PSO4: Evaluate various social and economic problems in the society and develop answer to the problems as

global citizens.

PSO5: Enhance skills of analytical and critical thinking to

SEMESTER I

List of courses with outcomes

PYTHON PROGRAMMING

CO1: Learn the basics of python, Do simple programs on python,

Learn how to use an array.

CO2: Develop program using selection statement, Work with Looping and jump

statements, . Do programs on Loops and jump statements.

CO3: Concept of function, function arguments, Implementing the concept strings in various
application, Significance of Modules, Work with functions, Strings and modules.
CO4: Work with List, tuples and dictionary, Write program using list, tuples and dictionary
CO5: Usage of File handlings in Python, Concept of reading and writing files, Do programs
using files.

PYTHON-LAB

CO1: Demonstrate the understanding of syntax and semantics of
CO2: Identify the problem and solve using PYTHON programming techniques.
CO3: Identify suitable programming constructs for problem solving.
CO4: Analyze various concepts of PYTHON language to solve the problem in an efficient way.
CO5: Develop a PYTHON program for a given problem and test for its correctness.

DISCRETE MATHEMATICS-I

CO1: To recall basic concepts for clear under standing of mathematical principles
CO2: To explain practical problems.
CO3: To construct matrices using discrete mathematics
CO4: To analyze techniques to draw graph using mathematics
CO5: To design graphs using the representations

FUNDAMENTALS OF INFORMATION TECHNOLOGY

CO1: Learn the basics of computer, construct the structure of the required things in . computer, learn how to use it.
CO2:Develop organizational structure using for the devices present currently under Input or output unit.
CO3:Concept of storing data in computer using two header namely RAM and ROM with. different types of ROM with advancement in storage basis.
CO4: Work with different of taramite program in the software and Applications of software.
CO5: Usage of Operating system in information technology which really

Acts as a interpreter between software and hardware.

STRUCTURED PROGRAMMING LANGUAGE IN C

CO1: Remember the program structure of C with its syntax and semantics

CO2: Understand the programming principles in C (data types, operators, branching and looping, arrays, functions, structures, pointers and files)

CO3: Apply the programming principles learnt in real-time problems

CO4: Analyze the various methods of solving a problem and choose the best method

CO5: Code, debug and test the programs with appropriate test cases

SEMESTER III

List of courses with outcomes

JAVA PROGRAMMING

CO1: Understand the basic Object-oriented concepts. Implement the basic constructs of Core Java.

CO2: Implement inheritance, packages, interfaces and exception handling of Core Java.

CO3: Implement multi-threading and I/O Streams of Core Java

CO4: Implement AWT and Event handling.

CO5: Use Swing to create GUI.

FINANCIAL ACCOUNTING

CO1: To acquire knowledge about general aspects of business operations.

CO2: To explain the concepts and procedures of financial reporting, including income and expenditure statement, balance sheet etc.

CO3: To locate and analyze financial data from annual reports of corporations.

JAVA PROGRAMMING LAB

CO1: Understand the basic Object-oriented concepts. Implement the basic constructs of. Core Java.

CO2: Implement inheritance, packages, interfaces and exception handling of Core Java.

CO3: Implement multi-threading and I/O Streams of Core Java

CO4: Implement AWT and Event handling.

CO5: Use Swing to create GUI.

DATA STRUCTURE

CO1: An understanding of the basic data structures.

CO2: To describe Data structures like stack, queue, tree and graph.

CO3: An understanding of the basic search and sort algorithms.

CO4: The appropriate use of a particular data structure and algorithm to solve a problem

DATA STRUCTURE LAB

CO1: Understand the concept of Dynamic memory management, data types, algorithms, Big

O notation

CO2: Understand basic data structures such as arrays, linked lists, stacks and queues

CO3: Describe the hash function and concepts of collision and its resolution methods

CO4: Solve problem involving graphs, trees and heaps

CO5: Apply Algorithm for solving problems like sorting, searching, insertion and deletion of data

PROGRAMMING WITH PHP AND MYSQL

CO1: To observe and understand the role, structure, control flow, classes and concepts in PHP and

tables in MySQL

CO2: To implement the concepts in PHP and queries in MySQL.

CO3: To analyze functions for data and file handling in PHP and data management in MySQL

CO4: To evaluate the programming concepts in PHP to develop interfaces and manipulate data

using MySQL.

CO5: To create applications using PHP and MySQL.

INTRODUCTION TO COMPUTERS

CO1: To understand the meaning and basic components of a computer system

CO2: To define and distinguish Hardware and Software components of computer system.

CO3: To understand the memory and storage devices and types of Operating system.

SEMESTER V

List of courses with outcomes

MACHINE LEARNING USING PYTHON

CO1: Describe the concepts of machine Learning

CO2: Explain the fundamentals of Classification and probability theory

CO3: Analyse the supervised learning techniques

CO4: Analyse the un-supervised learning techniques

CO5: Illustrate Big Data using machine learning

CO6: Develop applications using Hadoop and Map Reduce

WEB TECHNOLOGY

CO1: Employ fundamental computer theory to basic programming techniques.

CO2: Use fundamental skills to maintain web server services required to host a website.

CO3: Select and apply markup languages for processing, identifying, and presenting of information in web pages.

CO4: Use scripting languages and web services to transfer data and add interactive components to web pages.

RELATIONAL DATABASE MANAGEMENT SYSTEM

CO1: Master the basic concepts and appreciate the applications of data base systems.

CO2: Master the basics of SQL and construct queries usingSQL.

CO3: Be familiar with a commercial relational database system (Oracle) by writing SQL using the system.

RDBMS LAB

CO1: Understand basic concepts of database system

CO2: Design a Data model and Schemas in RDBMS

CO3: Competent in use of SQL

CO4: Analyze functional dependencies for designing Database

E-COMMERCE

CO1: Design and implement an e-commerce application with a shopping cart.

CO2: Integrate the waterfall model in the development of e-commerce applications.

CO3: Integrate user-centered design guidelines in developing user-friendly websites.

MINI PROJECT

CO1: Employ fundamental computer theory to basic programming techniques.

CO2: Use fundamental skills to maintain web server services required to host a website.

CO3: Select and apply markup languages for processing, identifying, and presenting of information in web pages.

CO4: Use scripting languages and web services to transfer data and add interactive components to web pages.

PERSONALITY DEVELOPMENT

CO1: The student will be able to understand, analyse develop and exhibit accurate sense of self.

CO2: Think critically.

CO3: demonstrate knowledge of personal beliefs and values and a commitment to continuing personal reflection and reassessment.

CO4: Learn to balance confidence with humility and overcome problems associated with personality.

5.DEPARTMENT OF COMMERCE

1.Programme Outcomes (PO) of B.com degree programme in Commerce

PO1: Understand the role of business and its implications on society

PO2:Understand the conceptual knowledge of accounting and acquire skill of maintaining accounts.

PO3: Acquire entrepreneurial and managerial skills

PO4: Identify the adventure of marketing and banking both traditional and modern.

PO5: Students will possess basic subject knowledge required for higher studies, professional and applied courses.

PO6: Students will be aware of and able to develop solution oriented approach towards various Social and Environmental issues.

PO7:The skills and knowledge gained leads to proficiency in analytical reasoning, which can be utilized in modelling and solving real life problems.

PO8: To recognize patterns and to identify essential and relevant aspects of problems.

PO9:Ability to share ideas and insights while seeking and benefitting from knowledge and insight of others.

PO10:Mould the students into responsible citizens in a rapidly changing interdependent society.

2.Programme Specific Outcomes of B.COM Degree Programme in Commerce

PSO1:Understand different concepts in starting and managing the business and realize social

responsibilities

PSO2: Think in a critical and logical based manner

PSO3: Know when there is a need for information, to be able to identify, locate, evaluate, and effectively

use that information for the issue or problem at hand.

PSO4:Solve problems related to employer-employee investors and consumers with legal protection

PSO5: Prepare financial statements of business using accounting principles, concepts and conventions and

maintain accounts for different types of business

PSO6: Understand the provisions of income tax

PSO7: Understand the traditional and modern strategies and practices of costing banking ,marketing,

management and auditing

PSO8: Develop a range of generic skills helpful in employment, internships& societal activities.

PSO9: To understand Basic Principles of Auditing, Internal Control, Vouching and verification

PSO10: To understand the Positions and status of Statutory Auditors under the Companies Act 2013

PSO11:To know about special Areas of Audit and Recent Trends in Auditing.

PSO12: To understand the Conceptual framework of Corporate Governance models, codes and Standards.

PSO13: To know the Concept of CSR and business Ethics under the Companies Act2023

Semester-I

List of Courses With Out come

EIDP Exports and Imports

CO 1 Explain Preliminaries for Exports and Imports

CO2 Choose the appropriate technique for Export Import Documentation

CO3 Make use of Export Import Documentation

CO4 Choose Polices and Institutional Framework for Exports and Imports Foreign Trade Policy.

CO5 Construct Pre-Import Procedure

Fundamentals of Business Studies

CO1: To make the students familiar with the basic concepts of commerce, and Management Fields.

CO 2: To encourage and motivate the students for the commerce Education.

CO 3: To make the students aware towards the various branches of commerce for Example, Accounts, Banking and Auditing.

BUSINESS ECONOMICS

CO-1 Explain the positive and negative approaches in economic analysis

CO-2 Understood the factors of demand forecasting

CO-3 Know the assumptions and significance of indifference curve

CO-4 Outline the internal and external economies of scale

CO-5 Relate and apply the various methods of pricing

Financial Accounting – I

CO1 To understand the basic accounting concepts and standards.

CO2 To know the basis for calculating business profits.

CO3 To familiarize with the accounting treatment of depreciation.

CO4 To learn the methods of calculating profit for single entry system.

CO5 To gain knowledge on the accounting treatment of insurance claims.

Banking Theory law and Practice

CO-1 To understand the basic concept used in banking

CO-2 To know the various kinds of banking and their functions.

CO-3 To know the banking product or services.

CO-4 To know the development of technology in banking company.

CO-5 To know the Reserve Bank of India and the importance in banking industry

CO-5 To differentiate the questionnaire and schedule.

business communication

CO1 Acquire the basic concept of business communication.

CO 2 Exposed to effective business letter

CO 3 Paraphrase the concept of various correspondences.

CO 4 Prepare Secretarial Correspondence like agenda, minutes and various business reports.

CO 5 Acquire the skill of preparing an effective resume

BANKING AND INSURANCE

CO-1 To familiarize the student's competence in Insurance at an advanced level

CO-2 . To focus on increasing proficiency in the basic Insurance, rules, policy , Risk in the workplace, etc

CO-3 . To impart knowledge on the principles of life insurance and types of policies

CO-4 . To teach students on the nature and types of non-life insurance policies

CO-5 . To make the students understand on the various aspects of risk management

Semester-2

CORPORATE ACCOUNTING-1

CO-1 1.To understand about the issue of share sand debentures.

CO-2 2.To understand about the redemption of preference shares.

CO-3 3.To understand the calculation of profit prior to incorporation.

CO-4 4.To practice the maintenance of final accounts as per revised accounting standards

CO-5 5.To understand the accounting for amalgamation and external reconstruction

Co-6.Toanalysethe various schemes for capital reduction.

Co-7.To evaluate The preparation Liquidator's financial statement.

HUMANRESOURCEMANAGEMENT

CO-1 To Know The System of human resource information.

CO-2 To learn the process of selection of human resource.

CO-3 To Differentiate The Management Development and career development.

CO-4 To Understand the performance appraisal.

CO-5 To identify the grievance handling and redressal.

Business law

CO1 Explain the Objectives and significance of Mercantile law

CO2 Understand the clauses and exceptions of Indian Contract Act.

CO3 Outline the contract of indemnity and guarantee

CO4 Familiar with the provision relating to Bailment and Pledge

CO5 Explain the various provisions of Sale of Goods Act 1930

OPERATIONS RESEARCH

CO-1 ApplyLinearProgramming

CO-2 Identify Models for problem solving

CO-3 Apply Sequencing And Game Theory

CO-4 Apply Network Analysis to enhance effectiveness

CO-5 Examine The Models For Decision making

BUSINESS RESEARCH METHODS

CO-1 Understand the Concepts Relating to Business Research, Types and Process.

CO-2 Identify the Research Problem and Draw the Design.

CO-3 Prepare Questionnaire and Interview Schedule and Formulate & Test the Hypothesis.

CO-4 Adopt Appropriate Statistical Tools for the Inferences.

CO-5 Write a Research Report

Financial Accounting – II

LO1 The students are able to prepare different kinds of accounts such Higher purchase and

Instalments System.

LO2 To understand the allocation of expenses under departmental accounts

LO3 To gain an understanding about partnership accounts relating to Admission and retirement

LO4 Provides knowledge to the learners regarding Partnership Accounts relating to dissolution

of firm LO5 To know the requirements of international accounting standards

corporate accounting

CO 1 Determine profit and financial position by preparing financial statements of companies as

per schedule III of Companies Act, 2013

CO2 Apply the provisions of IRDA Regulations in the preparation of final accounts of Life

Insurance and General Insurance Companies.

CO3 Determine the overall profitability and financial position by preparing consolidated financial statements of holding companies in Course

Financial Accounting

LO1 The students are able to prepare different kinds of accounts such Higher purchase and Instalments System.

LO2 To understand the allocation of expenses under departmental accounts

LO3 To gain an understanding about partnership accounts relating to Admission and retirement

LO4 Provides knowledge to the learners regarding Partnership Accounts relating to dissolution

of firm LO5 To know the requirements of international accounting standards according to AS21.

CO4 Analyse contemporary accounting methods

CO5 Examine Financial Reporting based on a

ppropriatAccountingStandardsandprovisionsofCompaniesAct2013withrespect

Semester-4

MANAGEMENT ACCOUNTING

CO-1 To understand the basic concepts of management accounting and types of ratios canbe applied for evaluating the performance and financial position of a firm

CO-2 To evaluate the performance of a firm using fund flow and cash flow statement.

CO-3 To prepare various budgets and understand the features and importance of budgets

CO-4 To identify the significance of standard costing, use marginal costing techniques for optimizingcost and profit.

CO-5 To Understand the Capital Budgeting Importance and various Appraisal methods forevaluating and performance of firm.

AUDITING AND CORPORATE GOVERNANCE

CO-1 To understand Basic Principles of Auditing, Internal Control, Vouching and verification

CO-2 To Gain Knowledge On The Use And Application Of Tally

CO-3 To Learn About The Concept Of vouchers.

CO-4 To Learn About The Concept Of vouchers.

CO-5 To Create Knowledge Of Inventory Accounting.

BUSINESS LAW

CO-1 Explain the Objectives and significance of Mercantile law

CO-2 Understand the clauses and exceptions of Indian Contract Act.

CO-3 Outline the contract of indemnity and guarantee

CO-4 Familiar with the provision relating to Bailment and Pledge

CO-5 Explain the various provisions of Sale of Goods Act 1930

Application of Tally in Accounting

CO-1 To Develop The Computerised knowledge in accounting.

CO-2 To Gain Knowledge On The Use And Application Of Tally

CO-3 To Learn About The Concept Of vouchers

. CO-4 To Learn About The Concept Of vouchers.

CO-5 To Create Knowledge Of Inventory Accounting

APPLIED COSTING

CO-1 Gain familiarity with the various cost concepts, and elements of cost

CO-2 Prepare cost sheets

CO-3 Apply different methods and techniques of cost control

CO-4 Gain knowledge of different methods of payment of wages and incentives

CO-5 Get acquaintance with the application of Marginal costing for Business decision

Banking

CO1. Tounderstandthebasicconceptusedinbanking.

CO2. Toknowthevariouskindsofbankingandtheirfunctions.

CO3. Toknowthebankingproductorservices.

CO4. Toknowthedevelopmentoftechnologyinbankingcompany.

CO5. ToknowtheReserveBankofIndiaandtheirimportanceinbankingindustry

RESEARCHME THODOLOGY

CO1To know the criteria for good research

CO. 2. To recognize the various research designs.

CO3. To analyse the different types of sampling designs.

CO 4. To know about the various elements of data collection

CO5. To differentiate the questionnaire and schedule. 6. To identify the mechanics of research

report writing.

SEMESTER-II

INSURANCE AND BANKING

CO1. To familiarize the student's competence in Insurance at an advanced level

CO2. To focus on increasing proficiency in the basic Insurance, rules, policy , Risk in the workplace, etc.

CO3. To impart knowledge on the principles of life insurance and types of policies

CO4. To teach students on the nature and types of non-life insurance policies

CO5. To make the students understand on the various aspects of risk management

RISK MANAGEMENT

CO1. Gain competence on Insurance at an advanced level

CO2. Describe the basic Insurance, rules, policy , Risk in the workplace, etc

CO3. Gain knowledge on the principles of life insurance and types of policies

CO4. Understand the nature and types of non-life insurance policies

CO5. Familiarize on the various aspects of risk management

APPLIED COSTING

CO1. To familiarise the students with the various cost concepts, and elements of cost

CO2. To enable the students to prepare cost sheets

CO3. To apply different methods and techniques of cost control

CO4. To gain knowledge of different methods of payment of wages and incentives

CO5. To acquaint the students in the application of Marginal costing for Business decision making

BUSINESS ECONOMICS

CO1To understand the approaches to economic analysis

CO2: To know the various determinants of demand

CO3To gain knowledge on concept and features of consumer behavior

CO4To learn the laws of variable proportions

CO5To enable the students to understand the objectives and importance of pricing policy

SEMESTER-VI

BUSINESS RESEARCH METHODS

CO1. To provide basic knowledge about the concept, tools and techniques of business research

CO2. To help develop the skills of students to be able to apply research techniques for business

decision making

CO3. To teach the preparation of questionnaire and Interview Schedule and formulate & Test

the Hypothesis

CO4. To help adopt appropriate statistical tools for drawing Inference

CO5. To teach students as to write a Research Report

CO1. Understand the Concepts Relating to Business Research, Types and Process.

CO 2. Identify the Research Problem and Draw the Design.

CO3. Prepare Questionnaire and Interview Schedule and Formulate & Test the Hypothesis.

CO4. Adopt Appropriate Statistical Tools for the Inferences.

CO5. Write a Research Report.

OPERATIONS RESEARCH

CO 1 TooutlinethefundamentalsofOperationsResearch

CO2 TouseORmodelsforproblemsolving

CO3 Toexaminetheroleofsequencingandgametheory

CO4 Todesignandapplynetwork analysis

CO5 Toapplymodelling techniques

HUMAN RESOURCE

1. Tokowthesystemofhumanresourceinformation

2. Tolearntheprocessofselectionofhumanresource.

3. Todifferentiatethemanagementdevelopmentandcareer development

4. .Tounderstandtheperformanceappraisal.

5. Toidentifythegrievancehandlingand redressal.

BUSINESS RESEARCH

CO1.Understand the Concepts Relating to Business Research, Types and Process.

CO2. Identify the Research Problem and Draw the Design

CO3. Prepare Questionnaire and Interview Schedule and Formulate & Test the Hypothesis

.CO4. Adopt Appropriate Statistical Tools for the Inferences.

CO5. Write a Research Report

EXPORTS AND IMPORTS

CO 1 Explain Preliminaries for Exports and Imports

CO2 Choose the appropriate technique for Export Import Documentation

CO3 Make use of Export Import Documentation

CO4 Choose Polices and Institutional Framework for Exports and Imports Foreign Trade Policy

CO5 Construct Pre-Import Procedure

1 .Programme Outcomes(PO)ofM.COM degree programme in commerce

PO1: Understand the conceptual knowledge of accounting and acquire skill of maintaining accounts.

PO2: To recognize patterns and to identify essential and relevant aspects of problems

PO3: Design and develop solutions for complex problems in various domains. Serve as the Programmers or

the Software Engineers with sound knowledge of practical and theoretical concepts for developing software.

PO4: Understand the fundamentals of research and inculcate the ability to undertake original research at the

cutting edge of commerce & its related areas. Produce researchers who can investigate problems in different

application domains and creatively develop, and evaluate computational solutions

PO5: Foster analytical and critical thinking abilities for data-based decision_making.

PO6: Access Social and Environmental issues for local and global needs and give relevant solutions to

them.

PO7: Entrepreneurship Identify opportunities for entrepreneurship by creating and adding value for the

betterment of an individual and society at large

2.Programme Specific Outcomes of M.com Degree Programme in Commerce

PSO1:Understand different concepts in starting and managing the business and realize social

responsibilities

PSO2: Think in a critical and logical based manner

PSO3: Know when there is a need for information, to be able to identify, locate, evaluate, and effectively

use that information for the issue or problem at hand.

PSO4:Solve problems related to employer-employee investors and consumers with legal protection

PSO5: Prepare financial statements of business using accounting principles, concepts and conventions and

maintain accounts for different types of business

PSO6 – To prepare the students who will demonstrate respectful engagement with others' ideas, behaviors,

and beliefs and apply diverse frames of reference to decisions and actions.

PSO 7– To create effective entrepreneurs by enhancing their critical thinking, problem-solving, decision

making and leadership skills that will facilitate startups and high-potential organizations.

PSO8– Design and implement Marketing, HR systems and practices grounded in research that comply

with employment laws, leading the organization towards growth and development.

PSO9 – To produce employable, ethical and innovative professionals to sustain in the dynamic business

world.

Semester I

ListofCourses With Outcome

BANKING AND INSURANCE

CO-1 To familiarize the student's competence in Insurance at an advanced level

CO-2 . To focus on increasing proficiency in the basic Insurance, rules, policy , Risk in the

workplace, etc CO-3 . To impart knowledge on the principles of life insurance and types of

policies

CO-4 . To teach students on the nature and types of non-life insurance policies

CO-5 . To make the students understand on the various aspects of risk management

Business communication

CO1 Acquire the basic concept of business communication.

CO 2 Exposed to effective business letter

CO 3 Paraphrase the concept of various correspondences.

CO 4 Prepare Secretarial Correspondence like agenda, minutes and various business reports.

CO 5 Acquire the skill of preparing an effective resume

HUMAN RESOURCE MANAGEMENT

CO-1 To Know The System of human resource information.

CO-2 To learn the process of selection of human resource.

CO-3 To Differentiate The Management Development and career development.

CO-4 To Understand the performance appraisal.

CO-5 To identify the grievance handling and redressal

corporate accounting

CO 1 Determine profit and financial position by preparing financial statements of companies as per schedule III of Companies Act, 2013

CO2 Apply the provisions of IRDA Regulations in the preparation of final accounts of Life Insurance and General Insurance Companies.

CO3 Determine the overall profitability and financial position by preparing consolidated financial statements of holding companies in Course

OPERATIONS RESEARCH

CO-1 ApplyLinearProgramming

CO-2 Identify Models for problem solving

CO-3 Apply Sequencing And Game Theory

CO-4 Apply Network Analysis to enhance effectiveness

CO-5 Examine The Models For Decision making

BUSINESS RESEARCH METHODS

CO-1 Understand the Concepts Relating to Business Research, Types and Process.

CO-2 Identify the Research Problem and Draw the Design.

CO-3 Prepare Questionnaire and Interview Schedule and Formulate & Test the Hypothesis.

CO-4 Adopt Appropriate Statistical Tools for the Inferences.

CO-5 Write a Research Report

Semester II

ListofCourses With Outcome

Application of Tally in Accounting

CO-1 To Develop The Computerised knowledge in accounting.

CO-2 To Gain Knowledge On The Use And Application Of Tally

CO-3 To Learn About The Concept Of vouchers

. CO-4 To Learn About The Concept Of vouchers.

CO-5 To Create Knowledge Of Inventory Accounting

APPLIED COSTING

CO-1 Gain familiarity with the various cost concepts, and elements of cost

CO-2 Prepare cost sheets

CO-3 Apply different methods and techniques of cost control

CO-4 Gain knowledge of different methods of payment of wages and incentives

CO-5 Get acquaintance with the application of Marginal costing for Business decision

RESEARCHME THODOLOGY

CO1To know the criteria for good research

CO. 2. To recognize the various research designs.

CO3. To analyse the different types of sampling designs.

CO 4. To know about the various elements of data collection

CO5. To differentiate

EXPORTS AND IMPORTS

CO 1 Explain Preliminaries for Exports and Imports

CO2 Choose the appropriate technique for Export Import Documentation

CO3 Make use of Export Import Documentation

CO4 Choose Polices and Institutional Framework for Exports and Imports Foreign Trade Policy

CO5 Construct Pre-Import Procedure

BUSINESS ETHIC

CO1.To understand the basic concept used in business.

CO2. To know the various kinds of buiness and their functions.

CO3. To know the banking product or services .

CO4. To know the development of technology in business ethics.

CO5. To know the Reserve Bank of India and their import and business ethics.

SETTING UP OF BUSINESS ENTITIES

CO1 To understand the start-up landscape and its financing

CO2 To analyse the formation and registration of Section 8 company

CO3 To outline the concept of LLP and business collaboration

CO 4 To understand the procedure for obtaining registration and license

CO 5 To create awareness about the legal compliances governing business entities

Semester -3

ListofCourses With Outcome

BEHAVIOURAL FINANCE

co1 To outline the concept of behavioural finance

co2 To know the theories based on utility

co3 To examine the role of behavioural factors and financial markets

co4 To analyse behavioural corporate finance

co5 To apply emotions and decision making

EXPORT IMPORT PROCEDURES AND DOCUMENTATION

CO1 To analyse the aspects of preliminaries for Exports and Imports

CO2 To analyse Export Import Documentation

CO3 To apply Export-Import Procedure

CO4 To utilise Pre-Import Procedure

CO5 To apply Policy and Institutional Framework for Exports and Imports Foreign Trade Policy

STRATEGIC COST MANAGEMENT

CO1 To analyse the aspects of strategic and quality control management

CO 2 To analyse and select cost control techniques

CO3 To apply activity based costing for decision making

CO 4 To utilise transfer pricing methods in cost determination

CO 5 To apply cost management techniques in various sectors

TAXATION

CO1 To identify deductions from gross total income and computation of income for different classes of assesses

CO 2 To understand the procedure for filing of returns and tax planning

CO 3 To analyse the structure on international business taxation

CO4 To assess Goods and Services Tax and filing GST returns

CO5 To compute customs duty as per Customs Act

COMPUTER APPLICATIONS IN BUSINESS

CO1 To understand the fundamentals of SPSS

CO2 To compare the values obtained in t-test and ANOVA

CO3 To perform regression and non-parametric tests

CO4 To create company, groups and ledgers and obtain financial statements using Tally Prime

CO 5 To understand inventory management and account for goods and services

SEMESTER -4

CORPORATE AND ECONOMIC LAWS

CO1 To analyze current and capital account transactions and dealings in foreign currency under

FEMA

CO 2 To understand unethical competitive practices and forums for redressal of consumer

disputes under Competition Act and Consumer Protection Act

CO3 To understand the procedure for obtaining patents and copyright under The Copyright and

Patents Act

CO4 To evaluate offences and punishment for money laundering under Prevention of Money

Laundering Act

CO5 To explain the registration and related procedures under Real Estate Act

HUMAN RESOURCE ANALYTICS

CO1 To understand the concept and framework of human resource analytics

CO2 To evaluate the process of human resource analytics and the relevant research tools

CO3 To illustrate the evolution, types and design of HR metrics

CO4 To deal with data collection and transformation

CO5 To adopt tools and techniques for predictive modelling

ORGANISATIONAL BEHAVIOUR

CO1. To understand the various aspects of human behavior at work.

CO2. To understand the role of motivation and job satisfaction in organizational commitment

CO3. To analyze different forms of organizational structure and contemporary communication

tools.

CO4. To analyze the importance of transactional analysis in facilitating negotiations and conflict

management.

CO5. To gain knowledge on recent trends in organizational change and development.

PROJECT WITH VIVA

6.DEPARTMENT OF MATHEMATICS

3. ProgrammeOutcomes(PO)ofB.Sc.degreeprogrammein Mathematics

1. Bachelor's degree in mathematics is the culmination of in-depth knowledge of algebra, calculus, geometry, differential equations and several other branches of mathematics. This also leads to study of related areas like computer science and statistics. Thus, this programme helps the learners in building a social foundationforhigherstudiesinmathematics.

2. The skills and knowledge gained has intrinsic beauty, which leads to proficiency in analytical reasoning. This can be utilized in modelling and solving real lifeproblems

3. Students undergoing this programme learn to logically questions assertions, to recognise patterns and to distinguish between essential and irrelevant aspects ofproblems. They also share ideas and insights while seeking and benefitting fromknowledge and insight of others. This helps them to learn behave responsibly in arapidlychangingindependentsociety

4. Students completing this programme will be able to present mathematics clearlyand precisely, make vague ideas precise by formulating them in the language ofmathematics, describe mathematical ideas from multiple perspectives and explainfundamentalconceptsof mathematics tonon-mathematicians.

5. Completion of this programme will also enable the learners to join teachingprofessioninprimaryandsecondaryschools.

6. Thisprogrammewillalsohelpstudentstoenhancetheiremployabilityforgovernment jobs, jobs in banking, insurance and investment sectors, data analystjobs and

jobsinvariousotherpublicand private enterprises

4. Programme Specific Outcomes of B.Sc. Degree Programme in Mathematics

PSO 1: A Solid Foundation in Knowledge: B.Sc. degree is the culmination of Depth knowledge of my core branches of mathematics such as Calculus,ClassicalAlgebra,AnalyticalGeometry,DifferentialEquations,SequenceandSeries,AbstractAlgebra,RealandComplexAnalysis,NumberTheory,Mechanics, Operation Research, Statistics, Graph Theory, Discrete Mathematics, Trigonometry, Transforms and their application and C++/ Python. Thus, this programme helps students in creating a solid foundation for further higher studies and research in mathematics

PSO 2: A Competency in Skills: The skills and knowledge gained have intrinsic logic which leads toproficiency in analytical reasoning critical understanding, analysis and synthetic in order to solve theoreticaland practical problems. This can orient students towards applications of mathematics in other disciplines andmoreover,it can also be applied in modellingandsolvingthe real-lifeproblems.

PSO 3: A Problem-Solving Techniques: Students undergoing this programme learn to logically understandthe question assertions to classify the patterns and to evaluate the difference between the necessities andunnecessities of the problems which helps to analyze the problem clearly and to take correct decision forsolvingthe problems.

PSO 4: Interdisciplinary and Research Skills: Students completing this programme will be able to createand present mathematical concepts clearly and precisely, to describe mathematical ideas from multipleperspectives and to explain fundamental concepts of mathematics to non-mathematics people in a bettermanner.

PSO 5:A Proficiency in Employments: The programme will help students build up with employability forgovernment jobs, jobs in banking, insurance and investments sectors, data analysis jobs and jobs in variousotherpublicand privateenterprises.

Semester-I

ListofCourses With Outcome

CC1-Algebra&Trigonometry

CLO1:Classifyandsolvereciprocalequatios

CLO2:Findthesumofpowersoftherootsofanequation

CLO 3:

Findthesumofbinomial,exponentialandlogarithmicseriesCLO4:Expandthepo

wersandmultiplesoftrigonometricfunctionsintermsofsineandcosineCLO5:Det

erminerelationshipbetweencircularandhyperbolicfunctions

CC2 – Differential Calculus

CLO1:Findthenthderivative,formequationsinvolvingderivativesandapplyLeibnitz

Formula

CLO2:Findthepartialderivativeandtotalderivativecoefficient

CLO3:Determinethemaximaandminimaoffunctionsoftwovariables

CLO4:Findtheenvelopeofagivenfamilyofcurves

CLO5:Findtheevolutesandinvolutesandtofindtheradiusofcurvatureusingpolarcoordinates

ElectiveCourse1

Allied Physics Iwith Practical

CO1: Explaintypesofmotionandextendtheirknowledgeinthestudyof

Variousdynamicmotionsanalyzeanddemonstratemathematically.Relatetheorywith

practicalapplicationsinmedicalfield

CO2: Explain their knowledge of understanding about materials and their behaviorsanda

apply it to various situations in laboratory and reallife.Connectdroplettheorywith

Coronatransmission

CO3: Comprehend basic concept of thermodynamics concept of entropy and associated

theorems able to interpret the process of

flow temperature physics in the back ground of growth of this

Technology

CO4: Articulate the knowledge about electric

currentresistance, capacitanceintermsofpotentialelectricfieldandelectric

analyze the mathematically verify circuits and apply the concepts

To construct circuits and study them

CO5: InterpretthereallifesolutionsusingAND,OR,

NOTbasic logic gates and intend their ideas to universal building blocks.

Infer operations using Boolean algebra and acquire elementary idea

So circuits. Acquire formation about various Govt. programs/

institutions inthisfield.

SkillEnhancementCourse-SEC-1

Mathematics for Competitive Examination 1

CLO1:Simplifyanexpressionandtofindaverageforgivendata

CLO2:Findsolutionofproblemson numbers

CLO 3: Find Profit and Loss

CLO4:FindRatioandproportion

CLO5:FindPercentages.

Foundationcourse- BridgeMathematics

CLO1:Provethebinomialtheoremandapplyittofindtheexpansionsofand

y($x+ y$)

n and also, solve therelated problems

CLO2:Findthevarioussequencesandseriesandsolvetheproblemsrelatedtot
….hem.Explaintheprincipleofcounting.

CLO3:Findthenumberofpermutationsandcombinationsindifferentcases.Applythe

principleofcountingtosolvetheproblems on permutationsand

combinations

CLO 4: Explain various trigonometric ratios and find them for

different angles, including sum

oftheangles,multipleandsubmultipleangles,etc.Also,theycansolvethe

problemsusingthetransformations.

CLO5:Findthelimitandderivativeofafunctionatapoint,thedefiniteandindefiniteinte

gralofafunction. Find thepointsof min/maxofafunction

. Semester -II

List ofCourses With Outcome

CC3:Analytical Geometry(Two&ThreeDimensions)

CLO1:Findpole,polarforconics,diameters,conjugatediametersforellipseandh
yperbola
CLO2:Findthepolarequationsofstraightlineandcircle,equationsofchord,tange
ntandnormal
CLO3:ExplainindetailthesystemofPlanes
CLO4:ExplainindetailthesystemofStraightlines
CLO5:Explainindetailthesysteere
CC4:IntegralCalculus
LO1:Determinetheintegralsofalgebraic,trigonometricandlogarithmicfunctio
nsandtofindthereduction formulae
CLO 2: Evaluate double and triple integrals and problems using
change of order of integration
CLO 3: Solve multiple integrals and to find the areas of curved
surfaces and volumes of solidsofrevolution
CLO4:Explainbetaandgammafunctionsandtousetheminsolvingproblemsofin
tegration
CLO5:ExplainGeometricapplicationsofintegralcalculus
Elective Course 2
AlliedPhysicsIIwithPractical
CO1: Explain the concepts ofinterference diffraction using principles of
superposition of wavesandrephrasetheconceptofpolarization
basedonwavepatterns
CO2: Outlinethebasicfoundationofdifferentatommodelsandvarious experiments
establishingquantumconcepts.Relatetheimportance
of interpreting improving the oretical models based on observation .
Appreciate interdisciplinary nature of scienceandinsolarenergyrelated
applications
CO3: Summarize the properties of nuclei,
Nuclearforcesstructureofatomicnucleusandnuclear
models. solveproblemsondelayratehalf-lifeandmean-life.Interpretnuclear

processeslikefissionandfusion.Understandtheimportanceofnuclearenergy, safetymeasurescarriedandgetourGovt. agencieslikeDAEguidingthecountry inthenuclearfield.

CO4: Todescribethebasicconceptsorelativity like quivalenceprinciple, InertialfamesandLorentztransformation.Extendtheirknowledge on concepts Ofrelativityandviceversa. Relate thiswithcurrent research in this field and get an overviewofresearchprojectsofNationalandInternational importance, like LIGO,ICTS,andopportunitiesavailable

CO5: Summarize the working of semiconductordeviceslikejunctiondiode, Zenerdiode,transistorsandpracticaldeviceswedailyuse like USB chargers and EVchargingstations

Part-IV SkillEnhancementCourse-SEC-2

Mathematics forCompetitiveExamination 2

CLO1:Explainchainrule

CLO2:ExplainTimeandwork

CLO3:ExplainPipesand Cistern

CLO4:FindTimeandDistance

CLO5: Find Simple interest and Compound interest

SkillEnhancementCourse-SEC-3

LATEX

CLO1:Explainto type text and anatomy of an article

CLO 2: Explain the different comments and footnotes

CLO 3: Explain the changing of font characteristic

CLO4:Explain different text environments

CLO5:Knowthespacingrulesandoperators

Semester-III

List of Courses With Outcome

Sequences and Series

CO1: Analyse the real number system and also toclassify rational and irrational numbers.Tofind

theupperbounds,leastupperboundsandmaximumelementandtoelaborate

triangleinequalityandCauchy-SchwartzInequality.

CO: Categorizethesequencesasboundedsequences,monotonicsequences,convergentsequences anddivergentsequences. Alsotofindthealgebraoflimits

CO3: Demonstratethebehaviorofmonotonicsequences and to apply Cauchy's first limit theorem,Make use of Cauchy's Second limittheoremandCesaro'sTheorem.Contruct subsequenceandtoexplainCauchy'sgeneralprincipleofconvergence

CO4: Interprettheseriesandtoapplynthtermtest,Comparisontest,Kummer'stest, D'Alembert's ratio test,Raabe'stest, Guasstestandroottesttocompilethenatureof theseries.

CO5: Analysethealternatingseries.Apply the testfor convergence for series of arbitraryterms.Alsotoidentifythepowerseriesandtodeterminetheradiusof convergence

SkillBased Core

Vector Calculus

CO1: Classify the vector point function and scalarpointfunction.Determine the derivative of a vectorandderivativeofproductofscalarandvector function

CO2: Finddivergence,curl. Make use of the Laplacianoperator

CO3: Interprettheintegrationofpointfunctionandtoillustratelineintegral.Tosolvesurface integral

CO4: Analyze and solvethe volume integral.Also to illustrate and make use of GuassDivergenceTheoremtosolveproblems

CO5: TosolveproblemsbasedonGreen'stheoremandStoke'sTheorem

Semester-IV

List of Courses With Outcome

AbstractAlgebra

CO1: Explainthedefinitionsofgroupsanditsexamples.Alsotodeterminetheorderofan element.IllustrateaboutSubgroups

CO2: Interpretcyclicgroupsandtofindthegeneratorsofcyclicsubgroups.Illustrateandapply Lagrange'sTheorem,Euler'sTheoremandFermat'sTheorem

CO3: ElaborateaboutNormalSubgroupsandgrouphomomorphism.Illustrate Isomorphism,Automorphism.AlsotoapplyCayley'stheoremwherever

required

CO4: Compare and classify Rings and itstypes.Illustrate about Integral domain andFields.Tosummarizeaboutmaximalandminimalideals

CO5: Utilize the concept of homomorphism andisomorphism on rings .Also to find kernel ofhomomorphismand to makeuse of fundamentaltheorem.

Skill Based Core

Trigonometry,LaplaceTransformsandFourierSeries

CO1: SummarizeaboutTrigonometryandtoillustrateabouttheexpansionofsinnx, cosnx,Sinnx,Cosnx

CO2: Obtaintherelationshipbetweenhyperbolicfunctionsandcircularfunction.Explain aboutinversehyperbolicfunctions.TofindsummationoftheseriesusingC+iS method

CO3: Illustratelaplacetransform

CO4: Solvedifferentialequationswithconstantcoefficientsbymaking use of LaplaceTransforms

CO5: SolveproblemsbasedonFourierseries.Identifytheoddandevenfunctionsandtodeduce half rangeseries

Semester -V

List of Courses With Outcome

LinearAlgebra

CO1: Explainthedefinitionsandgeneralproperties of vector spaces. Also to explainsubspace. Theyknowwheretoapplyfundamentaltheoremofhomomorphism

CO2 : Determine the span of a set and to checkwhether the given setis Linearly dependentor not.Alsotofindbasisanddimensions

CO3: IllustrateandapplyRankNullitytheorem.Explainthedefinitionsand examples of inner product space.ApplyGramSchmidtOrthogonalizationprocess

CO4: Construct matrices and alsoto summarizetheelementarytransformations.DeterminetheInverseofmatrixandrankofamatrix. To makeuseofCayleyHamilton Theorem

CO5: DetermineEigenValuesandEigenVectors.Identify bilinear forms and quadratic forms.Also To deduceDiagonal form from Quadraticform

. RealAnalysis

CO1: Explain about Metric spaces and to constructanopenball.Alsotoi

nterpretinterior

CO2: Interpretaboutclosedsetsandtofindclosure. To determine limit points. Analyzeabout

completemetricspace.DiscussaboutCantor'sintersectiontheoremandBaire'sCategory

theorem

CO3: Summarize continuity. Illustrate aboutuniformcontinuity.

CO 4: Explain about connectedness and to deducetheconnectedsubsetsofR.Toobtain

therelationshipbetweenconnectednessandContinuit

CO 5: Illustrate about compactness and to find theconnected subsets of R.Illustrateandmakeuse

of HeineBorelTheorem .Todeterminetherelationshipbetweencompactnessand

continuity

Statics

CO1: Explaintheforcesactingatapointandtoapplytheparallelogramlawofforces,

TrianglelawofforcesandLami'stheorem

CO2: Interpret parallel forces and moments.Analyse the resultant of two parallel

Forces andtheresultantoftwounlikeunequalparallelforces.ToapplyVarigon's

theorem

CO3: Summarize equilibrium of three forces actingonarigidbodyandtoillustratethreecoplanar

forcestheoremandtomakeuseoftheabovetheoremtosolveproblems

CO4: Explainaboutlawsoffriction.Alsotodetermine the angle of friction and Illustrateabout the

equilibrium of a particle and tomakeuseoftheconceptstosolvethe Problems

CO5: Interprettheequilibriumofstrings.Todeducetheequationofcatenaryanditsgeometrical

properties.

IntegralTransformsandZTransforms

CO1: ApplyFouriertransformsandtoexplainthe

Properties

CO2: SolveproblemsoninfiniteFouriercosineandSine Transforms

CO3: IdentifyandsolveFiniteFouriertransfoms

CO4: IllustrateZtransformsanditsproperties

CO5: UtilizeinverseZtransformstosolve difference equations

MajorElective-I

DiscreteMathematics

CO1: Illustrateandusethestatements,notationsand connectives .Construct truth table andutilize

conditionalandbiconditionalStatements

CO2: AnalyzeandexplainPredicatecalculus

CO3: ElaborateGroupsandmonoids.AlsotodevelopGroup codes

CO4: Construct Lattices and special lattices.AnalyzeandexplainBooleanalgebra

CO5 : ConvertFromoneformtoanotherform(Decimal,Binary,Octal,Hexadecimal).Evaluate Binary addition,subtractionmultiplicationanddivision

MajorElective-I I

Operations Research-I

CO1: SolveLinearProgrammingProblembymakinguseofGraphicalmethod,Simplex method.

CO2: Interprettheconceptofduality.Classifyprimalanddualproblems.Utilizingthe concept of duality ,solve problems ondualsimplexmethod

CO3: SolveTransportationproblemsbymakinguseofNorth–westcornerrule,Matrix-Minima method,Vogel'sApproximationrule.EvaluateDegeneracyandunbalanced transportationproblems

CO4: Determine the solution forAssignment Problems

CO5: Solvesequencingproblems

Semester-V1

List of Courses With Outcome

ComplexAnalysis

CO1: functionsoExplainanalyticfunctionsand determine thefacomplexvariablesandto utilizeCauchyReimann equations

CO2: Elaborate Bilinear Transformations andclassifytheelementarytransformations. Alsotofindfixedpoints

CO3: IllustratecomplexintegrationsandtomakeuseofCauchy’sIntegralFormula

CO4: Explain Series Expansions and to determineTaylor’sSeries,Laurent’sSeries.Determinezerosofananalytic function

CO5: DetermineresiduesandtomakeuseofCauchy’sResidueTheorem.Alsotoevaluate definiteintegrals

Graph Theory

CO1: Construct graphandtoexplainitsdefinition. Determine degrees. Also to performoperationsongraph

CO2: Classifydegreesequenceandgraphicsequence.Illustrateconnectedness, compactnessandconnectivity

CO3: Construct Eulerian Graphs and Hamiltoniangraphs.Elaboratethecharacterizations of treesandtofindcentreofatree

CO4: InterpretPlanargraphsandtodeterminechromaticnumbersandchromatic index

CO5: ExplainChromaticPolynomialsandthepropertiesofdigraphs

Number Theory

CO1: Explain Peano’s theorem and toutilizemathematicalinduction.Alsoto make use ofbinomialtheorem

CO2: IllustrateDivisionAlgorithm.DetermineGCD.TodeducetheDiaphantineequation ax+by=c

CO3: Intrepret the fundamental theorem ofarithmetic.ExplainTheSieveofEratosthenesandto useGoldbachConjecture

CO4: SummarizethebasicpropertiesofcongruencesandtoapplyChineseRemainder Theorem

CO5: ElaborateFermat’sTheorem,Wilson’sTheoremandtoapplyKraitchikFactorization Method

Numerical Methods

CO1: ObtainsolutionfornumericalalgebraicandTranscendentalequationsbymakinguseof variousmethods

CO2: Findfinitedifferenceforfirstandhigherorderdifferences. Toclassifyforward andbackwarddifferences

CO3: ToapplyinterpolationformulainNewton'sForwardandbackward,GuassForwardand backwardformula

CO4: Makeuseofnumericaldifferentiationandintegration in Newton's forward &backwarddifferencesfor differentiation.Alsotoutilize Trapezoidal rule and Simpson's 1/3 and 3/8rule.

CO5: Solve Difference equations and to determinetheorderanddegreeofdifference equation.Solvelineardifferenceequationandfindcomplementaryfunctionandtodeduce particularIntegralofthefunction

MajorElective-III

FuzzyMathematics

CO1: ExplainCrispsetsandfuzzysetsandillustratethecharacteristicsandsignificanceof ParadigmShift

CO2: ElaboratetheAdditionalpropertiesofαcutsand the extension principleforfuzzysets

CO3: Performfuzzysetoperations.Alsoto determine fuzzycomplements,fuzzyintersections and fuzzyunions

CO4: DeterminefuzzynumbersandLinguisticvariables.Apply arithmetic operations on intervals andonfuzzynumbers.Constructlatticeoffuzzy numbers.

CO5: Analyzeandclassifyfuzzydecisionmaking ,individualdecisionmaking,Multiperson decisionmakingproblems

MajorElective-I V

Operations Research-II

CO1: Interpretthegamesandstrategies.Solvetwopersonszerosumgames.Makeuseof Mixed strategiesanddominanceproperty

CO2: Analyze the replacement of items that deterioratewith time. Illustrate replace montage of a machinetaking money value into consideration and elaboratethereplacementofitemsthat completelyfailsuddenlyandStaffingproblems

CO3: Explain the queueingmodelsandto classify

into(M/M/1:FCFS),(M/M/1:∞/FCFS),(M/M/S:/FCFS)

CO4: ComposenetworkschedulingusingPERT/CPM.Explaintherulesofnetwork

construction.MakeuseofPERTcalculation

CO5: Analyseandsolveinventorycontrolproblems

. 5. ProgrammeOutcomes(PO)ofM.Sc.degreeprogrammein Mathematics

PO1: Problem Solving Skill: Apply knowledge of

Management theories and HumanResourcepracticesto solve

businessproblemsthroughresearchinGlobalcontext.

PO2:DecisionMakingSkill:Fosteranalyticalandcriticalthinkingabilitiesfordatabaseddecision-making.

PO3: EthicalValue:Abilitytoincorporatequality,ethicalandlegalvaluebasedperspectivestoall organizational activities.

PO4: CommunicationSkill:

Abilitytodevelopcommunication,managerialandinterpersonalskills.

PO5:IndividualandTeamLeadershipSkill:Capabilitytoleadthemselvesandtheteamtoachieveor

ganizationalgoals.

PO6: Employability Skill: Inculcate contemporary

business practicestoenhanceemployabilityskillsin

thecompetitive environment.

PO7:EntrepreneurialSkill:Equipwith skillsandcompetencies

tobecomeanentrepreneur.

PO8:ContributiontoSociety:Succeedincareerendeavoursandcontributesignificantlytosociety.

PO9:Multiculturalcompetence:Possessknowledgeofthevaluesandbeliefsofmultipleculturesan

d aglobal perspective.

PO10:Moralandethicalawareness/reasoning:Abilitytoembracemoral/ethicalvaluesinconducti

ngone’s life.

6. ProgrammeSpecificOutcomesofB.Sc.DegreeProgrammeinMathematics

PSO1: Placement: To prepare the students who will demonstrate

respectful engagement

withothers’ideas,behaviors,beliefsandapplydiverseframesofreferenceto

decisionsandactions.

PSO2: Entrepreneur: To create effective entrepreneurs by enhancing their critical thinking,problem solving, decision making and leadership skills that will facilitate startups and highpotentialorganizations.

PSO3:ResearchandDevelopment:DesignandimplementHRsystemsandpracticesgroundedinresearchthatcomplywithemploymentlaws,leadingtheorganizationtowards growthanddevelopment

PSO4:ContributiontoBusinessWorld:Toproduceemployability,ethicaland innovativeprofessionalsto sustain in the dynamicbusiness world.

PSO5:ContributiontotheSociety:Tocontributetothedevelopmentofthesocietybycollaborating with stakeholders formutual benefits

Semester-I

ListofCourses With Outcome

CC-I:AlgebraicStructures

CLO1:Recallbasiccountingprinciple,defineclassequationstosolveproblems, explainSylow'stheoremsandapplythetheorem to find numberofSylow subgroups

CLO2:DefineSolvablegroups,definedirectproducts,examinetheproperties offiniteabeliangroups,definemodules

CLO3:DefinesimilarTransformations,defineinvariantsubspace,explorethe propertiesoftriangularmatrix,tofindtheindexofnilpotenceto decomposeaspaceintoinvariantsubspaces,tofindinvariantsoflinear transformation, to explore the properties of nilpotent transformation relating

nilpotence with invariants.CLO4: Define Jordan,canonicalform,Jordan blocks, definerationalcanonicalform,definecompanionmatrixof polynomial,findtheelementarydevicesoftransformation,applythe conceptstofindcharacteristicpolynomialoflinear transformation.

CLO 5: Define trace, define transpose of a matrix, explain the properties of trace and

transpose, to find trace,to find transpose of matrix, to prove Jacobson lemma
using the triangular form, define symmetricmatrix,skew symmetric matrix,
adjoint, to define Hermitian, unitary, normal transformations and to verify
whetherthetransformation in Hermitian, unitary and normal

CC-II:Real Analysis I

CLO1:AnalyzeandevaluatefunctionsofboundedvariationandRectifiableCurves.

CLO2:DescribetheconceptofRiemann-Stieltjes integralanditsproperties.

CLO3: Demonstrate the concept of step function, upper function,
Lebesgue function and theirintegrals.

CLO4:ConstructvariousmathematicalproofsusingthepropertiesofLebesgueintegrals andestablishthe Levi monotone
convergencetheorem.

CLO5:Formulatetheconceptandpropertiesofinnerproducts,normsandmeasurable functions

CC-III:OrdinaryDifferentialEquations

CLO1: Establish the qualitative behaviour of solutions of systems of
differential equations .

CLO2:Recognizethephysical phenomenamodelledbydifferentialequationsanddynamicalsystem

CLO3:Analyzesolutionsusingappropriatemethodsandgiveexamples.

CLO4:FormulateGreen’sfunctionforboundaryvalueproblems.

CLO5:Understandandusevarioustheoreticalideasandresultsthatunderliethe mathematicsinthiscourse

Elective-I - GraphTheoryandApplications

CLO1:Demonstratetheconceptofdifferentstructuresandtypes about

graphsandexplain its applications.

CLO2:Determinethepropertiesoftreesandapplicationsinnetworkand studytheconcepts of connectionsin graphs.

CLO3:AcquiretheknowledgeaboutEulerTours, HamiltonCyclesandmatchings in Graphs.

CLO4:Analyzetheconceptofedgecolouring ,independentsetsandcliquesin Graphs

CLO5:Explaintheconceptofvertexcolorings

Elective II- AnalyticNumberTheory

CLO1:Studythebasicconceptsofelementarynumbertheory

CLO2:Explainseveralarithmeticalfunctionsandconstructtheirrelationships

CLO3:Applyalgebraicstructureinarithmeticalfunctions

CLO4:Demonstratevariousidentitiessatisfiedbyarithmeticalfunctions

CLO5:Determinethe applicationtoμ(n)&ʌ(n)andseveralequivalentformofprime numbertheorem

Semester -II

List ofCourses With Outcome

CC-IV:AdvancedAlgebra

CLO1:Provetheoremsapplyingalgebraicwaysof thinking.

CLO2:Connectgroupswithgraphsandunderstanding aboutHamiltoniangraphs

CLO3:ComposeclearandaccurateproofsusingtheconceptsofGaloisTheory.

CLO4:BringoutinsightintoAbstractAlgebrawithfocusonaxiomatictheories.

CLO5:Demonstrateknowledgeandunderstandingoffundamentalconceptsincl uding extensionfields,Algebraic extensions, Finitefields, Classequations and Sylow's theorem

CC-V:RealAnalysis – II

CLO1:Understandmeasurable functionandLebesgueoutermeasure

CLO2:ExplainRiemanandLebesgueIntegral.

CLO3:UnderstandanddescribethebasicconceptsofFourierseriesandFourier integralswith respect totheorthogonalsystem.Analyzeandevaluatethe differencebetweentransformsofvarious functions.

CLO4:Explaindirectionalderivative,totalderivative,matrixoflinearfunctionan d sufficientconditionfordifferentiability

CLO5:ExplainimplicitfunctionsandExtremumproblemswithside conditions

CC-VI:PartialDifferentialEquations

CLO1:Tounderstandandclassifysecondorderequationsand findgeneral solutions

CLO2:Toanalyseandsolvewaveequationsindifferentpolarcoordinates

CLO3:TosolveVibratingstringproblem,Heatconductionproblem,to identify andsolveLaplaceandbeamequations

CLO4:Toapplymaximumandminimumprincipleandsolve Dirichlet, Neumannproblemforvariousboundaryconditions

CLO5:ToapplyGreen'sfunctionandsolveDirichlet,Laplaceproblems,to applyHelmholtzoperationandto solve Higherdimensional problem

Elective-III - MathematicalStatistics

CLO1:Discussthesets,functionsofsets,randingvariablesandcertainexpectations

CLO2:Discussbinomialandrelateddistributions

CLO3:Tostudyvarious kinds ofdistributions

CLO4:Discussadditionaldistributionsandorderstatisticsandstatisticalapplications

CLO5:Tolearntheconvergenceindistributionofasequenceofrandomvariables

Elective IV - OperationsResearch

CLO1:BeabletobuildandsolveTransportationandAssignmentproblemsusing Appropriate method

CLO2:Learntheconstructionsofnetworkandoptimalschedulingusing CPMand PERT

CLO3:Abilitytoconstructlinearintegerprogrammingmodelsandsolvelinearinteger Programming modelsusingbranchandboundmethod

CLO4:Understandthe need ofinventorymanagement.

CLO5:Tounderstandbasiccharacteristicfeaturesofaqueuingsystemandacquireskillsin analyzingqueuingmodels

SkillEnhancementCourse –I

MathematicalDocumentationusingLaTex

CLO1:TolearnthelatesttechniquesinLatexforthepreparationofprintabledocuments inanenhancedmanner.

CLO2:Toavoiddifficultywhiletypingaprojectorthesiscomparingothermathematical software.

CLO3:Towritemathematicalequationsandtodrawgraphsusing Latex

CLO4:Towritemathematicalequationsandtodrawgraphsusing Latex

CLO5:Tocreate tables andtypeformulaeinMathematics

Semester-III

List of Courses With Outcome

AdvancedAlgebra–I

CO1: Constructtheprocesstodevelopthefundamentalnotationsoflineardependence,basisand dimensions

CO2: Developtheconceptsaboutlineartransformationandmatrixtheory

CO3: Discovertheexistenceoflineartransformationinsimilarities

CO4: Identifythetheoremsaboutlineartransformations,canonicalformofmatricesandfundamental propertiesof matrices

CO5: ClassifythebehaviourofHermitian,UnitaryandNormaltransformations

GraphTheory

CO1:
Demonstratetheconceptofdifferentstructuresandtypesaboutgraphsandexplainitsapplications

CO2:
Determinethepropertiesoftreesandapplicationsinnetworkandstudytheconceptsofconnectionsin graphs

CO3: AcquiretheknowledgeaboutEulerTours,HamiltonCyclesandmatchingsinGraphs

CO4: Analyzetheconceptofedgecoloring,independentsetsandcliquesinGraphs

CO5: Explaintheconceptofvertexcolorings

MeasureandIntegration

CO1: EstablishthebasicsforLebesguemeasurablefunctionsandtheLebesgue integral.

characteriseoninnerapproximationbyclosedsetsandonouterapproximationbyopensets

CO2: Establishresultsregardingtheapproximationofmeasurablefunctionsbysimple functionsand by

continuousfunctions

CO3:
ExhibitauniformboundedsequenceofRiemannintegrablefunctionsonaclosed,boundedintervalca n

convergepointwise to a functionthatisnotRiemann integrable

CO4: Provide a characterization of the class of functions on closed,bounded intervals that may be

expressed as the difference ofincreasingfunctions

CO5: AbstractthemostimportantpropertiesofLebesguemeasureontherealline in

theabsenceofanyTopology

Topology–I

CO1: Demonstrate an understanding of the concepts of topologicalspaces, construct topologies on a

set. Understand the

naturalgeneralizationofopenandclosedsets,limitpointsforthereallineandEuclideanspace

ontotheTopologicalSpaces

CO2:Extend the concept of continuity andvarious properties ofcontinuous functions; and define a

topology on the cartesianproductsoftopologicalspaces

CO3:Definethe metric topology using a metric on the set, giveexamples for metric topology and prove

the properties of anymetric topology

CO4:Acquireknowledgeoftheconceptsofseparation,connectedness, covering and open covering of a

topologicalspaceandcompactnessforatopologicalspace

CO5:Appreciate the importance of a weaker form of compactnesscalled Limit point compactness,

local compactness and one-point compactification and identify spaces where Limit pointcompactness

coincideswithcompactness

CalculusofVariationandIntegralEquations

CO1: DemonstratecompetencewiththebasicideasMaximaandMinima

CO2: ExplainaboutConstraintsandLagrange'sMultipliersHamilton'sprinciples-Lagrange equations

CO3: DemonstrateRelationbetweendifferentialandintegralequations

CO4: AppreciatethesignificanceofFredholmequationswithseparable kernels

CO 5: AcquiredtheknowledgeofIterativemethodsforsolvingequationsofsecondkind

Semester-IV

List of Courses With Outcome

AdvancedAlgebra-II

CO1: Buildtheknowledgewiththerelationofonefieldtoanother

CO2:Develop the construction of an extension field K of F in whichthe polynomial $f(x) \epsilon F[x]$ have all its

roots and study the natureofrootsoff(x)

CO3:StudytherelationshipbetweentherootsofapolynomialwithitsGaloisGroupandexamineit

CO4:Determinethenatureoffieldshavingonlyafinitenumberofelements

CO5:Understand the classification of all division ringsR in

theircentreandsatisfythecondition.AlsostudytheLeftDivisionAlgorithmandLagrange'sTheorem

ComplexAnalysis

CO1: ExtendCalculustoComplexdomain

CO2:DevelopthefundamentalsofpointsetTopologyandMetricSpace

CO3:Distinguishbetweendefiniteandindefiniteintegrals.

familiarwiththetheoryofdefiniteintegralsofrealcontinuousfunctions

CO 4: Abletostudythelocalpropertiesofananalyticfunctioningreatdetail.

CO 5: Classifytheisolatedsingularitiesofanalyticfunction

FunctionalAnalysis

CO1: MakeuseoftheuniformboundednesstheoremintheconjugateofanoperatoronaBanach Space

CO2: AbletodeterminethenaturalimbeddingofNinN**

CO3:
Examinethepropertiesofthemappingfromtheoperatoronanormedlinearspacetoitsconjugate.

understandtheimportanceofoperatorssuchasselfadjointandnormaloperators

CO4: AbletofocusonfixedbutarbitraryHilbertspace

CO5: AnalogybetweenthesetofalloperatorsonHilbertspaceandthesetofallcomplexnumbers

Topology–II

CO1:Demonstrateunderstandingoftheconceptsofcountable,Firstcountablespace,Secondcounta blespace,Lindel

ofspace,SeparablespaceandRegularspace

CO2:Appreciatetheconceptsofnormalspaceandderivenormalityfrom other spaces, and understand the

Urysohn Lemma andcompletelyregulardefinition

CO3:Prove the Urysohnmetrization theorem, Imbedding theorem,Tietze extension theorem and explain the

relation betweenTietzeextensiontheoremandUrysohnLemma

CO4:Prove elementary properties of locally finite collection

andmetrizablespaces,withunderstandingofMaximalitywithrespect to the finite intersection property and the

Tychonofftheorem

CO5:ExplainBairespaces,completemetricspace,compactHausdorffspacesandtherelationbetwee n thesespaces.

Applytheoreticalconceptsintopologytounderstandsomeapplications

7.DEPARTMENT OF ENGLISH

1. Programme Outcomes (PO) of BA degree programme in English

PO1: Disciplinary Knowledge: Capable of demonstrating comprehensive knowledge

and understanding of one or more disciplines that form a part of an undergraduate

programme of study.

PO2: Critical Thinking: Capability to apply analytic thought to a body of knowledge; analyse and evaluate evidence, arguments, claims, beliefs on the basis of empirical evidence; identify relevant assumptions or implications; formulate coherent arguments; critically evaluate practices, policies and theories by following scientific approach to knowledge development.

PO3: Problem Solving: Capacity to extrapolate from what one has learned and apply their competencies to solve different kinds of non-familiar problems, rather than replicate curriculum content knowledge; and apply one's earning to real life situations.

PO4: Analytical Reasoning: Ability to evaluate the reliability and relevance of evidence; identify logical flaws and holes in the arguments of others; analyze and synthesize data from a variety of sources; draw valid conclusions and support them with evidence and examples and addressing opposing viewpoints.

PO5: Scientific Reasoning:Ability to analyse, interpret and draw conclusions from quantitative / qualitative data; and critically evaluate ideas, evidence, and experiences from an open minded and reasoned perspective.

PO6: Self-directed & Lifelong Learning: Ability to work independently, identify and manage a project. Ability to acquire knowledge and skills, including "learning how to learn",through self-placed and self-directed learning aimed at personal development, meeting economic, social and cultural objectives.

PO7: Reflective Thing: Critical sensibility to lived experiences, with self awareness and reflexivity of both self and society

PO8: Reading & Projects: Document their reading and interpretive practices in assignments, translation works, and independent projects.

PO9: Confidence & Effectiveness: Confidently and effectively articulate their literary and textual experiences.

PO 10: Social Skills & Empathetic Approach: Reorganize a professional and reflective approach to leadership, responsibility, personal integrity, empathy, care and respect for others, accountability and self regulation.

2.Programme Specific Outcomes of BA. Degree Programme in English

PSO1: Acquire good knowledge and understanding, to solve specific theoretical &

applied problems in different area of English Language and Literature.

PSO2: Understand, formulate, develop mathematical arguments, logically and use quantitative models to address issues arising in social sciences, business and other context fields.

PSO3: To prepare the students who will demonstrate respectful engagement with other's ideas, behaviors, beliefs and apply diverse frames of references to decisions and actions. To create effective entrepreneurs by enhancing their critical thinking, problem solving, decision making and leadership skill that will facilitate startups and high potential organizations.

PSO4: Developing a research framework and presenting their independent ideas effectively. PSO5: Equipping their employability skills to excel in professions like teaching and exposing them to various activities to empower them through communication skills.

PSO6: Enabling a holistic perspective towards the socio-political inequalities and environmental issues

Mapping of Course Learning Outcomes (CLOs) with Programme Outcomes (POs) and Programme Specific Outcomes (PSOs) can be carried out accordingly, assigning the appropriate level in the grids:

Semester-I

List of Courses With Outcome

INTRODUCTION TO LITERATURE

1.Appreciate and analyse and the basic elements of poetry,including meter,rhyme,andtheme

2.Gain knowledge of the elements of fiction including narrative structure, character analysis and comparison between different but related texts

3. Explore the features of literary language

4. Use library resources to research and develop arguments about literary works.

5.Work skillfully within a team, respect co-workers, delegate work and contribute to a group project

INDIAN WRITING IN ENGLISH

1.Appreciate the historical trajectory of various genres of Indian Writing in English from colonial times to till the present

2.Analyze Indian literary texts written in English interms of colonialism ,postcolonialism,regionalism,and nationalism

3. Explore the role of English as a medium for political awakening and the use of English in India for creative writing

4. Analyze how the sociological, historical, cultural and political context impacted the texts selected for study

5. Evaluate critically the contributions of major Indian English poets and dramatists

SOCIAL HISTORY OF ENGLAND

1.Gain knowledge of various features of social and political history of England

2.Awareness of the relation between socio- religious events and sociopolitical works

3.Compare history with Literature

4.Enable to assess the emergence, reasons, development and the impact of social movements

5.Assess the overall emergence of English society as a nation

ENGLISH AND COMMUNICATION

1. Identify the basic principles of communication

2. Analyze the various types of communication

3. Make use of the essential principles of communication

4. Identify the prominent methods and models of Communication

5. Learn about the four skills of language and get familiarized with them.

Foundation Course

1. Recall the fundamentals of English Grammar

2. Understand the formal and informal usages to obtain proficiency

3. Analyze Sentence structure, synthesis and usages

4. Recognize and use of Auxiliary and module verbs in writing and

speaking

5. Evaluate the Patterns of expression, basic structure and sentence pattern

Semester -II

List of Courses With Outcome

BRITISH LITERATURE-I

1. Demonstrate knowledge of the major social,
political, philosophical, and scientific events forming the backdrop
for the development of early British
Literature.

2. Synthesize,integrate,and connect information by writing essays
using techniques of criticism and evaluation

3. Read and discuss the themes,approaches,styles,and contributions to
the development of British literature from the Medieval Period to the
end of the eighteenth- century

4. Distinguish between the characteristics of British literary
movements in discussin g and writing about British literature

5. Critically appreciate literature using standard literary terminology
and other literary conventions

AMERICAN LITERATURE

1. Analyze and discuss works of American literature from a range of genres (e.g.
poetry, nonfiction, slave narrative, captivity narrative, literary fiction,
genre,fiction,sermon,public,proclamations,letters,etc.).

2. Identify relationships between moments
Americanhistory,colonialism,andcultureandtheirrepresentati
oninworksofAmericanliterature

3.ArticulatewaysthatAmericanliteraturereflectscomplexhistori
calandculturalexperiences

4. Produce a mix of critical, creative, and/or
reflectiveworksaboutAmericanliteratureto1865

5. Analyze and describe about American

literatureusingstandardliteraryterminologyandotherliteraryconvention
s.

SOCIAL HISTORY OF ENGLAND-II

1.Recognize the milestones of British History from 18th century till the modern age and can relate how these movements influence the English society and Literatures of that period

2.Identify the various revolutions and movements of English society leading to form a crucial opinion for the benefit of humanity

3.Examine the causes and consequences of the war of Americans and French

4.Evaluate the effects of the revolutions and their impacts in literature in a better perspective

5.Analyze the reforms and the development of education, transport and communication in the modern era

PartI

V

Skill Enhancement Course- SEC-2

1. Recall the fundamentals of English Grammar

2. Understand the formal and informal usages to obtain proficiency

3. Analyze Sentence structure, synthesis and usages

4. Recognize and use of Auxiliary and module verbs in writing and speaking

5. Evaluate the Patterns of expression, basic structure and sentence pattern

Semester-III

List of Courses With Outcome

BRITISH PROSE

1.understand the various kinds of thoughts and ideologies of each period and each written

2.analyze the writing style and the vocabulary used by the writers

3.develop skills to critically appreciate the writings

4.make them analyze the socio-cultural background of each writer

5.enhance their power of comprehension and literary competence

INDIAN ENGLISH LITERATURE – I

1. understand the major movements and authors in Indian Writing in English through the study ofselected literary texts

2. analyze the artistic and rhetorical devices used by the writers

3. cultivate a literary sensibility for a proper critical appreciation of literature

4. make them reflect critically on the human and social concerns and values embedded in the texts

5. enhance the overall literaryand linguistic competence of students

. AMERICAN LITERATURE – I

1. identify the key ideas, events and characteristics of different periods and regions

2. understand values and themes that impact culture and society

3. analyze and juxtapose the unique literary styles and structures of American authors

4. improve reading skills leading to literary analyses

5. write poems and short stories and also enact scenes from the plays prescribed

AFRICAN LITERATURE

1. understand the uniqueness of African Literature in terms of form and content

2. analyze the genre and its contemporary form in African Literature while reflecting on sub- genres and narrative modes

3. understand how African theatre evolved during post-colonial period

4. evaluate the cultural, thematic and aesthetic representations in African literature

5. assess and compare the genres of Non-fiction,fiction, drama and poetry of African literature

ENGLISH FOR COMPETITIVE EXAMINATIONS

1. to understand the importance of grammar and its usage inour daily life

2. learn the basic grammar rules to prepare for Competitive Examinations

3. apply the knowledge of grammar to identify errors and reproduce correct patterns of expressions

4. analyze the varied form of expressions, basics structures, verbal patterns and sentence patterns for the effective use of the English language

5. create situation-based and context-based expressions and sentences to clear Competitive Examinations

Semester-IV

List of Courses With Outcome

BRITISH FICTION

1. comprehend the ethical values of the society

2. compare and contrast the characters of thenovels

3. analyze the plot construction and techniques
employed in the novels

4. interpret the different meanings and messages
in the novels

5. assess the literary value of each novel

INDIAN ENGLISH LITERATURE - II

1. remember the origin and History of the Indian Writing in English and appreciate the literary devices used in the texts

2. examine a broad cross section of regions and cultures in India

3. understand the broad view of culture as seen from outside the culture

4. make familiar with the contributions made by modern Indian writers
writing in English

5. critically engage with Indian literary texts written in English in terms of colonialism, post colonialism,regionalism and nationalism

AMERICAN LITERATURE – II

1. become acquainted with the historical and literary elements in American literature

2. read and retain themes and ideas in the literary texts

3. attain knowledge of various literary styles in relation to their cultural context and literary forms

4. view literary works in the contextof the tremendous social and political changes throughout American history

5 .participate in creative activities related to theliterary works

. LANGUAGE AND LINGUISTICS

1. understand a wide array of linguistic diversity, systematic patterns and cross linguistic universals that constrain this diversity

2. demonstrate understanding of linguistic concepts, methods and approaches and apply this understanding to the construction and analysis of meanings in different modes of communication (spoken, written and multimodal)

3. assess the efficiency of the tools and knowledge that give a new perspective on language and linguistic

4. analyze and evaluate the influence of contextual and cultural factors in the production and reception of the English language, taking into account the relevant drivers of language change

5. examine their attitude towards language and the way it is used in society and culture

Content Writing

1. improve the ability to read the literary texts critically and to analyse them

2. gain an understanding about various modes and methods of literary interpretation

3. understanding the development of new forms of writing and literary interpretation

4. comprehend the qualities of literary texts

5. comprehend the qualities of literary texts of 20th century.

SEMESTER V

LIST OF COURSES WITH OUTCOMES

GENRE STUDIES

1. understand the importance of context in the creation of a text
2. understand the socio-cultural boundaries of the literary texts
3. identify and apply the stereotypic patterns of different literary genres
4. analyse generic rules and conventions and their relationship with social contexts
5. understand the significance of genre in the communicative function of a literary text

SHAKESPEARE

1. understand the plays studied in different critical contexts, including historical, theoretical
2. apply various emerging literary theories to the study of Shakespeare
3. appraise the universal values embedded in the plays of Shakespeare
4. recall the nuclei of each play and analyze them with the historical, philosophical and literary factors
5. challenge the existing ideas with the realms of the contemporary literary scenario

RESEARCH METHODOLOGY

1. make a systematic and theoretical approach during the process of research
2. collect and analyze data through surveys, interviews and observation
3. enhance critical thinking
4. perform literature reviews
5. write research article

TRANSLATION THEORY AND PRACTICE

1. understand the fields of translation principles, methods, procedures and techniques of translating
2. identify the nuances of the SL texts and enrich the adequate skills to address the issues of transition encountered by translators worldwide.
3. apply the acquired skills to translate specific structures and formulate suitable procedures for translation

4. evaluate any translated text in the light of the principles, methods, techniques and procedures learnt.

5. produce translated texts to promote cultural exchange and connectedness

ENVIRONMENT AND LITERATURE

1. understand the significance and implications of environmental writing with varied perspectives of both literary and scientific criticism

2. interpret and relate literary texts by using essential terms from Environment studies

3. value the significance of the latest schools of criticism through the new approach used practically

4. make close reading, critical thinking and analytical writing through which the students will be able to investigate the literary and cultural forms that shape the observation of the readers and the way in which they relate themselves with nature and environment

5. develop awareness of how literature can articulate humanity's relationship with the environment

MARGINAL LITERATURE

1. understand the prescribed text and theories in the light of racial, cultural and social discriminations

2. apply the concept of diaspora in the global culture

3. assess values in line with the cultural hierarchy

4. explore and examine the literary avenues that contribute to the growth of Marginal Literature

5. explore and examine the literary avenues that contribute to the growth of Marginal Literature

INDIAN LITERATURE IN TRANSLATION

1. understand how English gets Indianised in translation.

2. analyse with the major ancient medieval and modern literary movements in India and their influence on literature.

3. understand different literary techniques employed by various Indian

regional language writers

4. compare the features and peculiarities of Indian societies, culture and language

5. engage in the vast possibilities of translating literary texts from their own languages into English.

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Semester-V1

List of Courses With Outcome

LITERARY CRITICISM

1.understand the origin and development of the art of literary interpretation.

2. comprehend the qualities of canonical literary texts

3. gain an understanding about various modes and methods of literary interpretation

4. trace the interdisciplinary nature of literary criticism evolved in the twentieth century

5. improve their ability to read the literary texts critically and analyze them and write well-structured analysis of literary texts

Canadian Literature

1. improve their ability to read the literary texts critically and analyse them and write well-structured analysis of literary texts

2. trace the interdisciplinary nature of literary texts evolved in the twentieth

century

3. gain an understanding about various modes and methods of literary

interpretation

4. comprehend the qualities of canonical literary texts

5. understand the origin and development of the art of literary interpretation

AUSTRALIAN LITERATURE

1. understand the origin and development of the art of literary interpretation

2. improve their ability to read the literary textscritically and analyse them and

write well- structured analysis of literary texts

3. gain an understanding about various modes andcmethods of literary

interpretation

4. comprehend the qualities of canonical literary texts

5. trace the interdisciplinary nature of literarytexts evolved in the twentieth

century

FANTASY LITERATURE

1. expand their imagination and enhance creativity

2. contextualize and understand the author's themes and ideas

3. explore the uniqueness and differences between the subgenres of fantasy

4. appreciate the artistry of the works and analyze them critically

5. improve their writing skills

GLOBAL LITERATURE. 1. trace the interdisciplinary nature of literary texts evolved in the twentieth

century

2. gain an understanding about various modes and methods of literary

interpretation

3. understand the origin and development of the art of literary interpretation

4. comprehend the qualities of canonical literary texts

5. improve their ability to read the literary texts critically and analyse

them and write well- structured analysis of literary

texts

LITERATURE AND PSYCHOLOGY

1. understand the parallelism between Psychology and Literature and their relevance in one's life

2. apply the motivations of authors and their fictional figures to comprehend the human condition

3. analyse the human consciousness and the different phenomena in the human psyche

4. analyze the causes and connections to recover meanings.

5. evaluate the production of a text and real life

6. create characters and situations to highlight the psychological dimension of human reality.

PROJECT – INDIVIDUAL

1. meaningfully retain information from reading academic articles

2.analyse and evaluate retained information in meaningful ways

3. Develop meaningful theses from the information gathered

4. plan and write advanced papers

5. detect plagiarism and identify ways to eliminate it

1 . Programme Outcomes (PO) of MA degree programme in English

PO-1 Capable of demonstrating comprehensive knowledge and understanding of one or more disciplines that form part of Post graduate programmes of study.

PO-2 Capability to apply analytic thought to a body of knowledge; analyze and evaluate evidence, arguments, claims, beliefs on the basis of empirical evidence; identify relevant assumptions or implications; formulate coherent arguments; critically evaluate practices, policies and theories by following scientific approach to knowledge development.

PO-3 Capacity to extrapolate from what one has learned and apply their competencies to solve different kinds of non-familiar problems, rather than replicate curriculum content knowledge; and apply one's earning to real-life situations.

PO-4 Analytical & Scientific Reasoning: Ability to evaluate the reliability and relevance of evidence; identify logical flaws and holes in the arguments

of others; analyze and synthesize data from a variety of sources; draw valid conclusions and support them with evidence and examples and addressing opposing viewpoints.

PO-5 Ability to analyze, interpret and draw conclusions from quantitative / qualitative data; and critically evaluate ideas, evidence, and experiences from an open-minded and reasoned research perspective; develop sense of inquiry and capability for asking relevant questions / problem arising / synthesizing / articulating / ability to recognize cause and effect relationships / define problems. Formulate hypothesis, Test / analyze / Interpret the results and derive conclusions.

PO-6 Ability to work independently, identify and manage a project. Ability to acquire 5 knowledge and skills, including “learning how to learn”, through selfplaced and self-directed learning aimed at personal development, meeting economic, social and cultural objectives.

PO-7 Participate as critical and active citizens in society and at work; and pursue career and research in English studies and allied disciplines.

PO-8 Document their reading and interpretive practices in assignments, translation works, and independent projects.

PO-9 Confidently and effectively articulate their literary and textual experiences

PO-10 Reorganize a professional and reflective approach to leadership, responsibility, personal integrity, empathy, care and respect for others, accountability and self regulation

2.Programme Specific Outcomes of MA Degree Programme in English

On completion of the programme, the student will be able to

PSO-1 Acquire good knowledge and understanding, to solve specific theoretical & applied problems in different areas of the specific discipline of study.

PSO-2 Understand, formulate, develop arguments logically to address issues arising in social sciences, business and other context /fields.

PSO-3 To prepare the students who will demonstrate respectful

engagement with other's ideas, behaviors, beliefs and apply diverse frames of references to decisions and actions. To create effective entrepreneurs by enhancing their critical thinking, problem solving, decision making and leadership skill that will facilitate startups and high potential organizations. To encourage practices grounded in research that comply with employment laws, leading the organization towards growth and development.

PSO-4 Developing a research framework and presenting their independent ideas effectively.

PSO-5 Equipping their employability skills to excel in professions like teaching and exposing them to various activities to empower them through communication skills.

PSO-6 Enabling a holistic perspective towards the sociopolitical inequalities and environmental issues

Semester I

List of Courses With Outcome

Poetry

1. Demonstrate knowledge of the movements that influenced the literature beginning from English Poetry starting from Medieval to Modern Period.
2. Trace the evolution of various literary movements. Distinguish and analyse the different genres of writings of the period.
3. Critically evaluate the literary language of the texts Prescribed.
4. Compare the literature of the age with the subsequent ages in the history of English Literature and interpret its significance in history
5. Exhibit the skill of analyzing literary works and writing Effectively

Drama

1. Appraise various aspects of drama and theatre
2. Identify drama and performance as a cultural process and an artistic discourse
3. Evaluate plot structure, characterization and dialogue
4. Interpret drama texts as aesthetic records of their times viz., Elizabethan,

Restoration, Victorian and Early Modern
ages,
5. Examine the sequential course dealing with Modern and Postmodern
British Drama
Fiction
1. Acquaint the knowledge about the development of Novel as a literary
form.
2. Identify the characteristics of different types of novels
3. Categorize the novels of different periods and Interpret the works of
eminent writers.
4. Awareness on social, historical, literary and cultural elements of the
changes in American Literature
5. Critically examine the works of the writers prescribed
Science Fiction, Fantasy and Detective Literature
1.Identify different forms of Science Fiction, Fantasy and Detective Fiction
2.Fix the representative Detective Fiction in the larger context of Social
changes
3.Identify the basic Structure and themes of Science Fiction
4.Appreciate the fundamental features and explore the major themes in
fantasy fiction
5.Gain an understanding of contemporary and future science fiction by
studying the history of the genre and many of the works that started
important conversations about what it means to be human in a changing
world.
APPROACHES AND METHODS IN ENGLISH LANGUAGE
TEACHING
1. Identify teaching methods/approaches
2.Learn to teach skills - L S R W and literature
3.Identify the objectives, active role of learners, teachers
and materials

4.Testing and Evaluating learners using norm and criterion-referenced methods of assessment

5.Learn to prepare lesson plans to teach English

Semester II

List of Courses With Outcome

Indian Writing in English

1. Understand the themes of Indian Writing in English

2. Identify the major trends in Indian Writing in English

3. Examine the background and settings of the prescribed texts

4. Evaluate the cultural significance of Indian English Literature

5. Be exposed to diverse culture and literature that will further enlighten them about socio-cultural scenario in the contemporary era.

American Literature

1.Recognize the contributions of major American writers and their impact on the development of American literature

2.Analyze the movements and trends that shaped American literature

3.Gain knowledge about the transcendentalist and Romantics movements

4.Validate representative socio-political, cultural, racial and gender perspectives in the prescribed texts

5.Critically analyze the multicultural sensibility of American society

Shakespeare Studies

1. Identify the social, cultural and political events as represented in the works of Shakespeare

2. Understand Elizabethan theatre and the theatre's development

3. Illustrate the linguistics richness and figurative language of the plays

4. Identify the trends and approaches in Shakespeare studies

5. Critically analyze the works of Shakespeare

Life Writings

1.Become familiar with various subgenres of life writing

2. Sensitize themselves to the predicament of various marginalized sections.

3. Comprehend the significance of life writing as a literary genre.

4. Get acquainted with the role of personal narrative in writing history.

5. Comprehend the different socio, cultural and political dimensions

Literature and Film

1. Film Review and appreciation becomes handy for the Students

2. Connecting film and literature nuances effectively

3. Exposure to film techniques and genres

4. Critical appreciation of films

5. Analysing film forms effectively

Employability Skill

1. Analyze the various types of communication

2. Learn about the four skills of language and get familiarized with them.

3. Enhance their personal and professional development

4. Gain employability Skills for the current job market and future of work

5.Acquire self-confidence and behavioral Skills

Semester III

List of Courses With Outcome

British Fiction

1. Appreciate the contextualization and the historical consciousness of the texts.

2.Distinguish the different socio-cultural milieu and the narrative techniques.

3. Familiarise the avant-garde writings by the early novelists.

4.Analyse the concepts of modern and postmodern literature

5.Perceive the distinct literary characteristics of the modern narratives

6.Demonstrate a capacity for a close critical reading of a literary text and broaden their vocabularies and to develop an appreciation of the language.

Australian Literature

1. Trace the key issues in Australian literature.
2. Understand Australia's varied socio-cultural conditions.
3. Appreciate the literary aspects of Australian literature.
4. Explore the theoretical positions and analyse complex problems and issues.
5. Assess Australia's major literary works and develop literary arguments in a variety of contexts
6. Conduct research to locate secondary critical sources that can inform reading and engagement with Australian literature and present the results of analyses coherently.

Research Methodology

1. Spell the definition and the process of research.
2. Identify a research problem and proceed with it.
3. Model the literary review based on the critical precepts
4. Trace the consciousness of ethical issues in educational research.
5. Compile a research paper/thesis based on the mechanics of writing
6. Select and define appropriate research problem, organize and conduct research and, write a research report and thesis

Aspects of English Language – I

1. Recall the origins and the development of language.
2. Understand the basic principles of linguistic theory.
3. Infer the knowledge of fundamental language structures and functions
4 .Designate the place and the manner of articulation of phonemes in the English language and categorise speech sounds into various types
5.Appraise the various linguistic phenomena that have developed and changed in Modern English.
6. Collect, organize and analyse linguistic data from diverse languages, to form hypotheses about language structure/use and to test those hypotheses against new data.

LITERARY THEORY – II

1. Relate the text with a specific epistemological and contextual mode of learning
2. Identify the contemporary and the historical schools of the literary world.
3. Predict the ways in which literary theory applies to their own lives and cultures.
4. Deconstruct various literary interpretations of the text and find the relationship between the reader and the work.
5. Validate the significance of race, class, and gender from a theoretical perspective
6. Demonstrate inductive reasoning that moves logically and persuasively from particular pieces of compelling evidence to broader generalizations that advance/deepen/enrich understanding

NATIONAL LITERATURE IN TRANSLATION

1. Relate the thematic concerns in the regional literatures of India
2. Illustrate regional consciousness in their reading of literary texts.
3. Distinguish the socio-cultural movements that formulated the regional literature.
4. Categorise the regional literatures translated in English.
5. Validate the historical, the social, and the cultural crises specific to the region.
6. Perform comparative study of the original and the translated texts to see the process of negotiation that constructs, and is constructed in, the English language translation

Semester IV

List of Courses With Outcome

GENDER STUDIES

1. Retrieve the ability to conduct an interdisciplinary analysis of gender studies.
2. Restate the position of gender on the lives of the individuals.

3. Outline a body of knowledge about the social construction of sex and gender.

4. Analyse socio-historical and contemporary power dynamics underpinning group relations, social institutions, and systems of representation

5. Perceive feminism in its diverse cultural contexts

6. Apply theoretical frameworks of feminism, gender and women's studies, queer studies, sexuality studies

ASIA – PACIFIC LITERATURE

1. Recognise distinguishing characteristics of the various Asia- Pacific literature and relate the writings to their historical, cultural, and political contexts

2. Trace the various narrative techniques, folktales, stories, parables, proverbs, and other old-world literary material incorporated into literature of the Asia-Pacific region

3. Extend the knowledge to review the global concerns with regional sensitivity, (re)imagining "modernity" through literary plots about the exchanges between Asia and the Pacific Islands

4. Relate cultural and social values of various societies with linguistic differences and analyse how culturally basedassumptions influence perceptions and behaviours in the writings.

5. Validate the cultural discourse from the representative literary texts and make critical use of concepts and analytic tools fromliterary studies to develop, review, analyse and synthesise knowledge about Asia and the Pacific region.

6. Make reflections on one's work or competencies to connect course content and lived experience.

ASPECTS OF ENGLISH LANGUAGE – II

1. Identify various grammatical processes.

2. Understand the distinguishing features of written and spoken language in

the texts

3. Classify the grammatical structures and their role in linguistic analysis

4. Distinguish the concepts of word meaning and sentence meaning; sense and reference

5. Validate the knowledge and understanding of the English language and its use in various contexts

6. Engage in research by tracing the characteristics of the language as well as in employing the scope of linguistics into understanding the specific characteristics of literature, including prose and poems in different languages

CONTENT WRITING

1. Record the knowledge of digital skills essential for the media.

2. Outline an idea on content marketing.

3. Compute practical skills on earning through content writing.

4. Analyse and present a topic of study in a field-specific language.

5. Standardise teamwork skills

6. Demonstrate knowledge of editing and revision techniques, the world of publishing, and other career-related aspects of writing

PROJECT

1. Tabulate the sources and the documents effectively

2. Relate several articles to form an original opinion on a topic.

3. Connect several articles and form thesis statements from their critical reading

4. Plan and write a more advanced and argumentative paper.

5. Deduct Plagiarism and devise the ways to prevent it.

6. Apply various aspects of the research process, framing useful research questions Identify research gaps, research design, data collection, analysis, writing and presentation.

St. JOHN'S COLLEGE OF ARTS & SCIENCE

(Accredited with B++ by NAAC & Approved by UGC under section 2(f) & 12(B) status)
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Declaration

I hereby declare that the details and information given above are complete and true to the best of my knowledge and belief.

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