HINDUSTAN COLLEGE OF ARTS & SCIENCE

PROGRAMME OUTCOME, PROGRAMME SPECIFIC OUTCOME & COURSE OUTCOME

PROGRAMME NAME: B.Sc BIOTECHNOLOGY

PROGRAMME OUTCOME

PO 1 Grasp of basic and advanced knowledge on various domains of biotechnology.

PO 2 Ability to integrate technologies through an inter-disciplinary learning habit.

PO 3 Develop an independent thinking ability.

PO 4 Ability to communicate effectively.

PO 5 Equip the students with the laboratory skills in biotechnology.

PROGRAMME SPECIFIC OUTCOME:

PSO 1 To impart an ability to apply biotechnology skills (including molecular & micro biology, immunology & genetic engineering, bioprocess & fermentation, enzyme & food technology and bioinformatics) and its applications in core and allied fields.

PSO 2 To provide students with the concepts and research approaches for their higher career in the field of biotechnology and develop their scientific interest.

PSO 3 To impart in-depth practical oriented knowledge to students in various thrust areas of biotechnology, so as to meet the demands of industry and academia.

B.Sc., Biotechnology

S.NO	COURSE NAME	COURSE OUTCOME
SEMESTER I		
1.	**CELL&MOLECULAR BIOLOGY**	CO1.The structural design of Prokaryotic and Eukaryotic cells. CO2.The synthesis, structure, importance and the inter-relationships between the DNA, RNA and Proteins. CO3.The major molecular processes which governs all the cellular activities and their regulations.

2.	**MICROBIOLOGY**	CO1.Ability to explain core theoretical and practical principles of relevance to history, structure, function and diversity of microorganisms. CO2. Sound understanding of the mechanisms and processes used by microorganisms for their replication, survival, spread, and interaction with their environment. CO3. Ability to utilize microbiological concepts to summarize, analyze, and synthesize scientific results managing with microbes and related issues in industry and academia.
SEMESTER II		
1	**GENETICS**	CO1. Understanding of how genes, their distribution and function in one to next progeny and population on a wider scale exert their effects translating into the sustenance of equalities and diversities among life forms. CO2. Understanding the role of genetic technologies in industries related to biotechnology, pharmaceuticals, energy, and other fields.
2	**CHEMISTRY**	CO1. Useful knowledge of the chemistry of formation of various bonds and structures. CO2. Study about the 3D structure of a molecule and importance of studying the exact position of a particular group in a molecule. CO3. To understand isomerism and relationship between the various isomeric structures.
SEMESTER III		
1.	**GENETIC ENGINEERING**	CO1.The students gain knowledge about genes

		and its manipulation and the techniques involved inthe cloning and its applications in genetic engineering CO2.To illustrate creativity use of modern tools& techniques for manipulation and analysis of genomic sequences CO3.To expose students application of rDNA technology in biotechnological research.
2.	**BIOCHEMISTRY**	CO1.Understanding of the function of biological molecules through the study of their molecular structure, and interaction with other biomolecules CO2. Understanding of the chemical and regulatory interrelationship between major cellular synthetic and catabolic pathways by participating in class discussions, and completing quizzes and exams. CO3.To create awareness of the impact of biochemistry on the environment, society, and other cultures outside the scientific community.
SEMESTER IV		
1.	**PLANT BIOTECHNOLOGY**	CO1. Explain the basics of the physiological and molecular processes that occur during plant growth and development and during environmental adaptations CO2. Understand how biotechnology has been used to develop knowledge of complex processes that occur in the plant CO3. Use basic biotechnological techniques to explore molecular biology of plants CO4. understand the processes involved in the planning, conduct and execution of plant

		Biotechnology experiments
2.	**BIOINSTRUMENTATION AND BIOSTATISTICS**	CO1. An understanding of physics in biosensor, electrode. CO2. An understanding of biomedical instrumentation principles in aspects of device design and applications. CO3. An understanding of the techniques, skills and modern engineering tools necessary for engineering practice. CO4.Analyse data, interpret, and present information CO5. Calculate; analyse and compare observed data; perform simple sums in proportions and algebraic functions.
3.	**ENVIRONMENTAL STUDIES**	CO1.Understand core concepts and methods from ecological and physical sciences and their application in environmental problem-solving. CO2.Appreciate key concepts from economic, political, and social analysis as they pertain to the design and evaluation of environmental policies and institutions. CO3.Appreciate the ethical, cross-cultural, and historical context of environmental issues and the links between human and natural systems.
SEMESTER V		
1.	**ANIMAL & MEDICAL BIOTECHNOLOGY**	CO1.Exhibit knowledge about gene transfer technology for animal and animal cell lines and can able to describe problems both technical and ethical in animal cloning. CO2.To provides students with a scientific and technical understanding of animal biotechnology.

		CO3.To introduces students to the commercial and ethical aspects of the biotechnology industry, and to challenge students with some of the moral and ethical issues that face biotechnologists, legislators and the general public. CO4.To present concepts of the potential influence of animal biotechnology on urban and rural communities and to encourage students to derive informed opinions on the potential benefit or danger of biotechnology and its impact on animal agriculture
2.	**BIOINFORMATICS**	CO1.To get introduced to the basic concepts of Bioinformatics and its significance in biological data analysis. CO2.Describe the history, scope and importance of Bioinformatics and role of internet in Bioinformatics. CO3.Explain about the methods to characterize and manage the different types of biological data. CO4.Classify different types of Biological Databases. CO5.Introduction to the basics of sequence alignment and analysis. CO6.Overview about biological macromolecular structures and structure prediction methods.
3.	**IMMUNOLOGY**	CO1.Exhibit knowledge about immunological response, mechanism of this response, its regulation and the genetic basis. Provide knowledge about protection against disease and auto immune disorders to choices in their daily

		life CO2.Describe the function of phagocytes in the non-specific immune system CO3. Describe professional antigen presenting cells and define their purpose CO4.Define the major histocompatibility complexes (MHCs) type 1 and 2 and explain their functions
4.	**PHARMACEUTICAL BIOTECHNOLOGY**	CO1.Aspects of traditional and modern biotechnology viz. Fermentation technology CO2.Recombinant DNA technology. CO3.Relating the biotechnological aspects to health, and disease. CO4.Production of biopharmaceuticals and immunological products. CO5.Recent concepts viz; Nanobiotechnology, RNA interference therapeutics and gene therapies. Cell biology and cell culture. CO6.Practical exercises are designed to make the student relate the theoretical aspects to practical application and acquire laboratory skills.
5.	**NANO BIOTECHNOLOGY**	CO1.To foundational knowledge of the Nanoscience and related fields. CO2.To make the students acquire an understanding the Nanoscience and Applications CO3. To help them understand in broad outline of Nanoscience and Nanotechnology.
SEMESTER VI		
1.	**INDUSTRIAL BIOTECHNOLOGY**	CO1.understand the need for sustainable innovation and how biotechnology and biobased

		production can contribute to this. CO2. Have mastered the basics of industrial biotechnology
2.	**ENVIRONMENTAL BIOTECHNOLOGY**	CO1.Provide knowledge about microbial diversity in environmental systems, processes and biotechnology, importance of molecular approaches in environmental microbiology and biotechnology and describe biotechnological solution to environmental issues. CO2.Know the basic physiology of a microorganism and how their structure dictates their function in the environment CO3.Understand the bases for microbial metabolism of environmental contaminants CO4.Know various techniques to modify and augment microorganisms in the laboratory and environment
3.	**BIO-ENTREPRENEURSHIP**	CO1.Bio Entrepreneurship and Innovation minors will be able to sell themselves and their ideas. CO2. Students master oral and visual presentation skills and establish a foundation of confidence in the skills necessary to cause others to act. CO3.Bio Entrepreneurship and Innovation minors will be able to find problems worth solving.
4.	**MARINE BIOTECHNOLOGY**	CO1. Introducing the existence of marine ecosystem CO2. Updating the knowledge of marine organisms CO3. Studying the existing ecosystem in marine diversity and its characteristic features CO4. Discussing the importance of marine

		viruses, molecular approaches of marineproducts and commercial importance of marine microorganisms.
5.	**BASICS IN RESEARCH METHODOLOGY**	CO1.Apply a range of quantitative and / or qualitative research techniques to business and management problems / issues CO2.Understand and apply research approaches, techniques and strategies in the CO3.Demonstrate knowledge and understanding of data analysis and interpretation in relation to the research process CO4.Conceptualise the research process and develop necessary critical thinking skills in order to evaluate different research approaches utilized in the service industries

Program Name: Bachelor of Computer Application

PROGRAM OUTCOME:

PO1. Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO2. Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO3. Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO4. Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools inc

PO5. Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems

PROGRAM SPECIFIC OUTCOME:

SPO1: The three-year course of BCA course helps the students to develop programming skills, networking skills, learn applications, packages, programming languages and modern techniques of IT

SPO2: The program helps the students to develop the analytical skill, communication skill, decision making and problem-solving skill in the field of computational studies.

SPO3: The program helps the students to get employment in IT companies of Nation /International standards and to become a socially responsible person.

SPO4: Pursue higher studies in the area of Computer Science/Applications/Information Technology.

S. No.	Course Name	Course Outcome
SEMESTER – I		
1.	**PROBLEM SOLVING USING PYTHON**	CO1.To Understand the principles of Python and acquire skills in programming in python CO2.To develop the emerging applications of relevant field using Python CO3.Interpret the fundamental Python syntax and semantics and be fluent in the use of Python control flow statements. CO4.Able to develop simple turtle graphics programs in Python CO5.Apply the best features available in Python to solve the situational problems.
2.	**PYTHON PROGRAMMING - LAB**	CO1.Understand the numeric or real-life application problems and solve them. CO2.Apply a solution clearly and accurately in a

		program using Python. CO3.Apply the best features available in Python to solve the situational problems.
3.	**ALLIED MATHEMATICS - I**	CO1. Basic concept algebra using summation series and numerical methods. CO2. Learn the matrices and types of matrices. CO3. Able to understand the primary concepts of real and complex roots.
SEMESTER – II		
1.	**OBJECT ORIENTED PROGRAMMING CONCEPTS USINGC++**	CO1.To inculcate knowledge on Object-oriented programming concepts using++. CO2. To gain Knowledge on programming with C++. CO3.To write programs using OOP concepts like Abstraction, Encapsulation, Inheritance and Polymorphism CO4. To understand the structure and model of the C++ programming language. CO5.To solve problems in C++ demonstrating Object Oriented Concepts
2.	**C++ PROGRAMMING LAB**	CO1. Creating simple programs using classes and objects in C++. CO2. Implement Object Oriented Programming Concepts in C++. CO3. Develop applications using stream I/O and file I/O. CO4. Implement simple graphical user interfaces. CO5. Implement Object Oriented Programs using templates and exceptional handling
3.	**ALLIED**	CO1. To introduce the concepts of improper integrals,

	MATHEMATICS - II	Gamma, Beta and Error functions which are needed in engineering applications. CO2: This course equips students to have basic knowledge and understanding in one field of materials, integral and differential calculus CO3: To familiarize the student with functions of several variables. CO4: To acquaint the student with mathematical tools needed in evaluating multiple integrals and their usage.
SEMESTER - III		
1.	**DATA STRUCTURES**	CO1.Implement abstract data types for linear data structures. CO2.Apply the different linear and non-linear data structures to problem solutions. CO3.Critically analyze the various sorting algorithms. CO4.Suggest appropriate linear and non-linear data structure operations for solving a given problem. CO5.Analyze various sorting methods and searching algorithms
2.	**JAVA PROGRAMMING**	CO1.Knowledge of the structure and model of the Java programming language CO2.Understand the basic principles of creating Java applications with GUI. CO3.Demonstrate use of string and String Buffers, CO4. Develop multithreaded programs in Java. CO5. Knowledge in applet programming

3.	**COMPUTER ORGANIZATION**	CO1. Describe the major components of a computer system and state their function and purpose CO2.Describe the microstructure of processor CO3.Demonstrate the ability to program a microprocessor in assembly language. CO4.Classify and describe the operation DMA and peripheral Interfaces. CO5.understand the principles of Interfacing I/O devices and Direct Memory accesses
4.	**DATA STRUCTURES USING JAVA - LAB**	CO1.Write functions to implement linear and non-linear data structure operations. CO2.Suggest appropriate linear and non-linear data structure operations for solving a given problem. CO3.Understand the concept of BFS and DFS
5.	**FINANCIAL ACCOUNTING**	CO1. To enable the students to learn principles and concepts of Accountancy CO2. Students are enabled with the Knowledge in the practical applications of accounting CO3. The student will get thorough knowledge on the accounting practice prevailing in partnership firms and other allied aspects CO4. To find out the technical expertise in maintaining the books of accounts CO5. To encourage the students about maintaining the books of accounts for further reference.
SEMESTER – IV		

1.	**OPEN-SOURCE TECHNOLOGIES**	CO1.To recognize the benefits and features of Open-Source Technology and to interpret, contrast and compare open-source products among themselves CO2.Understand the installation of various packages in open-source operating systems CO3. Students must be able to use appropriate open-source tools based on the nature of the problem CO4. Students should be able to code and compile different open-source software CO5. Understand the open-source ethics
2.	**COMPUTER NETWORK**	CO1. To understand the concept of Computer network CO2.Analyse different network models CO3. Analyse and compare a number of data link, network and transport layer CO4. Analyzing key networking protocols and their hierarchical relationship in the conceptual model like TCP/IP and OSI CO5. Knowledge about networking and inter Networking devices
3.	**E-COMMERCE TECHNOLOGIES**	CO1.Obtain a general understanding of basic business management concepts. CO2.Have complete knowledge about basic technical concepts relating to E-Commerce. CO3.Obtain thorough understanding about the security issues, threats and challenges of-Commerce.

		CO4. To explore the major issues associated with e-commerce-security, privacy, intellectual property rights, authentication, encryption, acceptable use policies, and legal liabilities. CO5. Understanding of e-commerce with a specific emphasis on Internet Marketing
4.	**OPEN SOURCE TECHNOLOGIES- LAB**	CO1. Students must be able to use appropriate open source tools based on the nature of the problem CO2. Students should be able to code and compile different open source software
5.	**COST AND MANAGEMENT ACCOUNTING**	CO1. Describe the three fundamental purposes of cost and management accounting. As part of this learning, students will be able to appreciate the use of different costs for different purposes. CO2. Explain traditional and contemporary approaches to cost allocation. CO3. Describe different product costing scenarios in job-order and process environments. CO4. Identify relevant information for decision making purposes in order to produce financial analyses for a range of decisions such as product-mix, pricing, outsourcing and special orders. CO5. Use standard costs to prepare budgets for planning and control purposes.
SEMESTER – V		

1	**SOFTWARE ENGINEERING**	CO1.The students should be able to specify software requirements, design the software using tools CO2. To write test cases using different testing techniques. CO3.Understanding of software requirements and the SRS documents. CO4. Understanding of software testing approaches such as unit testing and integration testing. CO5. A general understanding of software development life cycle such as the waterfall, agile model, spiral model and Rapid Application Development
2	**OPERATING SYSTEM**	CO1. Understand the structure and functions of Operating System CO2. Compare the performance of Scheduling Algorithms CO3. To understand the various issues in Inter Process Communication. CO4.Identify the features of I/O and File handling methods CO5. Understand the Memory Management policies
3	**RELATIONAL DATABASE MANAGEMENT SYSTEM**	CO1.Describe 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 robust Database

		CO5.Understand the need of transaction processing and learn techniques for controlling the consequences of concurrent data access.
4	**MULTIMEDIA AND ITS APPLICATIONS(ELECTIVE)**	CO1. Understand the basic concepts of Multimedia Systems CO2. Understand the technologies behind multimedia applications CO3. To learn representations, perceptions and applications of Multimedia CO4. To learn multimedia animation s/w tools and techniques CO5. To understand stages of Multimedia projects
5	**Operating system -Lab**	CO1. To familiarize students with the architecture of Unix OS. CO2.To provide necessary skills for developing and debugging programs in UNIX environment.
6	**PL/SQL - Lab**	CO1.Enhance the knowledge and understanding of Database analysis and design. CO2.Enhance the knowledge of the processes of Database Development and Administration using SQL and PL/SQL. CO3. Enhance Programming and Software Engineering skills and techniques using SQL and PL/SQL
SEMESTER – VI		
1	**WEB DESIGN AND DEVELOPMENT**	CO1.Ability to Develop and publish Web pages using Hypertext Markup Language (HTML). CO2. Ability to optimize page styles an layout with Cascading Style Sheets (CSS).

		CO3.Ability to Understand, analyze and apply the role of languages to create a capstone CO4.Website using client-side web programming languages like HTML, DHTML, CSS, XML, JavaScript, and AJAX CO5. Introduction to jQuery and AngularJS.
2	**DATA MINING**	CO1.To have knowledge in Data mining concepts CO2.To apply Data mining concepts in different fields CO3. Characterize the kinds of patterns that can be discovered by association rule mining, classification and clustering. CO4. Understand neural network-based algorithms CO5. To differentiate datamining versus knowledge discovery in databases
3	**MOBILE APPLICATION DEVELOPMENT**	CO1.To explain the basics of mobile application development CO2.Develop Android application with User interface, networking and animation. CO3. Use simulator tools to test and publish the application. CO4. Develop and Publish Android application which can use Location and network services CO5. Develop and Publish Android applications using Graphical user interface
4	**IOT AND ITS APPLICATIONS(ELECTIVE)**	CO1. Understand the concepts of Internet of Things and the application of IoT. 2. Use of Devices, Gateways and Data

		Management in IoT. CO3.Design IoT applications in different domain and be able to analyze their performance CO4.Implement basic IoT applications on embedded platform CO5.Understand IoT Architecture
5	**MINI PROJECT**	CO1.Able to develop a real time software project CO2.Able to develop research-oriented project

Programme Name : **B.Sc. COMPUTER SCIENCE**

Programme Outcomes:

PO1: An ability to apply knowledge of computing and mathematics appropriate to the discipline.

PO2: An ability to identify, formulate, and develop solutions to computational challenges.

PO3: An ability to design, implement, and evaluate a computational system to meet desired needs within realistic constraints.

PO4: An ability to function effectively on teams to accomplish shared computing design, evaluation, or implementation goals.

PO5: An understanding of professional, ethical, legal, security, and social issues and responsibilities for the computing profession.

PO6: An ability to communicate and engage effectively with diverse stakeholders.

PO7: An ability to analyze impacts of computing on individuals, organizations, and society.

PO8: Recognition of the need for and ability to engage in continuing professional development.

PO9: An ability to use appropriate techniques, skills, and tools necessary for computing practice.

P10: An ability to apply mathematical foundations, algorithmic principles, and computer science theory in the modelling and design of computational systems in a way that demonstrates comprehension of the tradeoffs involved in design choices.

P11: An ability to apply design and development principles in the construction of software systems of varying complexity.

Programme Specific Outcomes

PSO1: Model computational problems by applying mathematical concepts and design solutions using suitable data structures and algorithmic techniques

PSO2: Demonstrate basic knowledge of computer applications and apply standard practices in software project development.

PSO3: Understand, Analyze and Develop computer programs for efficient design of computer-based systems of varying complexity.

PSO4: Design and develop solutions by following standard software engineering principles and implement by using suitable programming languages and platforms

Semester-I

S. No.	Course Name	Course Outcome
1.	**PROBLEM SOLVING USING PYTHON**	CO1.To Understand the principles of Python and acquire skills in programming in python CO2.To develop the emerging applications of relevant field using Python CO3.Interpret the fundamental Python syntax and semantics and be fluent in the use of Python control flow statements. CO4.Able to develop simple turtle graphics programs in Python CO5.Apply the best features available in Python to solve the situational problems.
2.	**PYTHON PROGRAMMING LAB**	CO1. Understand the numeric or real-life application problems and solve them. CO2. Apply a solution clearly and accurately in a program using Python.

		CO3. Apply the best features available in Python to solve the situational problems.
3.	**ALLIED MATHEMATICS - I**	CO1: Basic concept algebra using summation series and numerical methods. CO2: Learn the matrices and types of matrices. CO3: Able to understand the primary concepts of real and complex roots.

Semester-II

S. No.	Course Name	Course Outcome
1.	**COMPUTERORGANIZATION**	CO1. Describe the major components of a computer system and state their function and purpose CO2.Describe the microstructure of processor CO3.Demonstrate the ability to program a microprocessor in assembly language. CO4.Classify and describe the operation DMA and peripheral Interfaces. CO5.understand the principles of Interfacing I/O devices and Direct Memory accesses.
2.	**COMPUTER ORGANIZATION LAB**	CO1. Implement the arithmetic operations in assembly language programming CO2. Understand the programming logic of 8085 in various aspects CO3. Understand the concept of code conversions
3.	**ALLIED MATHEMATICS - II**	CO1. To introduce the concepts of improper integrals, Gamma, Beta and Error functions which

		are needed in engineering applications. CO2. This course equips students to have basic knowledge and understanding in one field of materials, integral and differential calculus CO3. To familiarize the student with functions of several variables. CO4. To acquaint the student with mathematical tools needed in evaluating multiple integrals and their usage

Semester-III

S. No.	Course Name	Course Outcome
1.	**JAVA AND DATASTRUCTURES**	CO1. Apply the concepts of object oriented programming. CO2. Students will be able to develop Java Stand alone applications and Applets. CO3.Choose the appropriate data structure form modeling a given problem. CO4. Design and develop real world applications CO5. Ability to sensibly select appropriate data structures and algorithms for problems.
2.	**DATASTRUCTURES JAVA LAB**	CO1. Write functions to implement linear and non-linear data structure operations. CO2. Suggest appropriate linear and non-linear data structure operations for solving a given problem. CO3. Understand the concept of BFS and DFS

3.	**STATISTICS -I**	CO1. Know the uses of statistics in society CO2. Organize, manage and present data CO3. Analyze the statistical data graphically using frequency distribution and cumulative frequency distribution. CO4. Analyze statistical data using measures of central tendency, dispersion and location. CO5. To understand correlation between continuous variables and association between categorical variables

Semester-IV

S. No.	Course Name	Course Outcome
1.	**WEBTECHNOLOGY**	CO1. Understand the general concepts of PHP scripting language for the development of Internet websites. CO2. Understand the basic functions of MySQL database program and XML concepts CO3. Learn the relationship between the client side and the server side scripts. CO4. Develop secured web applications CO5. Students will be able to write a server-side java application called JSP to catch form data sent from client and store it on database.
2.	**WEBTECHNOLOGY LAB**	CO1. On the completion of this laboratory course the students ought to CO2. Obtain knowledge and develop application programs using Python.

		CO3. Create dynamic Web applications such as content management, user registration, and e-commerce using PHP and to understand the ability to post and publish a PHP website. CO4. Develop a MySQL database and establish connectivity using MySQL.
3.	**STATISTICS - II**	CO1. Understand the basic concept of Probability CO2. Identify the characteristics of different discrete and continuous distributions. CO3. Identify the type of statistical situation to which different distributions can be applied. comprehend the Sampling distributions. CO4. To understand how to apply statistical tests to get information from data

Semester-V

S. No.	Course Name	Course Outcome
1.	**COMPUTER NETWORK**	CO1. Analyze different network models CO2. Describe, analyze and compare a number of datalink, network and transport layer CO3. Analysing key networking protocols and their hierarchical relationship in the conceptual model like TCP/IP and OSI CO4. Understand and building the skills of subnetting and routing mechanisms. CO5. Understand how the Internet works today.
2.	**OPERATING SYSTEM**	CO1. To understand the design of control unit. CO2. Understanding CPU Scheduling, Synchronization, Deadlock Handling and Comparing CPU Scheduling Algorithms.

		CO3. Solve Deadlock Detection Problems. Describe the role of paging, segmentation and virtual memory in operating systems. CO4. Description of protection and security and also the Comparison of UNIX and Windows based OS. CO5. Defining I/O systems, Device Management Policies and Secondary Storage Structure and Evaluation of various Disk Scheduling Algorithms.
3.	**RELATIONAL DATABASE MANAGEMENT SYSTEM**	CO1.Describe 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 robust Database CO5.Understand the need of transaction processing and learn techniques for controlling the consequences of concurrent data access.
4.	**ELECTIVE-I ARTIFICIAL INTELLIGENCE AND EXPERT SYSTEM**	CO1. Gain a working knowledge of the foundations of and modern applications in, artificial intelligence heuristic search, knowledge representation and logic. CO2. Demonstrate skills in problem analysis and solution design where searching, pattern matching, and substitution are the primary tools. CO3. Apply analysis techniques to logic problems using propositional calculus and predicate calculus CO4. Describe artificial intelligence applications including, production systems, expert systems, robotics, natural language processing, and computer vision. CO5. Demonstrate problem solving techniques to

		include spatial, temporal, qualitative, and common sense reasoning.
5.	**OPERATING SYSTEM LAB**	CO1. Understand the process management policies and scheduling process by CPU. CO2. Analyze the memory management and its allocation policies. CO3. To evaluate the requirement for process synchronization.
6.	**PL/SQL LAB**	CO1. Implement the DDL , DML Commands and Constraints CO2. Create, Update and query on the database. CO3. Design and implement simple project with Front End and Back End.

Semester-VI

S. No.	Course Name	Course Outcome
1.	**SOFTWAREENGINEERING**	CO1.The students should be able to specify software requirements, design the software using tools CO2. To write test cases using different testing techniques. CO3.Understanding of software requirements and the SRS documents. CO4. Understanding of software testing approaches such as unit testing and integration testing. CO5. A general understanding of software

		development life cycle such as the waterfall, agile model, spiral model and Rapid Application Development
2.	**INTRODUCTION TO DATA SCIENCE**	CO1. To describe about Data Science and Statistical Inference CO2. To identify probability distributions CO3. To fit a model to data and use tools for basic analysis and communication CO4. Use appropriate modelling and analyse techniques for data science problems; CO5. Demonstrate competent skills in using data science technology.
3.	**INTRODUCTIONTOCLOUD COMPUTING**	CO1. To explain and apply levels of services of Cloud CO2. To describe the security aspects in cloud. CO3. To explain Cloud Applications CO4. Analyze various cloud programming models and apply them to solve problems on the cloud. CO5. Identify resource management fundamentals, i.e. resource abstraction, sharing and sandboxing and outline their role in managing infrastructure in cloud computing.
4.	**ELECTIVE-II** **IOTANDITSAPPLICATIONS**	CO1. Use of Devices, Gateways and Data Management in IoT. CO2. Design IoT applications in different domain and be able to analyze their performance CO3. Implement basic IoT applications on embedded platform**.** CO4. Able to realize the revolution of Internet in Mobile Devices, Cloud & Sensor Networks ·

		CO5. Able to understand building blocks of Internet of Things and characteristics
5.	**CASETOOLS TESTING LAB**	CO1. Students must be able to analyze and design the problem at hand. CO2. Students should be able to use UML tools for the designing the software CO3. Students should be able to test the correctness and soundness of their software through testing tools.
6.	**MINI PROJECT**	CO1. Able to develop a real time software project CO2. Able to develop research-oriented project

Programme Name: B.Sc Mathematics

Programme Outcomes:

PO1: The knowledge and appreciation of the breadth and depth of mathematics, including the connections between different areas of mathematics.
PO2: Develop their basic knowledge in Mathematics, which enables them to be strong in theoretical and application skills.
PO3: Apply real situations and develop mathematical models to solve problems.
PO4: Algebra, Real Analysis, Complex Analysis, Mechanics, Operation Research, Analytical Geometry, Mathematical Statistics, Numerical Methods can able to apply this knowledge to analyze a broad range of mathematical phenomena.
PO5: To apply analytical techniques to solve problems.
PO6: To create, interpret and analyze graphical representations of data and equations.

Programme Specific Outcomes:

PSO1: Clear knowledge about algebra to solve equations of series.
PSO2: Concept of envelopes, curvature, asymptotes to perform operations with basic functions.
PSO3: TofindLaplace transforms and apply these to solve differential equations.
PSO4: Clear knowledge about vector algebra to solve differentiation and integration.
PSO5: The fundamental concept of statistics used for descriptive statistics and to describe appropriately a given data set.
PSO6: The concept of mechanics to deal with statics and dynamics.
PSO7: Basic concept of algebraic structures to deal with groups, ring, fields and vector spaces.

PSO8: Basic principles of mathematical analysis to solve the theorems and problems in real and complex

Semester -1

S.No.	Subject Name	Course Outcomes
1.	**ALGEBRA**	CO1: Define and discuss the relationship between roots and its coefficient CO2: Apply the Arithmetic, Geometric and Hyperbolic progression to compute the equation CO3: Find eigen values and eigen vectors of square matrix using characteristic equation CO4: Describe the prime number and composite number and compute the number of divisors. CO5: Compute the highest power of a prime number, Fermat's and Wilson's theorems
2.	**TRIGONOMETRY**	CO1: Students will be able to use the unit circle to define the six trigonometric functions. Students will be able to graph the sine, cosine and tangent functions. Students will be able to fit as in or cosine function to a given graph. CO2:Students will be able to work with radians and to solve circular motion Problems. Students will be able to solve right triangles. They will be able to draw a sketch in an applied problem when necessary. Students will be able to solve non-right triangles using the law of sines and the law of cosines. CO3: Student can write higher order derivative of standard functions. Student can express the power series expansion of a given function and evaluate limits. Student can apply De-Moivre's theorem to determine roots of polynomial and

		can express hyperbolic, inverse hyperbolic functions. CO4: Know the basic properties of exponential and logarithmic functions. Learn how to apply these functions to solving problems, including word problem. CO5: Find the sum of series. Determine the interval of convergence of a series. Create a taylor series for a function. Find the limit at infinity of a given function. Find the Taylor polynomial for a given function. Find a power series for a function. Determine the area of the region bound by functions
3.	**CALCULUS OF FINITE DIFFERENCES AND NUMERICAL ANALYSIS – I**	CO1: Understand the basic concept of algebraic and transcendtal equations. CO2: Learn the basic linear equations. CO3: Able to understand the polynomials and series CO4: Explain the interpolation with intervals. CO5: Basic concept reversion series and inverse interpolation

Semester -II

S.No.	Subject Name	Course Outcomes
1.	**ANALYTICAL GEOMETRY**	CO1: Basics of pole and polar CO2: To utilize parametric equations in graphing and analyzing polar coordinates, conic sections. CO3: Compute the Length of the perpendicular. CO4: Understand the concept of a line and a plane. CO5: Compute the equation of Sphere and circle.
2.	**DIFFERENTIAL CALCULUS**	CO1: Plot the graphs of trigonometric functions

		using exact values. CO2: To manipulate, derive and use trigonometric identities CO3: Solve trigonometric equations of a single variable with both specific and general solutions. CO4: Find maxima and minima, critical points and inflection points of functions CO5: Understand the concept of curvature and calculate curvature if the curve is defined in Cartesian form or in parametric form
3.	**CALCULUS OF FINITE DIFFERENCES AND NUMERICAL ANALYSIS-**	CO1: Understand the basic concept divided differences. CO2: Learn the basic definitions of summation series and summation formula CO3: Able to understand the basic of homogenous and non-homogenous difference equation CO4: the students can be able to find the ordinary difference equations CO5: To make the students understand the simplification of series methods, derivatives etc.,

Semester -III

S.No.	Subject Name	Course Outcomes
1.	**DIFFERENTIAL EQUATIONS**	CO1: Understand the basic concepts of linear equations and exact equation are applicable in two dimensional electrical fields the line of force equi potential curves are orthogonal trajectory of each other. CO2: PDEs can be used to describe a wide variety of

		phenomena such as sound, heat, electrostatic, electrodynamics, fluid dynamics, elasticity. CO3: Understand the Charpit's method and solve the problem in complete integral using charpits method.
2.	**INTEGRAL CALCULUS**	CO1: Students will be able to evaluate integral values by appropriate reduction formulae CO2: Compute (relatively simple) triple integrals in rectangular, cylindrical and spherical coordinates. Compute double integrals over a sector of an annulus using polar coordinates CO3: Explain the applications and the usefulness of these special functions. Understand purpose and functions of the gamma and beta functions, Sturm-Liouville problem, Fourier series and Transformation. (Skills)Use the gamma function, beta function and special functions to evaluate different types of integral calculus CO4: Find the magnitude ,direction and component form of displacement vectors. Perform the following vector operations:–addition and subtraction,–scalar multiplication,–dot product, geometric and component forms,–crossproduct, geometric and component forms. Use vector models for applications of velocity, force, work, finding angles between vectors, and projections. CO5: Evaluate integrals of functions or vector-related quantities over curves, surfaces, and domains in two- and three-dimensional space.
3.	**MATHEMATICAL STATISTICS-I**	CO1: Use statistical methodology and tools in the engineering problem-solving process.

		CO2: Compute and interpret descriptive statistics using numerical and graphical techniques. CO3: Understand the basic concepts of probability, random variables, probability distribution, and joint probability distribution. CO4: Compute point estimation of parameters, explains sampling distributions, and understands the central limit theorem. CO5: Students will be able to think critically about the data arising in management environments, selecting the best tools to describe, analyze, and exploit this data for decision support.

Semester -IV

S.No.	Subject Name	Course Outcomes
1.	**STATICS**	CO1: Basic concept when evaluating the motion caused by forces acting on an object remember to find the vector sum of the forces CO2: Rigid body studies the movement of systems of interconnected bodies under the action of external forces. CO3: Basic knowledge of various kinds of forces and motion highly desirable for engineering and Practical applications. Newton's law of motion defines and gives the expression for the force. CO4: Learn the definition of center of mass and learn how to calculate it. It is defined relative to an object or system of object CO5: Virtual work arises in the application of the principle

		of least action to the steady of forces and movement of a mechanical system.
2.	**TRANSFORM TECHNIQUES**	CO1: Understand the Laplace Transform and its existence. Know the relation between Fourier Transform and Laplace Transform. Understand the Unilateral Laplace Transform of some commonly used signals. CO2: Calculate the convolution of simple functions. Apply the Convolution Theorem to obtain inverse Laplace transforms. CO3: The student will be able to classify and solve wave equations and heat equations. Students are able to formulate and solve some of the physical problems involving Partial Differential Equations. CO4: Be able to calculate the Fourier transform or inverse transform of common functions including Rect, Gaussian, Delta, Unit - Step, sinusoidal and exponential decays. Be able to calculate the Fourier transform or inverse transform of common functions including Rect, Gaussian, Delta, Unit-Step, sinusoidal and exponential decays. C05: Students will be introduced to the concept of the Laplace transform and the application of the Laplace transform in the solution of constant coefficient, linear ODEs.
3.	**MATHEMATICALSTATISTICS – II**	CO1: Know the most widely used probability distributions and recognize them in applications. CO2: Know the main tools to describe a random variable, such as the probability density function, the cumulative distribution function, and the moment generating function. CO3: Recognize the importance of the central limit

		theorem and understand when it is appropriate to use normal approximations for the distribution of a statistic. CO4: Be able to derive maximum likelihood estimators. CO5: Be able to construct exact and approximate confidence intervals. CO6: Possess techniques of proving theorems and thinking out counter-examples. CO7: Learn to develop complex mathematical reasoning

Semester -V

S.No.	Subject Name	Course Outcomes
1.	**ALGEBRAIC STRUCTURES**	CO1: Basics of Groups, and Subgroups. CO2: Understand the concept of Normal Subgroups and homomorphism CO3: Learn the concept of Cayley's Theorem; Permutation groups. CO4: Understand the concepts of Rings, whose components ideals, homomorphism and Quotient rings. CO5: Understand the concepts of Euclidean Rings.
2.	**REAL ANALYSIS -I**	CO1: Basics of sets and functions. CO2: Understand the concept of sequence of real numbers. CO3: Learn the concept of series of real numbers. CO4: Understand the concepts of Metric spaces.
3.	**DYNAMICS**	CO1: Basics of kinematics CO2: Understand the concept of powers, simple harmonic motion and retardation CO3: Learn the concept of projectile and impulse force CO4: Understand the concepts circular motion and central orbit CO5: Understand the concepts of moment of inertia and

		theory of dimension
4.	**DISCRETE MATHEMATICS**	CO1: Define set, inclusive element, object and roster notation, subset, proper subset and equivalent set and examine the union of disjoint set. CO2: An ability to apply knowledge of Boolean algebra and knowledge about the symbols and truth table of basic and derived logic gates CO3: Ability to design and conduct experiments as well as to analysis and interpret data CO4: An ability to identify the logical gates and combinatorial circuits CO5: Solve homogenous recurrence relation using generating function CO6: Understand some basic properties of graph and related discrete structures and be able to relate these to practical examples.

Semester -VI

S.No.	Subject Name	Course Outcomes
1.	**LINEAR ALGEBRA**	CO1: Basics of vector space, linear independent and basis. CO2: Understand the concept of Dual spaces and homomorphism CO3: Define inner product space and its finite-dimen inner product space CO4: Understand algebra of linear Transformation a characteristic roots. CO5: Compute matrix canonical form and triangular fo
2.	**REAL ANALYSIS -II**	CO1: Basics of open and closed sets. CO2: Understand the concept of completeness and

		compactness. CO3: Learn the concept of Riemann integration. CO4: Understand the concepts of Calculus CO5: Understand the concepts of sequence of functions.
3.	**COMPLEX ANALYSIS**	CO1: Basics of limits function of complex variable and analytic function. CO2: Understand the concept of linear functions. CO3: Learn the concept of complex valued function CO4: Understand the concepts of Convergence of sequences and series CO5: Understand the concepts of Residues and definite integral
4.	**GRAPH THEORY**	CO1: Basics of graphs and sub graphs. CO2: Understand the degree sequences and graphic sequences. CO3: Learn the concept of Eulerian and Hamiltonian graphs CO4: Understand the concepts of trees and planarity CO5: Understand the concepts of Digraphs and matrices, tournaments, some application connector problem
5.	**OPERATIONS RESEARCH**	CO1: The characteristic of linear programming problem and also different techniques to solve LPP are introduced CO2: once the concept becomes clear, theoretical as well as logical approach of most popularly used simplex method, Big M method, primal dual relation will be explained CO3: Able to identify the special feature of the transportation problem and assignment problem CO4: Understand and compute quantitative matrices

		of performance of queuing systems CO5: Develop mathematical skills to analyse and solve integer programming and network models arising from a wide range of applications.

Program : B.Sc Electronics & Communication Science

Program Outcomes

PO1: Critical Thinking: Apply theoretical frameworks of Electronic Instrumentation.

PO2: Effective Communication: Sketch the various procedures of Basic Physics.

PO3: Social Interaction: Draw out view of others, moderate lack of agreement and lend a hand to reach closure in group settings.

PO4: Ethics: Be socially responsible in creating content and realize its impact on the society, not forgetting the values of the society.

PO5: Life-long learning: Acquire the ability to continuously keep updated in the latest trends and technologies of modern world.

Program Specific Outcomes

PSO1: Student familiarizes to the concepts, calculations pertaining to electric, magnetic and electromagnetic fields so that an in depth understanding of antennas, electronic devices, Waveguides is possible
PSO2: Understand the basic nature and basic concepts of Computer Networks.

PSO3: Identify the aspects of Basic Physics.

PSO4: Students recognize and understand common modulation schemes for continuous wave modulation
including amplitude modulation, frequency modulation, and phase modulation.

PSO5: Analyze the fundamentals of computers and their usage in evolution of Advanced electronics.

Course Outcomes

Semester - I

S. No	SUBJECT	COURSE OUTCOME

1.	**BASIC CIRCUIT THEORY**	CO1. To apply circuit theorems to simplify and find solutions to electrical circuits. CO2. To solve simple circuits using ohm's law, Kirchhoff's laws and the properties of the elements. CO3. To build up basic problem solving skills through organizing available information and applying circuit laws. CO4. To Build up strong problem solving skills by effectively formulate a circuit problem into a mathematical problem using circuit laws and theorems. CO5. To Simplify circuits using series and parallel equivalents and using The venin and Norton equivalents CO6. To understand transient circuit response.
2.	**MATHEMATICS -I**	CO1. Basic concept algebra using summation series and numerical methods. CO2. Learn the matrices and types of matrices. CO3. Able to understand the primary concepts of real and complex roots.

Semester - II

S. No	**SUBJECT**	**COURSE OUTCOME**
1.	**BASIC ELECTRONICS**	CO1. To understand the use of diodes as power supply rectifiers. CO2. To understand the operation of transistors as switching circuits. CO3. To learn the tools and techniques of practical electronics and circuit design. CO4. To understand the fundamentals of operation of the

		main semiconductor electronic devices. CO5. To understand the fundamentals of special purpose diodes. CO6. To familiarize the student with the analysis and design of basic transistor amplifier circuit.
2.	**MATHEMATICS- II**	CO1. To introduce the concepts of improper integrals, Gamma, Beta and Error functions which are needed in engineering applications. CO2. This course equips students to have basic knowledge and understanding in one field of materials, integral and differential calculus CO3. To familiarize the student with functions of several variables. CO4. To acquaint the student with mathematical tools needed in evaluating multiple integrals and their usage

Semester - III

S. No	SUBJECT	COURSE OUTCOME
1.	**ELECTRICITY, MAGNETISM AND ELECTROMAGNETISM**	CO1. To familiarize the student to the concepts, calculations pertaining to electric, magnetic and electromagnetic fields so that an in depth understanding of antennas, electronic devices, Waveguides is possible. CO2. To analyze fields and potentials due to static charges . CO3. To evaluate static magnetic fields. CO4. To understand how materials affect electric and magnetic fields.

		CO5. To understand the relation between the fields under time varying situations. CO6. To understand principles of propagation of uniform plane waves.
2.	**NUMERICAL METHODS**	CO1. Define angles using radian measure and convert between radian and degree measure. CO2. Understand the concept of iteration CO3. Solve the differential and integral equation by numerical methods CO4. Solve the equation and find the roots by Regula false-Position Method , Newton-Raphson Method CO5. compute solutions for transcendental and polynomial equations in one variable.
3.	**AMPLIFIERS AND OSCILLATORS**	CO1. To understand the operations and the applications of the various classes of an Amplifier. CO2. To study the operation of Push-Pull Amplifier. CO3. To familiarize the student with the analysis and design of basic transistor amplifier circuits, feedback amplifiers, wave shaping and multi vibrator circuits. CO4. To study the effect on Input Impedance and Frequency on Common Emitter Amplifier. CO5. To study the operation of Hartley, Colpitts, RC Phase shift, crystal and wien bridge oscillators. CO6. To determine the operating characteristic of Unijunction Transistor Oscillator.
4.	**BASIC PHYSICS 1**	CO1. Define the basics of properties of matter, how Young's modulus and rigidity modulus are defines and how they are evaluated for different shapes of practical relevance CO2. Describe the fundamentals of harmonic oscillator model, including damped and forced oscillators and

		grasp the significance of terms like quality factor and damping coefficient CO3. Describe the general equation of wave motion in general and TM waves in stretched strings and longitudinal waves in gases CO4. Recognize the general terms in acoustics like intensity, loudness, reverberation etc, and study in detail about production, detection, properties and uses of ultrasonic waves

Semester - IV

S. No	SUBJECT	COURSE OUTCOME
1.	**PRINCIPLES OF COMMUNICATION**	CO1. To learn the basic principles of analog and digital communication systems. CO2. To familiarize the student with modulation techniques. CO3. To recognize and understand common modulation schemes for continuous wave modulation including amplitude modulation, frequency modulation, and phase modulation. CO4. To recognize and understand common digital pulse modulation schemes including delta modulation and pulse-code modulation. CO5. To understand the common analog pulse modulation schemes including pulse-amplitude modulation, pulse-width modulation, and pulse-position modulation.
2.	**DIGITAL ELECTRONICS**	CO1. To understand common forms of number representation in digital electronic circuits and to be able to

		convert between different representations. CO2. To perform decimal, octal, hexadecimal, and binary conversions. CO3. To apply Boolean algebra to solve logic functions. CO4. To implement simple logical operations using combinational and sequential logic circuits. CO5.To identify and differentiate digital electronics applications**.**
3.	**MICROPROCESSOR (INTEL 8085)**	CO1. To know the microprocessor as a programmable digital system element. CO2. To illustrate some basic concepts of microprocessors through the use of assembly language programming. CO3. To develop an in-depth understanding of the operation of microprocessors and machine language programming & interfacing techniques. CO4. To design simple interfaces to Intel-8085. CO5. To Comprehend the various peripheral interface circuits that are necessary for the operation of Intel-8085.
4.	**PROGRAMMING IN C**	CO1. To Understand how to use and manipulate variables and types to change the program state, including numeric, character, array and pointer types, as well as the use of structures and typedefs. CO2. To understand the purpose and use of function libraries. CO3. To understand the purpose of pointers for parameter passing, referencing and dereferencing, and linking data structures. CO4. To understand object-oriented programming

		features in C++, CO5. To understand the implementation of various data structures and algorithms in C++.
5.	**BASIC PHYSICS II**	CO1. Define the basic concepts behind Optics, Nuclear Properties and Radio Activity CO2. Describe the basics in Laser CO3. Implement the applications of Fibre Optics

Semester - V

S. No	**SUBJECT**	**COURSE OUTCOME**
1.	**MICROCONTROLLER**	CO1. To Familiarize with different types of Microcontroller. CO2. To know 8051 microcontroller in detail. CO3. To learn Programming and Interfacing with 8051 microcontroller. CO4. To develop an in-depth understanding of the operation of microcontrollers & interfacing techniques. CO5. To Understand and use various IO devices such as keypads, stepper motor, A to D and CO6. To learn D to A converters.
2.	**ANTENNAS AND TELEVISION ENGINEERING**	CO1. To provide the basic knowledge about the fundamentals of antenna. CO2. To describe the electromagnetic radiation with application to antenna theory and design. CO3. To make the students understand the radio wave propagation phenomena in modern communication systems. CO4. To understand the applications of the electromagnetic waves in free space. CO5. To study the analysis and synthesis of TV Pictures,

		Composite Video Signal, Receiver Picture tubes and Television Camera Tubes. CO6. To study the various Color Television systems with a greater emphasis on television standards. CO7. To study the advanced topics in digital television and High definition television
3.	**ELECTRICAL AND ELECTRONICS INSTRUMENTATION**	CO1. To introduce the basic concepts related to the operation of Electrical and Electronic Measuring Instruments. CO2. To study the basics of design of analog and digital circuits used in electronic instrumentation. CO3. To understand basic electronic instrument terminology. CO4. To understand the proper application of electronic instruments.
4.	**MEDICAL ELECTRONICS**	CO1. analyze and evaluate the effect of different diagnostic and therapeutic methods, their risk potential, physical principles, opportunities and possibilities for different medical procedures. CO2. to have a basic understanding of medical terminology, relevant for biomedical instrumentation. CO3. to understand and describe the physical and medical principles used as a basis for biomedical instrumentation. CO4. understand the elements of risk for different instrumentation methods and basic electrical safety. CO5. understand the position of biomedical instrumentation in modern hospital care

Semester - VI

S. No	SUBJECT	COURSE OUTCOME
1.	**ADVANCED ELECTRONICS**	CO1. To understand the fundamentals of optoelectronics and principles of the optoelectronic devices operation. CO2. To be familiar with recent trends in optoelectronics. CO3. To study the basic concepts of smart phones. CO4. To understand the fundamental concepts of nanoelectronics.
2.	**COMPUTER NETWORKS**	CO1. To learn the definition and basic terminology of Computer Networks. CO2. To learn the different types of Computer Networks. CO3. To know the applications of Computer Networks in different fields. CO4. To know about Multiplexing, transmission media and signals. CO5. To learn the functioning of OSI model and to describe the responsibilities of each layer. CO6. To know about the individual components and functioning of the Internet. CO7.To learn about the hardware components used in the networking.
3.	**INDUSTRIAL ELECTRONICS**	CO1. Analyze the steady state and small signal AC response of simple electronic circuits containing diodes, transistors, and operational amplifiers CO2. Apply performance criteria in the design of basic amplifier circuits and verify that the criteria were met. CO3. Design and analyze circuits containing digital components and microprocessors. CO4. Analyze and evaluate performance parameters of AC and DC motors.

Program :B.Sc Microbiology

Program Outcomes (PO)

PO1: Graduates will obtain ample knowledge and leadership skills for a successful career in the field of Microbiology

PO2: Graduates will be able to explore and solve natural science based problems in clinical, environmental and industrial oriented

PO3: Graduates will work together with each other to solve problems with innovative thoughts and new techniques

PO4: Graduates will acquire practical skills- plan & execute experimental techniques independently as well as to analyse& interpret data.

PO5: Graduates will effectively be able to manage resources in time.

PO6: Graduates will be able to learn separately and develop critical thinking.

PO7: Graduates will achieve ability to communicate proficiently and able to understand moral and social responsibility.

PO8: Graduates will carry on to learn and to acclimatize to themselves in a world of constantly growing recent technology.

Program Specific Outcomes (PSO)

Students who graduate with a Bachelor of Science in Microbiology will,

PSO1: Acquire knowledge on fundamentals of Microbiology and classification of microbes.

PSO2: Gain insight into the various aspects of microbial genetics, Molecular Biology and Genetic Engineering.

PSO3: Proficiently be able to cultivate and characterize bacterial, Viral, Parasitical and fungal forms.

PSO4: Grasp the fundamental concepts of Natural and Acquired immunity and the role of organs and cells in the development of immune response.

PSO5: Understand details of bacterial, fungal, algal and viral morphology and physiology and metabolism.

PSO6: Be capable on understanding the cloning vectors and rDNA technology in eukaryotic and Prokaryotic system.

PSO7: Incorporate technical skills on Medical microbiology, Food Microbiology, Applied Microbiology, microbial genetics and molecular biology.

PSO8: Grasp the application oriented aspects of Microbiology in the day to day life and industries.

PSO9: Understand the concepts and development of microbial diseases in animals & plants to diagnose the disease.

PSO10: Understand the principles of prevention by vaccination and create awareness in the society.

Course Outcomes
Semester - I

S. No	SUBJECT	COURSE OUTCOME
1.	**GENERAL MICROBIOLOGY AND MICROBIAL PHYSIOLOGY - MAJOR**	CO1. Understand the structural features of microorganisms by various staining methods CO2. Learn to prepare various kinds of media to cultivate microbes CO3. Learn to handle and work with microscopes CO4. Understand the microbial physiological characters
2.	**BIOCHEMISTRY - ALLIED**	CO1. Understand the function of biological molecules through the study of their molecular structure. CO2. Develop an understanding of the chemical and regulatory interrelationship between major cellular CO3. synthetic and catabolic pathways. CO4. Gain insights into the nature of diseases and

		clinical diagnostic procedures.

Semester - II

S. No	SUBJECT	COURSE OUTCOME
1.	**IMMUNOLOGY AND MICROBIAL GENETICS – MAJOR**	CO1. Understanding about the fundamental concepts of immunity and its types, contributions of theorgans and cells in immune responses. CO2. Understand about the antigens & their properties and involvement in immune response CO3. Understand the different types of antibodies like monoclonal and polyclonal& their production. CO4. Understand the mechanisms involved in antigen-antibody reactions like agglutination and CO5. Precipitation and getting adequate knowledge CO6. Gaining adequate knowledge about tissue transplantation and tumor immunology CO7. Comprehensive knowledge leading to hypersensitive conditions and its consequences in immunesystem CO8. Know how MHC functions in the immune system CO9. Gain knowledge on vaccines, immunization and its schedule CO10. Gain knowledge about bacterial genetics and related informations
2.	**BIOINSTRUMENTATION – ALLIED**	CO1. Acquire skills on chromatographic techniques. CO2. Know how to adjust pH. CO3. know how to perform gel electrophoresis. CO4. Get skill to handle UV-Vis spectroscopy. CO5. Provided with demonstration to handle PCR, DNA sequencer, Fermenter, Flow cytometry

Semester - III

S. No	SUBJECT	COURSE OUTCOME
1.	**MOLECULAR BIOLOGY**	CO1. Acquire knowledge about the basic structure of bio molecules and their stability. CO2. Attain knowledge about the basics in structure of Nucleic acid and their various forms. CO3. Learn about the organization of genetic materials in organisms. CO4. Study about the types of damage and repair mechanisms. CO5. Understand the steps involved in DNA replication, transcription and translation processes in organisms. CO6. Acquire knowledge about various types and processing in RNA molecule. CO7. Gain knowledge in the mechanisms of gene expression. CO8. Achieve knowledge about the regulation of gene activity at various level.
2.	**BIOINSTRUMENTATION – ALLIED**	CO1. Acquire skills on chromatographic techniques. CO2. Know how to adjust pH. CO3. know how to perform gel electrophoresis. CO4. Get skill to handle UV-Vis spectroscopy. CO5.Provided with demonstration to handle PCR, DNA sequencer, Fermenter, Flow cytometry

Semester - IV

S. No	SUBJECT	COURSE OUTCOME
1.	**SOIL AND AGRICULTURAL MICROBIOLOGY**	CO1. understand the factors influencing presence of and activities of microorganisms in different soils

		CO2. explain influence of pesticides on soil microorganisms CO3. explain biodegradation and biofuel generation CO4. Develop skills in using techniques for isolation, characterization and identification of soil microorganisms CO5. Identify pesticide degrading microorganisms by using microbiological techniques.
2.	**BIOINSTRUMENTATION – ALLIED**	CO1. Acquire skills onchromatographic techniques. CO2. Know how to adjust pH. CO3. Know how to perform gelelectrophoresis. CO4. Get skill to handle UV-Vis spectroscopy. CO5. Provided with demonstration tohandle PCR, DNA sequencer, Fermenter, Flow cytometry

Semester - V

S. No	SUBJECT	COURSE OUTCOME
1.	**MEDICAL BACTERIOLOGY**	CO1. Know the classification and properties of medically important bacteria. CO2. Learn the methods of collection, transport and processing of clinical specimens. CO3. Gain knowledge on antibioticsensitivity discs, testing procedures and their quality control. CO4. Know the morphological, biochemical, cultural properties of bacteria. CO5. Get complete information on pathogenesis of bacterial diseases CO6. Comprehend the diagnosis of bacterial infections and prevention methods CO7. Assimilate knowledge on different mode of

		transmission of bacterial diseases CO8. Gain knowledge on community-acquired and nosocomial infections.
2.	**MEDICAL MYCOLOGY & PARASITOLOGY**	CO1. Know about the taxonomy of fungi. CO2. Gain knowledge about the isolation of fungi from clinical specimens. CO3. Understanding of Medical Parasitology. CO4. Assimilate Mycotoxins and antifungal agents. CO5. In-depth knowledge on Blastomycosis and Sporotrichosis. CO6. Gain knowledge on Laboratory techniques in parasitology. CO7. A thorough knowledge on cultivation of protozoan parasites.
3.	**MEDICAL VIROLOGY**	CO1. Gain information properties of viruses and their detection methods. CO2. Acquire basic knowledge DNA and RNA viruses CO3. Acquire knowledge on pathogenic virus CO4. Get adequate knowledge about Bacteriophages CO5. Assimilate knowledge on epidemiology, prevention and treatment of various viral disease.
4.	**GENETIC ENGINEERING**	CO1. Students may obtain interest in Molecular biology research CO2. Students mayacquire knowledge about the methods of rDNA technology.
5.	**MAJOR PRACTICAL V - MEDICAL BACTERIOLOGY, MYCOLOGY, PARASITOLOGY AND VIROLOGY**	CO1. Gain knowledge about transport of clinical specimens and their isolation CO2. Know about sensitivity testing of microbes CO3. Acquire knowledge on isolation of phage CO4. Know about identification and cultural characteristicsof fungi

		CO5. Gain knowledge about identifying protozoan

Semester - VI

S. No	SUBJECT	COURSE OUTCOME
1.	**ENVIRONMENTAL MICROBIOLOGY**	CO1. Explain the different groups of microorganisms in the environment CO2. Explain how diseases can be transmitted by waters; the treatments and control measures of such diseases CO3. Understand why treatment of water for safe consumption is necessary and how the treatment could be carried out; CO4. Understand the need for proper sewage disposal in the environment and roles of microorganisms in the disposal of sewage.
2.	**FOOD & DAIRY MICROBIOLOGY**	CO1. Know the microorganisms present in different types of food. CO2. Understand the principles behind food preservation and the various methods involved in it. CO3. Appreciate the beneficial effects of microbes in foods. CO4. Comprehend the factors influencing microbial growth and survival in foods. CO5. Know the role of microorganism in fermentation and the various types of fermented food products. CO6. Know the spoilage organisms in different types of foods CO7. Realize the importance of food sanitation and appreciate the practice of GMPs,
3.	**INDUSTRIAL AND PHARMACEUTICAL**	CO1. Acquire knowledge on various ferementation

	MICROBIOLOGY	process CO2. Know about different types of fermentors CO3. Gain knowledge about commercially produced microbial products CO4. Gain knowledge about down stream processing CO5. Know about pharmaceutical products and about their production.
4.	**BIOTECHNOLOGY**	CO1. understand principles of animal culture, media preparation . CO2. explain Invitro fertilization and embryo transfer technology. CO3. describe meristem culture and clonal propagation of plants on a commercial scale. CO4. get insight in applications or recombinant DNA technology in agriculture, production of therapeutic proteins. CO5. describe commercial production of fuels, microbial enzymes. CO6. explain the microbial degradation ofpesticides, Bioremediation& Biofertilizers.
5.	**MAJOR PRACTICAL - ENVIRONMENTAL, FOOD AND DAIRY MICROBIOLOGY**	CO1. Quantify the organisms present in food. CO2. Analyse the microbiological quality of raw milk by MBRT and Resazurin test CO3. Evaluate the microbiological quality of curd by Standard Plate Count CO4. Isolate and identify the yeast and mould in spoiled foods CO5. Identifying the toxins in grains by Thin Layer Chromatography CO6. Analyse the potabilty of water

PROGRAM :BSc Psychology

Program Outcomes (PO)

PO1. Elevate their job opportunities

PO2. Enrich their knowledge on special education

PO3.Develop their cognitive skills

PO4.Improve their analytical skills

PO5.Heighten their problem solving & decision making skills

PO6. Enhance their quality of life

PO7. Improve their emotional intellignce

PO8.Improvise their presentation skills

PO9.Enrich their leadership qualities

PO10.Excel in academics

PROGRAM SPECIFIC OUTCOME (PSO)

The choice of Psychology discipline in UG Program will specifically will

PSO1: Enable the students to understand basics of human behaviour

PSO2: Enable the students to widen their knowledge horizon with the help of theories and experiments based on personalities, society and family

PSO3: Enable students to explore the research methodology and statistical analysis related to psychology

PSO4: Enable them to understand and analyse every day problem of an evolving human mind and its interaction with the changing environment.

PSO5: Enable students to successfully help common public elevate their standard of living understanding the gap.

PSO6: Enable students design and redesign the model of an organization to help them bring the best out of the Human resources.

PSO7: Enable students, understand the structure of the society and help the change makers analyse the behaviour of the common public.

PSO8: Enable students identify and treat mental illness with a specific treatment plan.

PSO9: Enable student to understand the principles of guidance and counselling.

PSO10: Enable the students to identify the specific learning disabilities among children

COURSE OUTCOME

S.NO	COURSE NAME	COURSE OUTCOME
SEMESTER - I		
1.	**CORE-I GENERAL PSYCHOLOGY-I**	Course Learning Outcome After completion of the General Psychology I course, students will be able to CO1: Acquire knowledge on the history, methods and specific areas in the field of psychology CO2: Explain sensory system through which information processing happens. CO3: Relate the nature of consciousness and the underlying theoretical interpretation and describe the various stages of sleep & dreams. CO4: Outline and compare principle and theories of learning. CO5: Summarize and compare various functions of memory process.
2.	**BIOLOGICAL PSYCHOLOGY-I**	Course Learning Outcome After completion of the Biological Psychology-I course, students will be able to CO1: Explain the research methods and perspectives of biopsychology and the reciprocal relationship between

		brain and behavior. CO2: Illustrate the anatomy and function of the neural cell. C03: Relate how neurons communicate with each other. CO4: Understand and explain the division of nervous system. CO5: Understand and explain the function of endocrine glands and relate the knowledge to understanding various human behavior.
3.	**INTRODUCTION TO INDIAN PSYCHOLOGY**	Course Learning Outcome After completion of the Indian psychology course, students will be able to CO1: Outline the fundamental concepts of Indian Psychology in comparison with western psychology concepts. CO2:. Examine various concepts of Indian Psychology on Personality and states of consciousness through Upanishads, Nyaya, Advaita, Vedantam etc. CO3: Illustrate the ideas of Yoga and apply the knowledge for self-development CO4: Analyzing various religious school of thoughts in explaining the concept of Mind CO5: Apply the concept of Indian psychology in various fields like counselling, education, organizational behavior etc

SEMESTER - II		
1.	**GENERAL PSYCHOLOGY-II**	Course Learning Outcome After completion of the General Psychology- II course, students will be able to CO1. Spell out the different types of cognition, thinking processes, decision making and language development CO2. Summarize the various theories of Motivation, frustration and conflicts CO3. Outline the characteristics and theories of emotions and stress CO4. Explain the nature, theories and assessment of Intelligence, Emotional Intelligence and creativity CO5. Analyze various theories of Personality and describe the assessment & application of the Personality tests
2.	**BIOLOGICAL PSYCHOLOGY-II**	Course Learning Outcome After completion of the Biological Psychology II course, student will be able to: CO1. Outline the biological basis of Sleep & Dream and various sleep disorders CO2. Explain brain development and neuro plasticity CO3. Summarize the brain mechanism involved in regulating thirst, hungry and feeding

		CO4. Relate biopsychology of emotions in relation to stress and ill health CO5. Identify the brain areas associated with learning & memory and outline the causes of memory disorders
3.	**INTRODUCTION TO COMMUNITY PSYCHOLOGY**	Course Learning Outcome After completion of the Community Psychology course, student will be able to: CO1. Define and explain the core values of community psychology in Indian context CO2. Analyse and evaluate various socio-cultural psychological models and behaviours of Indian youth CO3. Critically examine the socio-economic indicators and its impact on development CO4. Appraise the role of human development and family structure on Mental Health CO5. Develop preventive measures and design promotion programmes for better community development
SEMESTER - III		
1.	**DEVELOPMENTAL PSYCHOLOGY-I**	Course Learning Outcome After completion of the Developmental Psychology-I course, student will be able to: CO1. Summarize the developmental stage of conception through birth CO2. Explain the developmental stage of infancy and babyhood CO3. Recall the various developmental process of early and late childhood CO4. Understand the various theories of cognitive development

		CO5. Relate various Developmental stages of socialization, family relations and personality development.
2.	**EXPERIMENTAL PSYCHOLOGY**	Course Learning Outcome After completion of the Experimental Psychology course, students will be able to CO: 1. Demonstrate the effect of distraction, division and span of attention CO2. Explain the factors involved in errors of perception CO3. Demonstrate the concepts of transfer of learning, trial and error learning, insight learning and learning through the knowledge of results CO4. Relate to one's own level of aspiration and achievement motivation CO5. Infer various emotional patterns in oneself and others 6. Illustrate the use of the motor-skills in manual and tweezer dexterity 7. Demonstrate assessment of IQ level
3.	**STATISTICS IN PSYCHOLOGY**	Course Learning Outcome After completion of the Statistics in Psychology course, student will be able to: CO1. Explain the different levels of measurement and methods of organizing data in statistics CO2. Differentiate between mean, median, mode and variability CO3. Illustrate and apply the concepts of normal distribution CO4. Find out correlation among variables CO5. Test for significance in hypotheses testing

		CO6. Select and utilize appropriate non-parametric statistics
SEMESTER - IV		
1.	**DEVELOPMENTAL PSYCHOLOGY–II**	Course Learning Outcome After completion of the Developmental Psychology II course, the student will be able to CO: 1. Summarize the developmental process of puberty and adolescence CO2. Relate the various development process of young adulthood CO3. Explain the developmental tasks of middle age CO4. Identify problems related to old age CO5 Develop coping strategies with grief and old age sickness
2.	**PSYCHOLOGICAL ASSESSMENT**	Course Learning Outcome After completion of the Psychological assessment course, students will be able to CO1. Empower the students to assess Personality CO2. Enable the students to assess Creativity CO3. Empower the students to assess Aptitude CO4. Enable the students to find out their Interest CO5. Empower the students to assess Achievement Motivation CO6. Enable the students to assess stress and its coping CO7. Measure and interpret achievement test, stress and coping levels CO8. Select appropriate test to measure attitude, behaviour and discuss the results
3.	**CONSUMER BEHAVIOR AND**	Course Learning Outcome After completion of the consumer behaviour and advertising course, students

	ADVERTISING	will be able to: CO1. Explain the field and scope of consumer behaviour and impact of new technology on marketing strategies CO2. Outline the different aspects of research in the field of consumer process CO3. Apply concepts of motivation and perception on consumer behaviour CO4. Explain the features, goals, functions, types and models of advertising CO5. Determine the framework in advertising, role of media in advertising and ethical standards in advertising
SEMESTER - V		
1.	**ABNORMAL PSYCHOLOGY–I**	Course Learning Outcome After completion of the abnormal psychology - I course, students will be able to: CO1. Distinguish between normal & abnormal behavior and outline the historical background and need for classification CO2. Summarize the various models of abnormality CO3. Identify clinical features and causes of neurodevelopmental disorder, conduct disorder & neurocognitive disorder CO4. Explain the clinical features and causal factors of anxiety related disorder CO5. Outline the clinical features and causal factors of somatic and dissociative disorder
2.	**SOCIAL**	Course Learning Outcome After completion of the

	PSYCHOLOGY–I	Social Psychology I course, students will be able to: CO1. Outline the nature, history, principles and scope of social psychology and methods used in social psychology research CO2. Illustrate the significance of self- presentation behaviors in relation to the multifaceted development of the self CO3. Infer the interconnections between attitude and behavior CO4. Compare the reasons of conformity, compliance and obedience CO5. Summarize the conditions promoting helping behavior and infer conditions of bystander effect
3.	**INTRODUCTION TO RESEARCH METHODOLOGY**	Course Learning Outcome After completion of the Introduction to research methodology course, students will be able to: CO1. Explain the needs, objectives , importance , problem and process of research based on review of literature CO2. Identifying research problems and formulating hypothesis CO3. Distinguish between the different types of sampling CO4. Examine the methods used in data collection CO5. Demonstrate an understanding of writing a research report
4.	**HEALTH PSYCHOLOGY**	Course Learning Outcome After completion of the health psychology course, the student will be able to:

		CO1. Outline the definition and scope of Health Psychology CO2. Explain the various models of health behavior CO3. Identify types of pain, symptoms of illness and suitable intervention CO4. Summarize theories of stress, sources of stress and coping CO5. Explain health promoting strategies
5.	**SPORTS PSYCHOLOGY**	Course Learning Outcome After completion of the Sports Psychology course, students will be able to: CO1. Explain the need, importance and research methods in sports psychology CO2. Relate physical activity and Mental Health CO3. Describe the nature, measurement of attitude towards sports behavior CO4. Classify various abilities and skills CO5. Explain the prevalence, etiology and intervention of alcohol and drug use among athletes
SEMESTER - VI		
1.	**ABNORMAL PSYCHOLOGY-II**	Course Learning Outcome After completion of the abnormal psychology - II course, students will be able to: CO1. Explain the causes of unipolar and bipolar disorder and treatment CO2. Outline the clinical feature, causal factor and treatment of schizophrenia and other psychotic disorder CO3. Summarize types, causes and treatment of Personality disorder

		CO4. Explain the types, causal and treatment of substance related disorder CO5. Identify the different types of prevention and summarize the different models of therapies
2.	**SOCIAL PSYCHOLOGY-II**	Course Learning Outcome After completion of the social psychology - II course, students will be able to: CO1. Outline the theories of persuasion and illustrate the factors in resisting persuasion CO2. Determine the influence of various group behaviors in relation to individual's performance CO3. Outline the nature, sources and consequences of prejudice and illustrate methods to counteract effects of prejudice CO4. Summarize the theories of aggression and strategies to regulate aggression CO5. Identify the dynamics of intimate relationships in relation to internal and external sources of attraction
3.	**INTRODUCTION TO THEORIES OF PERSONALITY**	Course Learning Outcome After completion of the Introduction to theories of personality course, students will be able to: CO1. Explain the concept, assessment, measurement and research methods of Personality CO2. Outline the various psychoanalytic perspectives of Personality CO3. Summarize the life span and trait perspective of Personality CO4. Outline the existential humanistic perspective of Personality

		CO5. Explain Behavioural, Cognitive and Social perspectives of personality
4.	**GUIDANCE AND COUNSELLING PSYCHOLOGY**	Course Learning Outcome After completion of the Guidance and counselling Psychology course, students will be able to: CO1. Identify the need and importance of counselling in the current context CO2. Explain the various approaches in counselling and the types, uses & diagnosis in counselling process CO3. Summarize the interpretation of psychological tests in counselling CO4. List the qualities of an effective counsellor CO5. Identify the special areas of counselling CO6. Spell out the ethical guidelines laid down by the American Psychological Association and the role of counsellor in promoting good Mental Health
5.	**HUMAN RESOURCE MANAGEMENT**	Course Learning Outcome After completion of the human resource management course, students will be able to: CO1. Outline the basic concepts of human resource management CO2. Relate the need for job analysis in relation to Human Resource Planning and Recruiting CO3. List strategies for analysing training needs and developing employees CO4. Explain the techniques of performance appraisal CO5. Spell out how stress management, conflict management and employee empowerment help in employee motivation

PROGRAMME :B.ScELECTRONIC MEDIA

1.PROGRAMME OUTCOMES (POs):

PO 1. An ability to write and present a substantial technical report / document

PO 2. Students should be able to learn and apply various creative techniques & critical thinking methods in media production and problem solving.

PO 3. Students will be able to learn necessary skills required to produce various aspects of media content such as scripting, writing, direction and cinematography, for different mediums

PO4. The student should be able to use the skills in the creative industry – be it television channels, information technology, public relations, or corporate communication

PO5.The students should be able to simplify technical content in simple language and multimedia as part of technical communication.

2. PROGRAMME SPECIFIC OUTCOMES (PSOs):

PSO1. The students will be exposed to photography, videography, and direction skills.

PSO2. The students will be able to place in design, radio, Television, Film industrywith the relevant and on experience.

PSO3. The students can plan, develop and implement communication for development projects at local, regional and global levels.

PSO4. The students should be equipped with lots of soft skills required of many of the managerial and high-profile jobs.

S.NO	COURSE NAME	COURSE OUTCOME
SEMESTER: I		
1.	**CORE-I:HISTORYOF ELECTRONIC MEDIA**	Students will acquire CO1.Knowledge of Electronic media and its scope and its importance in various media Such as radio, television, cinema and social media.

		CO2.Knowledge of Information about various media organizations in India and their functions CO3.Knowledge of Broadcasting regulations in India and its governance in media.
2.	**CORE–II: PRINCIPLES OF AUDIOGRAPHY**	Students will acquire CO1. Knowledge of principles of sound, acoustics, soundequipments, sound aesthetics and sound production. CO2. Knowledge of Strategies in designing sound, digital recording, Synchronization and functions of sound in relation to picture.
3.	**ALLIED-I: AUDIOGRAPHY LAB**	Student will acquire CO1. Knowledge of types of microphones, sound recording formats, mixers and consoles, sound editing and special effects CO2. Knowledge of technical expertise in handling appropriate software in sound Editing.
SEMESTER: II		
1.	**CORE-III: COMMUNICATION SKILLS**	Student will acquire CO1. Knowledge of communication and its nature, scope and types. Verbal and non- verbal communication CO2. Knowledge of communication for social change, alternative media for social change and case studies in communication skills.
2.	**CORE-IV:RADIO PRODUCTION**	Student will acquire CO1. Knowledge of radio stations, basics of radio programming, radio station organization CO2. Knowledge of radio formats and styles and advanced radio production techniques.

3.	**ALLIED-II:RADIO PRODUCTION LAB**	Student will acquire CO1.Knowledge of Radio announcing, radio commercial, drama, interviews, news, documentary and live shows Radio Announcing Practice: Drills, Commercials Drama, Interviews, News and Public Affairs Radio DocumentaryCovering Live Shows (music concert or sports)
SEMESTER III		
1.	**CORE-V: VIDEOGRAPHY**	Student will acquire CO1. Knowledge of human eye and camera, video camera design and functions, nature of light and its resources CO2. Information about lighting procedure in indoor and outdoor, aesthetics of videography and framing techniques and different lighting formats CO3.Knowledge of works of eminent cinematographers in the industry.
2.	**CORE–VI:VIDEOEDITING (PRINCIPLES AND PRACTICES)**	Student will acquire CO1. Knowledge of fundamentals of editing, editing equipments and functions, linear and non-linear editing functions CO2. Information of Standards in sound editing, editing accessories, aesthetics of editing, mixing of sound and visuals CO3. Knowledge of Latest Editing Softwares and their Applications.
3.	**CORE–XII:VIDEOLABPRACTICAL**	Student will acquire CO1. Knowledge of making documentary films CO2. Knowledge of documenting the facts in the

		social perspective and writing draft for documentary.
SEMESTER IV		
1.	**CORE–VII:FILMSTUDIES**	Student will acquire CO1. Knowledge of history of film, early cinema, cinema after the coming of sound CO2. Knowledge of cinema in the third world and national, regional cinemas CO3.Knowledge of Techniques in cinematography, budget and production process, CO4. Knowledge of digital distribution of cinema, film forms and post production techniques
2.	**CORE–VIII:ACTING AND DIRECTION**	Student will acquire CO1. Knowledge of acting, scriptwriting basics and its formats, storyboard CO2. Knowledge of direction basics and its techniques CO3. Knowledge of TV direction and its techniques CO4. Knowledge of Logistics management, production management and film certification process CO5. Knowledge of OTT Platforms and digital release and digital cinema projection packages.
3.	**ALLIED–IV: SCRIPTWRITING LAB**	Student will acquire CO1. Knowledge of writing scripts and its formats and script writing concepts CO2. Writing Scripts in different Formats and

		Audiences (Fiction, Non-fiction,non-scripted programmes) CO3. Record should contain at least THREE different scripts in each format.
SEMESTER V		
1.	**CORE–IX:TELEVISION PRODUCTION MANAGEMENT**	Student will acquire CO1.Knowledge of Television production management and production environment CO2. Knowledge of pre-production process, planning and research. CO3.Knowledge of single and multi-camera operations in Television CO4. Knowledge of post-production process in television, budgeting and talent management.
2.	**CORE–X: COMMUNICATION AESTHETICS**	Student will acquire CO1.Knowledge on Communication aesthetics, 2D and 3D field and its applications in visual media CO2.Knowledge of Light and shade and colour and its terminologies and lighting techniques and lighting equipments and accessories in depth CO3.Knowledge of fourth dimensional field time,objective time and subjective time and editing principles in relation to time, screen time and real time CO4.Knowledge of fifth dimensional field, sound structures and sound picture combinations
3.	**CORE–XI:GRAPHICS AND ANIMATION**	CO1. Knowledge of graphics and animation, basics of digital technologies, aesthetics and design of computer graphics

		CO2. Knowledge of CG Application areas and equipment, CG Standards and Formats CO3. Knowledge of 2D images and graphics, 3-D Modeling, rendering color and rendering models CO4.Knowledgeof animation, dynamics, multimedia systems, products and platforms Recent Developments in software and hardware systems.
4.	**CORE–XI:VIDEO PRODUCTION PRACTICAL**	Student will acquire CO1. Knowledge of making documentary films CO2. Knowledge of documenting the facts in the social perspective and writing draft for Documentary.
5.	**ELECTIVE-I:VIDEO EDITING PRACTICAL**	Student will acquire CO1. Knowledge of technical expertise in handling the industry-standard non-linear video editing soft wares and familiar with linear editing equipment and functions CO2.Familiarity with Linear Editing Equipment and Functions CO3.Practical Sessions using appropriate industry-standard non-linear editing software (FCP/Avid/Davinci/ Resolve).
SEMESTER VI		
1.	**CORE–XIII:MEDIA ORGANIZATION**	Student will acquire CO1. Knowledge of nature and structure of Media organizations, private satellite channels, production houses, employment opportunities in Indian media industry CO2. Knowledge of media economics, state of the industry today

		CO3. Knowledge of media project management, production project cycle, risk and impact assessment, budgeting and project responsibility CO4. Knowledge of different kinds of contracts and legal arrangements in media projects.
2.	**CORE–XIV: COMMUNICATION CULTURE AND SOCIETY**	Student will acquire CO1. Knowledge in understanding communication, culture and society, mass media and characteristics, media effects, power of media, Indian media, audience theories CO2. Knowledge of media and text, Marxism, semiotics, sociology and psychoanalysis and media and realism, social construction of media CO3. Knowledge of Media rhetoric, myth, cultural studies, audience positioning and critical autonomy, popular culture and media, popular text, and people's culture.
3.	**CORE-XV: INTERNSHIP**	Student will acquire CO1. Knowledge from media industry practical training and hands on exposure to media practice from the leading organizations in television, radio, social media, film making, animation industry, special effects lab, video and audio editing studios.
4.	**ELECTIVE–II:3D ANIMATION**	Student will acquire CO1. Knowledge and technical expertise in advanced animation software and its applications in the industry

5.	**ELECTIVE–III: PROJECT**	Student will acquire CO1. Knowledge of Technical expertise through the project submission in variousproduction process involved like video camera handling, editing, radio andaudio production, multimedia production, directing short films, visual effects and TV production.

PROGRAMME: B.Sc VISUAL COMMUNICATION

PROGRAMME OUTCOMES (POs):

PO1: Creative Thinking: Take informed actions after identifying the assumptions of the visual medium implications and evaluating the validity & usefulness of the decisions taken.

PO2: Effective Communication: Speak, read, write and listen in English and one Indian language and communicate effectively and interact with people.

PO3: Social Interaction: Draw out view of others, moderate lack of agreement and lend hand to reach views and executing the ideas through the visual medium.

PO4: Ethics: Be socially responsible increasing media content and realize its impact on the society, not forgetting the value soft he society.

PO5: Life-long learning: Acquire the ability to continuously keep updated in the latest trends and technologies of modern and new media. The learner must be dynamic and prepared for employment in complex, ever – changing environments in the media industry. The learner must have the ability to express thoughts and ideas effectively in written, oral and in technical communication. The learner must have the ability to work with team members in the corporate media industry.

PROGRAMME SPECIFIC OUTCOMES (PSOs):

PSO1: Understand the basic nature and basic concepts of Development of Visual Communication, Media Laws and Ethics, Media Economics, New Media Technology, Media Language, Media Research, International Media, Media Content and Dissertation on any media issue.

PSO2: Understand the applications of Photography, 3DAnimation, Audio and Video Production, Radio & Television Technology and Computer Animation including Cinema.

PSO3: Perform procedures as per laboratory standards in the areas of Drawing and Graphic designing, Advance Photography, Video Editing, Scriptwriting, Computer Graphics, Web Designing & Development, Graphics and Animation, Documentary Film Making.

PSO4: Understand the concepts of Elements of Film, Media Culture and Society, Advertising and Corporate Communication, Cable & Satellite Communication, Production Management, Communication Skills and Media Organization.

PSO5: Analyze the fundamentals of computers and their usage in the areas of 2D, 3D graphics & ANIMATION, Television, and film production.

S.NO	COURSE NAME	COURSE OUTCOME
SEMESTER - I		
1.	**INTRODUCTION TO VISUAL COMMUNICATION**	CO1.Understand basics of communication and models of Communication CO2.Understand the process of communication and levels of communication CO3.Understandthefundamentalsofdesignanddesignelements CO4.Get thorough knowledge in types of Perceptions, Illusions CO5.Get in to basics of Graphic Design and its elements
SEMESTER – II		
1.	**COMMUNICATION SKILLS**	CO1. Understand theories and models of Interpersonal Communication CO2. Get in depth knowledge in Group communication theories and models. CO3. Understand how to communicate in public and models related to public communication CO4.Understand what is non-verbal communication and its theories and models CO5.Get knowledge on Thinking techniques and more about audiences.

SEMESTER - III		
1.	**ADVERTISING**	CO1. Understand the basics of Advertising, its role and functions. CO2. Understand the advertising based on target audience. CO3.To get into the latest trends in advertising and advertising agency. CO4.Understand communication plan, media strategy and brand management. CO5.Understand how to visualize, concept development and layout. Also get knowledge in typography.
2.	**COMMUNICATION AESTHETICS**	CO1.Understand what is Aesthetic and Design and Communication. CO2. Understanding the Computer Technologies, Communication design and Commercial advertising and its application. CO3. Get knowledge on Info graphics and Layout Design. CO4.Understand the Design for Social media application CO5. Understand Psychological factor, the role played by Colour in graphic design
SEMESTER – IV		
1.	**ELEMENTS OF FILM**	CO1.Understand development of world film in different periods. CO2.Understand the concept of pre-production, Production and Post production Techniques. CO3.Understand the basics of mise-en-scene, Cinematography, editing and sound. CO4.Understand the concepts in film and different genres of film. CO5.Understand the elements of film

2.	**BASIC PHOTOGRAPHY**	CO1.To understand the basics of still camera and its operational procedure. To know the evolution and types of cameras. CO2. To understand different types of lighting and know the exposure values, light control procedures and flash photography. CO3. The students will understand the sensitivity of the film, colour temperature, the impact of chroma photography and colour manipulation. CO4.The students will have an idea about the different stages of developing and printing of colour and chroma photography. They will have the idea of different equipment to undergo print processing.Cropping, trimming and manipulation techniques using software programs are learnt CO5.To understand the nuances of shooting aesthetically. They are trained to write photographessays, features and know how to undergo investigative journalism using photography which is called Photojournalism
SEMESTER - V		
1.	**MEDIA, CULTURE AND SOCIETY**	CO1.To understand mass media effects and influence on to the culture and society. To know the Nature and power of mass media and its scope CO2. To understand the psychology of the active and passive audience based on different theories and models. CO3.To understand the various approaches to Marxist theory. The portrayal of media and realism in the case of class, gender, race, age, minorities,and children rights ,etc. CO4.To understand that the media as an industry which create the media text for the society. To understand the cultural studies and approach es of media to influence the different types of

		audience CO5. To understand the scenario of popular culture. The evolution of culture over the period. About the factors which creates impact on the popular culture.
2.	**TELEVISION PRODUCTION**	CO1.To understand the various types of visualization. Different stages of film making and various departments and their responsibilities CO2.This unit talks about the various film scripts, story boards, and the works involved in pre- production of a film. CO3.To understand and learn different types of video camera s and recording formats. Knowledge on various types of indoor lights and floor arrangement and shooting of different in door programmes. CO4.To understand and train on the various sound engineering and recording techniques. CO5.To understand the post-production process and its nuances in completing the film.
SEMESTER - VI		
1.	**MEDIA ORGANIZATION**	CO1. To understand the business of Media organization and entrepreneurship. CO2.To understand the various types of media organizations from small to medium and bigger to larger organization. To have knowledge about all the media firms like Newspaper, TV, Radio, Cinema and online medium. CO3.To understand the current scenario of the economic status and the supplier-buyer relationships. To know about the current media market trend. CO4. To know the techniques of Project Management in Media and budgeting strategies for a Project. Understand the

		different kinds of legal arrangements for a contract project. CO5.To understand the media programming strategies and analysis of the audience.

Programme Name: Bachelor of Commerce(Accounting & Finance)

PO1. To receive a thorough knowledge of the fundamentals and a quality education in all the core subjects essential for an undergraduate degree in Commerce.

PO2. To build entrepreneurial skills required for innovation and creation of ideas.

PO3. To develop effective communication skills and contemporary IT knowledge essential for joining the workforce or for further higher education.

PO4. To be trained in the development of ethical, moral & human values in order to contribute to the well being of the society

PO5. To acquire skills for the development of sustainable goals aligned to global, national & social issues.

PO6. This course emphasizes on managing accountancy and financial part of business.

PO7. It promotes students to become professionals / managers / entrepreneurs / accountants.

PO8. To develop leadership skills and the ability to work with groups for a common cause.

PO9. To acquire the ability for critical thinking through the development of cognitive and decisionmaking skills and an attitude of positive and lifelong learning in order to succeed in a dynamic environment.

Programme Specific Outcome (PSO)

PSO1. It enables students to understand fundamentals of accounting, taxation, costing, financial management, auditing, management accounting etc.

PSO2**.** Have exposure to computerized accounting and current trends in accounting and finance.

PSO3. Have exposure to solving real time, practical problems/cases, which will form part of skill assessment relating to a) Cost Accounting b) Taxation c) BRS d) Rectification of errors e) final accounts of a partnership firm / Company

PSO4. It motivates students to do research work in the field of finance.

PSO5. It motivates students to pursue higher studies like Chartered Accountancy, Cost Accountancy, MBA in Finance, Company Secretary, M.Com in Accountancy, ACCA (Association of Chartered Certified Accountants) etc.

PSO6. Be able to critically evaluate and analyze financial statements.

PSO7. It enhances students communication skills, social skills, computer skills as well. This programme also updates students with business & corporate laws and business economics.

S.NO	COURSE NAME	COURSE OUTCOME
SEMESTER - I		
1.	**Financial Accounting**	CO1. To enable the students to learn principles and concepts of Accountancy CO2. Students are enabled with the Knowledge in the practical applications of accounting CO3. The student will get thorough knowledge on the accounting practice prevailing in partnership firms and other allied aspects CO4. To find out the technical expertise in maintaining the books of accounts CO5. To encourage the students about maintaining the books of accounts for further reference.
2.	**Financial Planning & Performance**	CO1. To know the importance of effective financial planning and its impact on profitability CO2. Understand Various sources of finance with their utilization, based on the cost of capital CO3. Take sound investmentdecisions based on proper appraisal CO4. Understand cost behaviour and its effect on financial planning CO5. Understand various types of budgets and use the one most suited to the organization
3.	**Business Communication**	CO1. To Identify key principles in business communication CO2. Identify other common methods of professional communication

		CO3. To Find the best media to present the message CO4. Identify ways to make information more accessible to your audience
SEMESTER - II		
1.	**Advanced Financial Accounting**	CO1. Articulate measurement issues related to the covered topics; and locate and implement the disclosure requirements related to the covered topics CO2. Apply IFRSs in the preparation of general purpose financial statements CO3. Explain details relating to general purpose financial statements CO4. Prepare general purpose financial statements for designated entities, including the exercise of professional judgment
2.	**Principles of Management**	CO1. Able to apply the concepts & principles of management in real life industry. CO2. Able to design & develop organization chart & structure for an enterprise. CO3. Able to apply the concepts of HRM in Recruitment, Selection, Training & Development. CO4. Observe and evaluate the influence of historical forces on the current practice of management. CO5. Explain how organizations adapt to an

		uncertain environment and identify techniques managers use toinfluence
3.	**Financial Analytics and Control**	CO1. Understand various Financial Analytics Pricing Models CO2. Get acquainted with Financial Securities Analytics CO3. Financial Risk Analytics using Time Series Forecasting CO4. Develop an understanding of descriptive and predictive analytics CO5. Apply data-driven, machine learning approaches for business decisions
SEMESTER - III		
1.	**Corporate Accounting**	CO1. Enabling the students to understand the features of Shares and Debentures CO2. Develop an understanding about redemption of Shares and Debenture and its types CO3. To give an exposure to the company final accounts CO4. To provide knowledge on Goodwill CO5. To get a knowledge about the Alteration of Share capital and Reduction of share capital
2.	**Financial Reporting**	CO1. Able to identify and evaluate financial tements. CO2. Describe how the rules of corporate financial orting effect the application of standards. CO3. Identify assumptions, evaluate statements terms of evidence, to detect false logic or reasoning,

		identify implicit values, and to CO4. Have the ability interpret information based on scientific analysis.
3.	**Banking Theory Law and Practice**	CO1. To disseminate knowledge among the students with theoretical structures about banking and insurance. CO2. To train and equip the students with the skills of modern banking and insurance is run. CO3. Students will be taken for trainings to banks and insurance companies. CO4. To develop and inculcate the traits of professionalism amongst the students. CO5. Professional attire, professional communication skills and professional discipline will be inculcated
4.	**Rural Economics**	CO1. Understand the basic concept of rural/urban, its interlinkages and the basic concept of economics CO2. Familiarize the rural economy structures and present their country-specific structure in the discussion CO3. Acquaint the students on the economic theories and try to contextualize in rural context CO4.Understand interconnections between rural economy and farming, types of rural industries and interconnections with industrialization
SEMESTER - IV		

1.	**Advanced Corporate Accounting**	CO1. To familiarize the concept of price level changes, social responsibility accounting and human resources accounting CO2. Enable the students to understand about amalgamation, absorption and external Reconstruction CO3. To make them aware about accounting procedures of banking companies and Insurance Companies CO4. Enable the students to gain an idea of liquidation of companies CO5. To introduce and develop knowledge of Holding Companies and Subsidiary Companies accounts
2.	**Corporate & Business Law**	CO1. Demonstrate an understanding of the Legal Environment of Business. CO2. Apply basic legal knowledge to business transactions. CO3. Communicate effectively using standard business and legal terminology.
3.	**Working Capital Management**	CO1. Evaluate comparative working capital management Policy CO2. Balancing firms' profitability, liquidity, and risk and operating flexibility

		CO3. Investigate cash flow cycles & working capital cycles. CO4. Formulation of optimum inventory and receivables management plan. CO5. Showing the impact of working capital policy on firm's operations, etc.
4.	**International Economics**	CO1. Understand the major models of international trade and compare and contrast them. CO2. Understand the principle of comparative advantage, including its formal expression. CO3. Analyze the linkages between trade, labor and capital movements, international fragmentation of production, economic well-being and the income distribution and to identify and critically examine policy implications of these linkages.
SEMESTER - V		
1.	**Elements of Cost Accounting**	CO1. Understand the several cost concepts involved in business CO2. Recognize the importance of material issues and its pricing CO3. Apply the methods implicated in cost for a better industrial performance CO4. Construe the impact of the select cost method
2.	**Practical Auditing**	CO1. Critically evaluate the role and responsibilities of the external auditor, the audit process and the evidential base for making audit judgments, including broader assurance assignments such as environmental audits.

		CO2. Appraise the legislative and professional provisions (auditing standards and ethical guidelines) that constitute the regulatory framework for the conduct of external auditing. CO3. Formulate how the auditor obtains an understanding of the entity and its environment, when planning and assessing the risk of the audit.
3.	**Income Tax Law & Practice - I**	CO1. Provide an understanding of the taxation of business activity CO2. Illustrate the ways in which these principles are currently applied in key jurisdictions CO3. Understand the current application of general taxation principles CO4. Be aware of the potential impacts of taxation on the decision making CO5. Extend their knowledge from other business subjects by adding the dimension of taxation in greater detail.
4.	**Portfolio Management**	CO1. Analyze and evaluate financial markets, how securities are traded, mutual funds, investment companies, and investor behavior. CO2. Construct optimal portfolios and illustrate the theory and empirical applications of asset pricing models.

		CO3. Analyze bond prices and yields and fixed-income portfolios. CO4. Characterize the implications of the market efficiency evidence on active portfolio management.
SEMESTER - VI		
1.	**Advanced Cost Accounting**	CO1. To know about the preparation of Cost sheet of business concerns CO2. To get the knowledge about the preparation of cost control CO3. To understand the methods of payment in wages CO4. To extend the knowledge through the preparation of overheads and machine hour rates
2.	**Management Accounting**	CO1. To understand the basic concepts and processes used to determine product costs, CO2. To be able to interpret cost accounting statements, CO3. To be able to analyze and evaluate information for cost ascertainment, planning, control and decision making
3.	**Income Tax Law & Practice - II**	CO1. Provide an understanding of the taxation of business activity CO2. Illustrate the ways in which these principles are currently applied in key jurisdictions CO3. Understand the current application of general taxation principles CO4. Be aware of the potential impacts of taxation on the decision making
4.	**Capital Markets**	CO1. Students able to explain the concepts of

		pital market CO2. Solve the problems arisen in capital market. CO3. Analyze the process related capital market CO4. Prepare the evaluation rapport on capital markets.
5.	**Financial Services**	CO1. To give an idea about fundamentals of financial services and players in financial sectors CO2. To create an awareness about merchant banking, issue management, capital markets and role of SEBI CO3. To understand the concept of leasing, hire purchase and factor CO4. To provide knowledge about leasing and hire purchase concepts CO5. To make them understand about different types of mutual funds and the institution involved

Programme Name: BBA

POI. Graduates will be business leaders and managers with leadership and problem-solving skills for global business.

PO2. Provides a wide knowledge of all disciplines of the course and training in management of both animate and inanimate entities and develops leadership skills.

PO3. Graduates will drive entrepreneurship initiatives either on their own or within other organizations where they are employed.

PO4. Makes students capable of recognizing and resolving ethical issues

PO5. Graduates will have innovation skills and drive the businesses through multifaceted skills.

PO6. Graduates will provide advancement of conceptual and practical knowledge in the field of business management to contribute to nation building while upholding ethical practices.

Programme Specific Outcome (PSO)

PSO1. Understanding and operating with ethical and professional responsibility

PSO2. Ability to communicate effectively and function efficiently on multidisciplinary teams.

PSO3. Ability to use modern management principles and tools needed in contemporary business within the bounds of practical Constraints such as economic, environmental, social, Political, ethical, health and safety and sustainability.

PSO4. Innovate and Develop skills to be a life-long learner for a globalized business for future.

PSO5. Providing an opportunity for the students to gain practical exposure towards the workplace and make them industry ready.

PSO6. Promotes entrepreneurship by providing understanding of the fundamentals of creating and managing innovation, new business development, and high-growth potential entities.

COURSE OUTCOME:

S.NO	COURSE NAME	COURSE OUTCOME
SEMESTER - I		
1.	**PRINCIPLES OF MANAGEMENT**	CO1. Able to apply the concepts & principles of management in real life industry. CO2. Able to design & develop organization chart & structure for an enterprise. CO3. Able to apply the concepts of HRM in Recruitment, Selection, Training & Development. CO4. Observe and evaluate the influence of historical forces on the current practice of management. CO5. Explain how organizations adapt to an uncertain environment and identify techniques managers use to influence
2.	**FINANCIAL ACCOUNTING**	CO1. To enable the students to learn principles and concepts of Accountancy

		CO2. Students are enabled with the Knowledge in the practical applications of accounting CO3. The student will get thorough knowledge on the accounting practice prevailing in partnership firms and other allied aspects CO4. To find out the technical expertise in maintaining the books of accounts CO5. To encourage the students about maintaining the books of accounts for further reference.
3.	**MANAGERIAL ECONOMICS**	CO1. Students will be skilled in critical thinking and decision-making, supported by economic principles and best practices in business. CO2. Students will have the ability to use data to inform economic and business decision making. CO3. Students will be able to put together quantitative reports as well as to evaluate reports put together by others. CO4. Students will be effective communicators, confidently using appropriate terminology in oral and written form. CO5. Students will be able to comprehend economics-related writing. CO6. Students will be able to work effectively in teams and to address strategic and organizational challenges.
SEMESTER - II		
1.	**BUSINESS COMMUNICATION**	CO1. To Identify key principles in business communication CO2. Identify other common methods of professional communication

		CO3. To Find the best media to present the message CO4. Identify ways to make information more accessible to your audience
2.	**MANAGEMENT ACCOUNTING**	CO1. To understand the basic concepts and processes used to determine product costs, CO2. To be able to interpret cost accounting statements, CO3. To be able to analyze and evaluate information for cost ascertainment, planning, control and decision making
3.	**INTERNATIONAL TRADE**	CO1. Understand, at the level of formal analysis, the major models of international trade and be able to distinguish between them in terms of their assumptions and economic implications CO2. Understand the principle of comparative advantage and its formal expression and interpretation within different theoretical models CO3. Be familiar with, and be able to critically analyse the main arguments for protection and conversely be able to critically evaluate the relevance and realism of arguments for free trade, taking into account the costs and benefits of trade policy measures on different sections of the community and the implications for the formulation of trade policy CO4. Be familiar with the major recent developments in the world trading system, and be able to critically analyse key issues raised both by the current round of WTO negotiations and by

		the spread of regional trading arrangements CO5. Develop communications skills through the presentation of your work, interactions during tutorial sessions, and appropriate use of the discussion
SEMESTER - III		
1.	**FINANCIAL MANAGEMENT**	CO1. Understanding the basics of Financial Management. CO2. Enabling students to understand the concepts of the Investment, Financing and Working Capital. CO3. Students get knowledge about effective finance management.
2.	**ORGANIZATIONAL BEHAVIOUR**	CO1. Demonstrate the applicability of the concept of organizational behavior to understand the behavior of people in the organization. CO2. Demonstrate the applicability of analyzing the complexities associated with management of individual behavior in the organization. CO3. Analyze the complexities associated with management of the group behavior in the organization. CO4. Demonstrate how the organizational behavior can integrate in understanding the motivation (why) behind behavior of people in the organization.
3.	**COMPUTER APPLICATIONS IN BUSINESS**	CO1. Apply computer resources for use in business and academics. CO2. Construct business and academic documents using Microsoft Word. CO3. To create spreadsheets with formulas and

		graphs using Microsoft Excel. CO4. Develop presentations containing animation and graphics using Microsoft PowerPoint. CO5. To understand DBMS, EDI, Internet basic concepts and its applications. CO6. To familiarize about Information system audit.
4.	**MARKETING MANAGEMENT**	CO1. To extend the knowledge about the role and importance of marketing CO2. To get the knowledge about the marketing environment CO3. To understand the marketing segmentation and consumer behaviour CO4. To extend the knowledge of pricing policies and marketing mix CO5. To enable the students to understand about the personal selling & sales promotions CO.6. Use the technology in marketing like MIS
5.	**BUSINESS STATISTICS**	CO1: Know the most widely used probability distributions and recognize them in applications. CO2: Know the main tools to describe the index numbers, such as the price and cost of living, CO3: Recognize the importance of the analyzing time series and understand when it is appropriate to use normal approximations for the distribution of a statistic. CO4: Be able to derive Sampling procedures and estimators. CO5: Be able to construct exact and approximate confidence intervals. CO6: Possess techniques of Hypothesis testing

		CO7: Learn to develop complex mathematical reasoning.
SEMESTER – IV		
1.	**HUMAN RESOURCE MANAGEMENT**	CO1. To get the knowledge about the Personnel management CO2. To extend the knowledge about the placement and induction CO3. To understand the training methods and training needs CO4. To developing the knowledge of remuneration and incentives of personnel CO5. To enable the students to understand about the environment of HRM CO6. To know about the human resource audit
2.	**BUSINESSREGULATORY FRAME WORK**	CO1. Students would recall various definitions and would be able to evaluate the provisions of Law of Contract,1872. CO2. Students would be able to examine various provisions of Sale of Goods Act, which includes formation, conditions and warranties in sale. CO3. Students would be able to compare and contrast different types of negotiable instruments and its applicability in the money market. CO4. Students would be able to relate and apply various provisions related to Consumer Protection Act. They would be aware of the rights of consumer and various consumer forums.
3.	**FINANCIAL SERVICES**	CO1. To give an idea about fundamentals of

		financial services and players in financial sectors CO2. To create an awareness about merchant banking, issue management, capital markets and role of SEBI CO3. To understand the concept of leasing, hire purchase and factor CO4. To provide knowledge about leasing and hire purchase concepts CO5. To make them understand about different types of mutual funds and the institution involved
4.	**OPERATIONS RESEARCH**	CO1: Know the meaning of Operations Research, Scope and Characteristics, and to know by Graphical method,Simplex method. CO2: Find the basic feasible solution by Transportation problem,Assignment models. CO3: Reach the time, time calculation, Network Analysis, and its applications CO4: Find the Arriving rate and Service rateby using Queueing Models. CO5: Learn to develop the Probability using Baye's theorem, Decision theory, Game theory.
5.	**MANAGEMENT INFORMATION SYSTEM**	CO1. The basic system concepts, types and its functions in business. CO2. To familiarize computer, its components and functions. CO3. To provide learners with information at various levels in an organization. CO4. The key is to help classify the system based on categories and its advantages. CO5. To inculcate modern management aids to handle quantitative and qualitative information.

		CO6. To develop analytic skill that help facilitate best course of action.
SEMESTER – V		
1.	**ADVERTAISING MANAGEMENT AND SALES PROMOTION**	CO1. Students able to Categorize business activities, such as production, management, and finance, and describe how these activities relate to marketing. • CO2. Describe the history of the advertising industry and its relation to today's marketplace. CO3. Explain the impact of multiculturalism and multi-generationalism on advertising marketing activities. CO4. Identify the importance of understanding cultural diversity from a marketing perspective. CO5. Identify the expected wages and salaries for jobs in the advertising and marketing industry CO6. Identify sources of financial assistance for raising capital. CO7. Identify the role of professional organizations, trade associations, and labor unions in the advertising industry.
2.	**RESEARCH MEDHODOLOGY**	CO1. Identify and discuss the role and importance of research in the social sciences. CO2. Identify and discuss the issues and concepts salient to the research process. CO3. Identify and discuss the complex issues inherent in selecting a research problem, selecting an appropriate research design, and implementing a research project. CO4. Identify and discuss the concepts and

		procedures of sampling, data collection, analysis and reporting.
3.	**MATERIALS MANAGEMENT**	CO1. Analyze and evaluate various facility alternatives and their capacity decisions, develop a balanced line of production & scheduling and sequencing techniques in operation environments CO2. Develop aggregate capacity plans and MPS in operation environments. CO3. Plan and implement suitable materials handling principles and practices in the operations CO4. Plan and implement suitable quality control measures in Quality Circles to TQM
4.	**ENTERPRENEURIAL DEVELOPMENT**	CO1. Understanding the concept of Entrepreneurship and the effectiveness of manpower in Entrepreneurship. CO2. To provide students to knowledge about the preparation of project Report. CO3. Knowledge on Entrepreneurial Development Programmes and Agencies.
5.	**LOGISTICS AND SUPPLY CHAIN MANAGEMENT**	CO1. Identify and Analyze Business Models, Business Strategies and, corresponding Competitive Advantage. CO2. Formulate and implement Warehouse Best Practices and Strategies CO3. Plan Warehouse and Logistics operations

		for optimum utilization of resources
SEMESTER - VI		
1.	**BUSINESS ENVIRONMENT**	CO1. Knowledge on Business Environment. CO2. Identifying and understanding the factors influencing the changes in the Business Climate. CO3. To make student learn about the various environment in particular influencing business.
2.	**SERVICE MARKETING**	CO1. Students will Appreciate the challenges facing the services marketing in traditional commercial marketing, e-marketing and non commercial environments. CO2. Students will Appreciate the difference between marketing physical products and intangible services, including dealing with the extended services marketing mix, and the four unique traits of services marketing; CO3.Recognise the challenges faced in services delivery as outlined in the services gap model; Develop professional business writing skills
3.	**BUSINESS TAXATION**	CO1. Students gain knowledge on the Principles of the Indirect Tax. CO2. Exposure on the Tax system in India CO3. Understanding of Customs Duty, Excise Duty, CST, VAT, Service tax etc.
4.	**CUSTOMER RELATIONSHIP MANAGEMENT**	CO1. Benefits of CRM to companies and consumers CO2. How to implement CRM best practices CO3. The importance of bonding and building loyalty with customers

		CO4. How to build long term customer relationships
5.	**E - BUSINESS**	CO1. Students acquainted with basic e-business domain concepts, and different forms and ways of electronic business through examples of good practices, and to present modern business challenges and technical aspects of electronic business. CO2. Students equipped with basic skills of using contemporary information technologies and web services that support electronic business processes. CO3. Students able to applying the knowledge in creative solutions of concrete business problems by using information and communication technologies and web services.

Programme Name: B.COM -CA (COMPUTER APPLICATION)

PO1. Acquire the ability to apply the basic tenets of logic and science to thoughts, actions and interventions.

PO2. Learn to participate in nation building by adhering to the principles of sovereignty of the nation, socialism, secularism, democracy and the values that guide a republic

PO3. Develop and practice gender sensitive attitudes, environmental awareness, empathetic social awareness about various kinds of marginalisation and the ability to understand and resist various kinds of discriminations

PO4. Understand the issues of environmental contexts and sustainable development as a basic interdisciplinary concern of all disciplines.

PO5. Develop aesthetic, social, humanistic and artistic sensibilities for problem solving and evolving a comprehensive perspective

PO6. Acquire the ability to engage in independent and lifelong learning in broad context of socio-technological changes.

PO7. Understand and recognised value system, moral dimensions and self responsibility for nation and society. Demonstrate personal and intellectual integrity and academic accountability. Collaborate respectfully with others, individually and in teams.

Programme Specific Outcome (PSO)

PSO1.Understand the concepts and techniques of commerce and its application in business environment.

PS02.Conceive the ideas on entrepreneurship and develop the skills for setting up and management of business organizations.

PS03.Develop the skills and abilities to become competent and competitive in the business world.

PS04.Develop the competency to take wise decisions at personal and professional level.

PS05.Appraise the impact of other disciplines on the working of business.

PS06.To make the students capable of managing the office activities with the help of information technology

COURSE OUTCOME:

S.NO	COURSE NAME	COURSE OUTCOME
SEMESTER - I		
1.	**FINANCIAL ACCOUNTING**	CO1. To enable the students to learn principles and concepts of Accountancy CO2. Students are enabled with the Knowledge in the practical applications of accounting CO3. The student will get thorough knowledge on the accounting practice prevailing in partnership firms and other allied aspects CO4. To find out the technical expertise in maintaining the books of accounts CO5. To encourage the students about maintaining the books of accounts for further reference.
2.	**OFFICE AUTOMATION**	CO1. Know the basics of computers and prepare documents, spreadsheets, make small presentations with audio, video and graphs and would be acquainted with internet. □ CO2. Create, edit, save and print documents with list tables, header, footer, graphic, spellchecker, mail merge and grammar checker CO3. Attain the knowledge about spreadsheet with

		formula, macros spell checker etc.
3.	**BUSINESS ECONOMICS**	CO1. Students will be able to understand and identify the economic variables in general business atmosphere. CO2. Students will perceive the knowledge about Economics at Micro level and various economic concepts such as Opportunity cost, Marginal Concepts, Demand Function and Law of Variable Proportion CO3. Learners will comprehend the relationship between various policies of business. CO4. Student will accomplish the identical Short Run and Long Run Equilibrium of a firm and industry and also about different market structure and various pricing techniques
SEMESTER - II		
1.	**ADVANCED FINANCIAL ACCOUNTING**	CO1. Articulate measurement issues related to the covered topics; and locate and implement the disclosure requirements related to the covered topics CO2. Apply IFRSs in the preparation of general purpose financial statements CO3. Explain details relating to general purpose financial statements CO4. Prepare general purpose financial statements for designated entities, including the exercise of professional judgment
2.	**PYTHON PROGRAMMING**	CO1. The core syntax and semantics of Python programming language. CO2. Principles of Python and acquire skills in programming in python CO3. To develop the emerging applications of

		relevant field using Python. CO4. Interpret the fundamental Python syntax and semantics and be fluent in the use of Python control flow statements. CO5.Able to develop simple turtle graphics programs in Python
3.	**INDIAN ECONOMY**	CO1. Student able to understand the links between household behavior and the economic models of demand. CO2. Student able to understand govt policies and programs CO3. Students understand the behaviour of individuals and small organizations in making decisions on the allocation of limited resources. CO4. Students able to understand how planning and infrastructure support can develop an economy. CO5. Student understand the economic, operational and financial framework with particular application to the transaction of insurance business.
4.	**FINANCIAL ANALYTICS AND CONTROL**	CO1. Understand various Financial Analytics Pricing Models CO2. Get acquainted with Financial Securities Analytics CO3. Financial Risk Analytics using Time Series Forecasting CO4. Develop an understanding of descriptive and predictive analytics CO5. Apply data-driven, machine learning approaches for business decisions
SEMESTER - III		

1.	**CORPORATE ACCOUNTING- I**	CO1. Enabling the students to understand the features of Shares and Debentures CO2. Develop an understanding about redemption of Shares and Debenture and its types CO3. To give an exposure to the company final accounts CO4. To provide knowledge on Goodwill CO5. To get a knowledge about the Alteration of Share capital and Reduction of share capital
2.	**BUSINESS LAW**	CO1. Introduce students to the study of law and how it governs conduct in business CO2.Recognize legal and ethical issues when making business decisions. CO3. Identify the nature and classification of contracts CO4. Identify general principles of illegality, agreements related to public welfare, and the regulation of business CO5. Identify contracts that must be in writing, effects of non-compliance, and the construction and interpretation of contracts CO6. Identify contracts that must be in writing, effects of non-compliance, and the construction and interpretation of contracts
3.	**COMPUTERISED ACCOUNTING**	CO1. Describe the differences and similarities between manual and Computerized Accounting CO2. Identify the system default accounts for vendors and update the Vendor Center CO3. Identify the system default accounts for customers and update the Customer Center

		Identify the two inventory systems and Update the Item List CO4. Create a new company file using the Easy Step Interview and establish preferences using the Quick Books Detailed Start method and Easy Step Interview window CO5. Create a new company file using Quick Books Express Start Window. Setting up company password
4.	**OOPS with C++**	CO1. Object Oriented Programming CO2. Developing programs with I/O Basics CO3. Ability to create programs using Functions, Pointers CO4. Passing Object To Functions ,Arrays Of Objects CO5. Over Loading, Constructors, Destructors
5.	**BUSINESS STATISTICS**	CO1:The students will be able to understand the concepts of business statistics CO2:To know the most widely used probability distributions and recognize them in applications. CO3: To know the main tools to describe Index Numbers such as price and cost of living. CO4: To make the students able to derive sampling procedures and estimators. CO5: To make the students to construct exact and approximate confidence intervals. CO6: To possess knowledge on the techniques of hypothesis testing. CO7: To enable the students to enhance complex mathematical reasoning.
SEMESTER - IV		

1.	**ADVANCED CORPORATE ACCOUNTING**	CO1. To familiarize the concept of price level changes, social responsibility accounting and human resources accounting CO2. Enable the students to understand about amalgamation, absorption and external Reconstruction CO3. To make them aware about accounting procedures of banking companies and Insurance Companies CO4. Enable the students to gain an idea of liquidation of companies CO5. To introduce and develop knowledge of Holding Companies and Subsidiary Companies accounts
2.	**PRINCIPLES OF MANAGEMENT**	CO1. Able to apply the concepts & principles of management in real life industry. CO2. Able to design & develop organization chart & structure for an enterprise. CO3. Able to apply the concepts of HRM in Recruitment, Selection, Training & Development. CO4. Observe and evaluate the influence of historical forces on the current practice of management. CO5. Explain how organizations adapt to an uncertain environment and identify techniques managers use to influence
3.	**E - COMMERCE**	CO1. Analyze the impact of E-commerce on business models and strategy. CO2. Describe the major types of E-commerce. CO3. Explain the process that should be followed in building an E-commerce presence. CO4. Identify the key security threats in the E-

		commerce environment. CO5. Describe how procurement and supply chains relate to B2B E-commerce.
4.	**JAVA PROGRAMMING**	CO1. Gain knowledge about basic Java language syntax and semantics to write Java programs and use concepts such as variables, conditional and iterative execution methods. CO2. Understand the fundamentals of object oriented programming in Java, including defining classes, objects, invoking methods etc and exception handling mechanisms. CO3. Understand the principles of inheritance, packages and interfaces
5.	**ELEMENTS OF OPERATIONS RESEARCH**	CO1: Know the meaning of Operations Research, Scope and Characteristics, and to know by Graphical method,Simplex method. CO2: Find the basic feasible solution by Transportation problem,Asssignment models. CO3: Reach the time, time calculation, Network Analysis, and its applications CO4: Find the Arriving rate and Service rateby using Queueing Models. CO5: Learn to develop the Probability using Baye's theorem, Decision theory, Game theory.
SEMESTER - V		
1.	**FINANCIAL MANAGEMENT**	CO1. Understanding the basics of Financial Management. CO2. Enabling students to understand the concepts of the Investment, Financing and Working Capital. CO3. Students get knowledge about effective finance management.

2.	**ELEMENTS OF COST ACCOUNTING**	CO1. Understand the several cost concepts involved in business CO2. Recognize the importance of material issues and its pricing CO3. Apply the methods implicated in cost for a better industrial performance CO4. Construe the impact of the select cost method
3.	**PRACTICAL AUDITING**	CO1. Critically evaluate the role and responsibilities of the external auditor, the audit process and the evidential base for making audit judgments, including broader assurance assignments such as environmental audits. CO2. Appraise the legislative and professional provisions (auditing standards and ethical guidelines) that constitute the regulatory framework for the conduct of external auditing. CO3. Formulate how the auditor obtains an understanding of the entity and its environment, when planning and assessing the risk of the audit.
4.	**INCOME TAX LAW & PRACTICE - I**	CO1. Provide an understanding of the taxation of business activity CO2. Illustrate the ways in which these principles are currently applied in key jurisdictions CO3. Understand the current application of general taxation principles CO4. Be aware of the potential impacts of taxation on the decision making CO5. Extend their knowledge from other business subjects by adding the dimension of taxation in greater detail

5.	**PORT FOILO MANAGEMENT**	CO1. Analyze and evaluate financial markets, how securities are traded, mutual funds, investment companies, and investor behavior. CO2. Construct optimal portfolios and illustrate the theory and empirical applications of asset pricing models. CO3. Analyze bond prices and yields and fixed-income portfolios. CO4. Characterize the implications of the market efficiency evidence on active portfolio management.
6.	**RESEARCH MEDHODOLOGY**	CO1. Identify and discuss the role and importance of research in the social sciences. CO2. Identify and discuss the issues and concepts salient to the research process. CO3. Identify and discuss the complex issues inherent in selecting a research problem, selecting an appropriate research design, and implementing a research project. CO4. Identify and discuss the concepts and procedures of sampling, data collection, analysis and reporting.
SEMESTER - VI		
1.	**FINANCIAL SERVICES**	CO1. To give an idea about fundamentals of financial services and players in financial sectors CO2. To create an awareness about merchant banking, issue management, capital markets and role of SEBI CO3. To understand the concept of leasing, hire purchase and factor CO4. To provide knowledge about leasing and hire purchase concepts

		CO5. To make them understand about different types of mutual funds and the institution involved
2.	**MANAGEMENT ACCOUNTING**	CO1. To understand the basic concepts and processes used to determine product costs, CO2. To be able to interpret cost accounting statements, CO3. To be able to analyze and evaluate information for cost ascertainment, planning, control and decision making
3.	**INCOME TAX LAW & PRACTICE - II**	CO1. Provide an understanding of the taxation of business activity CO2. Illustrate the ways in which these principles are currently applied in key jurisdictions CO3. Understand the current application of general taxation principles CO4. Be aware of the potential impacts of taxation on the decision making
4.	**HUMAN RESOURCE MANAGEMENT**	CO1. To get the knowledge about the Personnel management CO2. To extend the knowledge about the placement and induction CO3. To understand the training methods and training needs CO4. To developing the knowledge of remuneration and incentives of personnel CO5. To enable the students to understand about the environment of HRM CO6. To know about the human resource audit
5.	**WEB TECHNOLOGY**	CO1.Provide knowledge about the scripting languages. CO2. Data types and dynamic variable types and

		properties. CO3. Extensive use of automatic type conversion. CO4. Event-driven programs that use HTML intrinsic event attributes. CO5. Style properties.

Program Name: Bachelor of Commerce (General)

PROGRAM OUTCOME

PO1:Soundness in basic concepts: After completing three years programme in Bachelors in Commerce (General), students would gain a thorough knowledge in the basics and fundamental of Commerce and Finance.

PO2:Specialization and Practical exposure: The commerce focused curriculum offers a number of specializations and practical exposures to the students to face which would equip the student to face challenges in today's commerce and business

PO3:Business Ethics: The students are made to understand about their social responsibility and accountability towards the welfare of the society and are given knowledge on the ethical values of business.

PO4:Job Market Opportunities: The course offers a number of job opportunities in the various fields of Banking, Auditing, Finance, Marketing, HR, Taxation, Stock Market, Business managers and so on.

PROGRAM SPECIFIC OUTCOME

PSO1: Students will get exposure on relevant quantitative and qualitative Financial Accounting skills and applications to their future careers in business.

PSO2: Students will learn the various concepts and applicability of Managerial accounting to practically implement into their future careers in business.

PSO3: Students will gain thorough knowledge on systematic and subject skills in various disciplines of Commerce, Business, Accounting, Economics, Finance, Auditing and Marketing.

PSO4: Perform procedures of ethical business as per the Industrial Rules and Regulation & Environmental Policy.

PSO5: Learners will be able to identify the features and Roles of Businessmen, Entrepreneur, Managers, Consultant, which will help learners to possess knowledge and effective communication skills and to react aptly when confronted with critical decision making.

PSO6: Learners will be able to prove proficiency with the ability to engage in Professional & Competitive Examinations like CA, CS, ICWA and other courses.

PSO7: Learners will acquire the skills like effective communication, decision making, problem solving in day-to-day business affairs.

PSO8: Learners will involve in various co-curricular activities to demonstrate relevancy of foundational and theoretical knowledge of their academic major and to gain practical exposure.

PSO9: Students will demonstrate progressive affective domain development of values, the role of accounting in society and business.

PSO10: Learners can also acquire practical skills to work as Tax Consultant, Audit Assistant and other Financial Supporting Services.

PSO11: Learners will be able to do higher education and advance research in the field of commerce and finance.

SEMESTER: I		
S. No.	**Course Name**	**Course Outcome**
1.	**FINANCIAL ACCOUNTING**	CO1:The students get to know about the principles of accounting in general. CO2: The students get knowledge about the accounting terms and concepts. CO3: Students learn the various methods of maintaining the accounting records. CO4: Understanding the system of keeping financial accounting records for Sole Trading concern and non-Trading organizations.
2.	**BUSINESS COMMUNICATION**	CO1: The students get an exposure regarding the concept of communication CO2: The students understand the basic

		principles of effective business communication. CO3: The students are given guidelines and also the basic techniques of writing modern forms of communication letters related to business. CO4: The students learn to write different types of business letters and reports.
3.	**BUSINESS ECONOMICS**	CO1: Students will be able to understand the nature and scope of Business Economics and will be able to identify the economic variables in general business atmosphere. CO2: Students will perceive the knowledge about Economics at Micro level and various economic concepts such as Opportunity cost, Marginal Concepts, Demand and Supply function, Consumption and Production Laws. CO3: Students will learn attainment of Short Run and Long Run Equilibrium of a firm and industry and under different market structure and various pricing techniques. CO4: The students will know the application of economic analysis and theories into the business decision making.
SEMESTER: II		
1.	**ADVANCED FINANCIAL ACCOUNTING**	CO1: The students learn to summarize, analyse and report the financial transactions pertaining to a business. CO2: The students learn about maintaining of accounts for Partnership, Branches, and

		Departments. CO3: The students are involved in the preparation of financial statements available for public consumption such as Stockholders, suppliers, banks, employees, government agencies, business owners, and other people who are interested in receiving such information for decision making purposes.
2.	**PRINCIPLES OF MANAGEMENT**	CO1: Understanding the concepts of basic concepts of management. CO2: Students get knowledge about the significance of the management in business. CO3: The students understand the management principles providing guidelines as to how tasks are to be completed for increased efficiency. CO4: The students learn about the application of management skills to ensure effective utilization of available resources.
3.	**INDIAN ECONOMY**	CO1: The students will acquire knowledge on the basic characteristics of Indian economy, its potential on natural resources. CO2: The students understand the importance, causes and impact of population growth on economic development and its distribution. CO3:Comprehending knowledge on the importance of planning undertaken by the government of India, have knowledge on the various objectives, failures and achievements as the foundation of the ongoing planning and

		economic reforms taken by the government. CO4: Understanding of Primary, Secondary and Tertiary sectors towards contribution of economic growth and development.
SEMESTER: III		
1.	**CORPORATE ACCOUNTING**	CO1: The students learn the preparation of Company accounts. CO2: Students get knowledge on the various provisions of Companies Act. CO3: Understanding the applications of Accounting Transactions in Corporate Sector.
2.	**BUSINESS LAWS**	CO1: Highlighting the students about the basic provisions of law governing the General Contract and Special Contract. CO2: Students learn about the essential elements and rules of valid contract. CO3: Understanding about the legal remedies available in the law to the business and other people.
3.	**BANKING THEORY, LAW & PRACTICE**	CO1: Understanding the origin and growth of Indian Banking System. CO2: Students get knowledge about the functions of RBI and commercial banks CO3: Students get exposure regarding different types of deposits and borrowings. CO4: Students get knowledge about the recent developments in Indian Banking Sector.

4.	**MARKETING**	CO1: Students gets exposure on the importance and relevance of marketing in today's context. CO2: Understanding the basic features of Indian marketing and importance of advertisement in today's marketing era. CO3: Students get knowledge about the marketing mix and relevance of appropriate marketing mix. CO4: Knowledge on current aspects of marketing such as E-marketing, MIS
5.	**BUSINESS STATISTICS**	CO1: Know the most widely used probability distributions and recognize them in applications. CO2: Know the main tools to describe the index numbers, such as the price and cost of living, CO3: Recognize the importance of the analyzing time series and understand when it is appropriate to use normal approximations for the distribution of a statistic. CO4: Be able to derive Sampling procedures and estimators. CO5: Be able to construct exact and approximate confidence intervals. CO6: Possess techniques of Hypothesis testing CO7: Learn to develop complex mathematical reasoning.
SEMESTER: IV		
		CO1: The students learn the preparation of

1.	**ADVANCED CORPORATE ACCOUNTING**	final accounts of Banking, Insurance companies. CO2: Students get knowledge on the concepts and maintaining of accounts related to special events in company like external reconstruction, holding and liquidation of company etc. CO3: Understanding the applications of Accounting Transactions in Corporate Sector.
2.	**COMPANY LAW**	CO1: Students get awareness on the recent amendments of Companies Act and learn about various provisions governing the company law. CO2: Knowledge on the content of important documents. CO3: Learning on the steps in formation and closing of company
3.	**FINANCIAL SERVICES**	CO1: Understanding the concepts, objectives, functions, features of financial services. CO2: To know about the players and their contribution to the growth of financial services sector in India. CO3: Knowledge on the role of SEBI & functions of stock exchanges.
4.	**INDIRECT TAXATION**	CO1: To facilitate the students to gain knowledge on principles of Indirect taxation with particular reference to India. CO2: To make the students understand the concept of Goods and Services tax (GST) and its importance CO3: To focus and highlight on the

		concept of custom duty and export incentives. CO4: To make the students to understand the concepts, types and assessment procedures of Indirect taxes.
5.	**OPERATIONS RESEARCH**	CO1: Know the meaning of Operations Research, scope and characteristics, and to know Graphical and Simplex Method. CO2: Find the basic feasible solution by Transportation problem, Assignment models. CO3: Reach the time, time calculation, Network Analysis and its applications. CO4: Find the Arriving rate and Service rate by using Queueing Models. CO5: Learn to develop the probability using Baye's theorem, Decision Theory, Game theory.
SEMESTER: V		
1.	**COST ACCOUNTING**	CO1: To know the various elements of Cost. CO2: Understanding the process of ascertaining, classification and controlling costs. CO3: Students learn to prepare Cost Sheets. Tender and Quotations CO4: Students learn to calculate material cost, labour cost and overhead cost.
2.	**PRACTICAL AUDITING**	CO1: Understanding the concept of present-day auditing practices, qualification and disqualification of auditors etc.

		CO2: To make students know about the procedure of appointment of auditors and removal of auditors. CO3: Gain knowledge on various procedures and techniques of Auditing.
3.	**ENTREPRENEURIAL DEVELOPMENT** ***(Students admitted to 2019-2020 Batch)***	CO1: Understanding the concept of Entrepreneurship and the effectiveness of manpower in Entrepreneurship. CO2: To provide students to knowledge about the preparation of project Report. CO3: Knowledge on Entrepreneurial Development Programmes and Agencies.
4.	**LOGISTICS & SUPPLY CHAIN MANAGEMENT** ***(Students admitted to 2020-2021 Batch)***	CO1: To inculcate the knowledge in students regarding the basic concepts of logistics and supply chain management. CO2: To provide insights into the nature of working in logistics and supply chain industry. CO3: To equip the students to take up jobs in logistics and allied industries.
5.	**FINANCIAL MANAGEMENT**	CO1: The students will understand the basics of Financial Management CO2: The students acquire the knowledge about capital structure, financing, working capital and capital budgeting. CO3: The learner develops the financial management skills relating to investing, financing and dividend decision making. CO4: On the whole, the students acquire

		knowledge on effective financial management.
6.	**INCOME TAX THEORY LAW & PRACTICE I**	CO1: The students will understand the concepts of Income Tax and various provisions of IT Act CO2: The students will learn to calculate the income from salary, income from house property and Profits and gains from business. CO3: The students acquire the knowledge about types of filing, E-filing & submission of returns.
SEMESTER: VI		
1.	**ADVANCED COST ACCOUNTING**	CO1: Learning various methods of cost elements. CO2: The students learn the preparation of different methods of costing like, job, batch, contract process and operating. CO3: Students get exposed to Marginal costing technique for decision making. CO4: Understanding the advantages of Costing to the Stakeholders, Workers, Creditors and the Public.
2.	**MANAGEMENT ACCOUNTING**	CO1: Knowledge on various tools and techniques of Management. CO2: Obtaining practical skills in solving management problems. CO3: Analysis and Interpretation of Financial Statements to provide information to management for taking important decisions.
		CO1:To make the students to understand

3.	**BUSINESS ENVIRONMENT** ***(Students admitted to 2019-2020 Batch)***	relationship between environment and business CO2: The students will able to Identify and understand the factors influencing the changes in the Business Climate. CO3: Applying the environmental analysis techniques in business practice. CO4: The students understand and analyze various political, technological and economic environment in the business.
4.	**ENTREPRENEURIAL DEVELOPMENT** ***(Students admitted to 2020-2021 Batch)***	CO1: Understanding the concept of Entrepreneurship and the effectiveness of manpower in Entrepreneurship. CO2: To provide students to knowledge about the preparation of project Report. CO3: Knowledge on Entrepreneurial Development Programmes and Agencies.
5.	**HUMAN RESOURCE MANAGEMENT**	CO1: To develop the understanding of the concept of human resource management and to understand its relevance in organizations. CO2: To develop necessary skill set for application of various HR issues. CO3: To analyse the strategic issues and strategies required to select and develop manpower resources. CO4: To integrate the knowledge of HR concepts to take correct business decisions.
		CO1: The students will understand the concepts of Income Tax and various provisions

6.	**INCOME TAX THEORY LAW & PRACTICE II**	of IT Act CO2: The students will learn to calculate the income from capital gain, income from other sources. CO3: The students acquire the knowledge about various deductions applicable to an individual. CO4: The students will understand & learn the procedure for calculation of taxable income and calculation of tax liability. CO5: The students will understand about the Income tax authorities and procedure for assessment.

Program Name: Bachelor of Commerce (Bank Management)

PROGRAM OUTCOME

PO1: After completing three years programme in Bachelors in Commerce (Bank management), students would gain a thorough knowledge in the basics and fundamental of Banking, Commerce and Finance.

PO2: The bank focused curriculum offers a number of specializations and practical exposures to the students to facewhich would equip the student to face challenges in today's commerce and business

PO3: The students are made to understand about their social responsibility and accountability towards the welfare of the society and are given knowledge on the ethical values of business.

PO4: The course offers a number of job opportunities in the various fields of Banking, Auditing, Finance, Marketing, HR, Taxation, Stock Market, Business managers and so on.

PROGRAM SPECIFIC OUTCOME

PSO1: Students will get exposure on relevant quantitative and qualitative Financial Accounting skills and applications to their future careers in business(bankingsectors)

PSO2: Students will learn the various concepts and applicability of Managerial accounting to practically implement into their future careers in business.

PSO3: Students will gain thorough knowledge on systematic and subject skills in various disciplines of Commerce,Banking, Accounting, Economics, Finance, Auditing and Marketing.

PSO4: Perform procedures of ethical business as per the Industrial Rules and Regulation & Environmental Policy.

PSO5: Learners will be able to identify the features and Roles of Businessmen, Entrepreneur, Managers, Consultant, which will help learners to possess knowledge and effective communication skills and to react aptly when confronted with critical decision making.

PSO6: Learners will be able to prove proficiency with the ability to engage in Professional & Competitive Examinations like CA, CS, ICWA,BSRB and PGCourseslikeM.Com,MBAandotherartscourses.

PSO7: Learners will acquire the skills like effective communication, decision making, problem solving in day-to-day business affairs especially leadershipqualities.

PSO8: Learners will involve in various co-curricular activities to demonstrate relevancy of foundational and theoretical

knowledge of their academic major and to gain practical exposure.

PSO9: Students will demonstrate progressive affective domain development of values, the role of accounting in society and business.

PSO10: Learners can also acquire practical skills to work as Tax Consultant, stock broker, Audit Assistant and other Financial Supporting Services.

PSO11: Learnerswillbeabletodohighereducationandadvanceresearchinthefieldofcommerceandfinance, bankingsectors.

COURSE OUTCOME:

S. No.	Course Name	Course Outcome
SEMESTER - I		
1.	**FINANCIAL ACCOUNTING**	CO1:The students get to know about the principles of accounting in general. CO2: The students get knowledge about the accounting terms and concepts. CO3: Students learn the various methods of maintaining the accounting records.

		CO4: Understanding the system of keeping financial accounting records for Sole Trading concern and non-Trading organizations.
2.	**BUSINESS COMMUNICATION**	CO1: The students get an exposure regarding the concept of communication CO2: The students understand the basic principles of effective business communication. CO3: The students are given guidelines and also the basic techniques of writing modern forms of communication letters related to business. CO4: The students learn to write different types of business letters and reports.
3.	**BUSINESS ECONOMICS**	CO1: Students will be able to understand the nature and scope of Business Economics and will be able to identify the economic variables in general business atmosphere. CO2: Students will perceive the knowledge about Economics at Micro level and various economic concepts such as Opportunity cost, Marginal Concepts, Demand and Supply function, Consumption and Production Laws. CO3: Students will learn attainment of Short Run and Long Run Equilibrium of a firm and industry and under different market structure and various pricing techniques. CO4: The students will know the application of economic analysis and theories into the business decision making.
SEMESTER - II		
1.	**TREASURY MANAGEMENT**	CO1: The students gets insight into concept of Treasury Management CO2: The learner understand the mechanism of Treasury Management

		CO3: The students will understand the Money market instruments & players CO4:The students will acquire knowledge about the foreign treasury management
2.	**PRINCIPLES OF MANAGEMENT**	CO1: Understanding the concepts of basic concepts of management. CO2: Students get knowledge about the significance of the management in business. CO3: The students understand the management principles providing guidelines as to how tasks are to be completed for increased efficiency. CO4: The students learn about the application of management skills to ensure effective utilization of available resources.
3.	**INDIAN ECONOMY**	CO1: The students will acquire knowledge on the basic characteristics of Indian economy, its potential on natural resources. CO2: The students understand the importance, causes and impact of population growth on economic development and its distribution. CO3:Comprehending knowledge on the importance of planning undertaken by the government of India, have knowledge on the various objectives, failures and achievements as the foundation of the ongoing planning and economic reforms taken by the government. CO4: Understanding of Primary, Secondary and Tertiary sectors towards contribution of economic growth and development.

SEMESTER - III		
1.	**CORPORATE ACCOUNTING**	CO1: The students learn the preparation of Company accounts. CO2: Students get knowledge on the various provisions of Companies Act. CO3: Understanding the applications of Accounting Transactions in Corporate Sector.
2.	**BUSINESS LAWS**	CO1:The learner understand the basic provisions of Indian Contract Act, Sales of Goods Act , Right to Information Act &Intellectual Property law. CO1:The students acquire knowledge about various elements of contract. CO1:The students understand the Legal Remedies available in the Law to the business and other people. CO1:The learn will get information about various types of crime and punishments
3.	**BANKING THEORY LAW & PRACTICE**	CO1: Understanding the origin and growth of Indian Banking System. CO2: Students get knowledge about the functions of RBI and commercial banks CO3: Students get exposure regarding different types of deposits and borrowings. CO4: Students get knowledge about the recent developments in Indian Banking Sector.

4.	**MARKETING OF BANKING SERVICE**	CO1: The students will understand the basic concept of marketing principles and their application inBanking Industry CO2:Thestudents will understand the concept of role of banking sector in the services of banks.
5.	**BUSINESS STATISTICS**	CO1: Know the most widely used probability distributions and recognize them in applications. CO2: Know the main tools to describe the index numbers, such as the price and cost of living, CO3: Recognize the importance of the analyzing time series and understand when it is appropriate to use normal approximations for the distribution of a statistic. CO4: Be able to derive Sampling procedures and estimators. CO5: Be able to construct exact and approximate confidence intervals. CO6: Possess techniques of Hypothesis testing CO7: Learn to develop complex mathematical reasoning.
SEMESTER – IV		
1.	**ADVANCED CORPORATE ACCOUNTING**	CO1: The students learn the preparation of final accounts of Banking. CO2: Students get knowledge on the concepts and maintaining of accounts related to special events in company like external reconstruction, holding and liquidation of company Internal reconstruction etc. CO3: Understanding the applications of Accounting Transactions in Corporate Sector.
2.	**CUSTOMER RELATIONSHIP MANAGEMENT IN BANKS**	CO1:The students will be able to understand the concepts and principles of CRM and its planning and

		implementation in banks CO2:Learner acquires the knowledge about the conceptual aspects of service quality. CO3:The students understand the recent trends in CRM
3.	**FINANCIAL SERVICES**	CO1: Understanding the concepts, objectives, functions, features of financial services. CO2: To know about the players and their contribution to the growth of financial services sector in India. CO3: Knowledge on the role of SEBI & functions of stock exchanges.
4.	**INDIRECT TAXATION**	The students will be able to understand the concepts of Tax system & Indirect taxations in India. The students gets insight into concept of GST, GST taxation, assessment procedure and GST audit. The students acquire knowledge about customs duty and export incentives
5.	**INTERNATIONAL ECONOMICS**	The students will insight knowledge aboutInternational economics CO2:The students will understand the basics concept of International Trade and theories of International trade. CO3:The students will acquire the knowledge about the Trade policy & Balance of payment. CO4: The students will understand the Export Management. CO5:The students will gain the knowledge about the

		International economics Organizations and functions of IMF, IDA, IFA, ADB, CO1:UNCTAD, UNIDO & IBRD.
SEMESTER – V		
1.	**COST ACCOUNTING**	CO1:The students will understand the basic of cost accounting, its principles and various elements of costing CO2:The students willlearntoprepareCostSheets,TenderandQuotations CO3:The Students will acquire knowledge about the calculation of materialcost, labourcostandoverheadcost.
2.	**PRACTICAL AUDITING**	CO1: Understanding the concept of present-day auditing practices, qualification and disqualification of auditors etc. CO2: To make students know about the procedure of appointment of auditors and removal of auditors. CO3: Gain knowledge on various procedures and techniques of Auditing.
3.	**INTERNATIONAL BANKING**	CO1:The students will be able to understand the concepts of International Banking structure. CO2:Thestudents will gain knowledge about the role of Foreign Exchange Market CO3: The students acquire the knowledge about the management of Foreign exchange. CO4:The students will be able to understand functions of International Financial Institutions.

4.	**FINANCIAL MANAGEMENT**	CO1:The students will understand the basics of Financial Management CO2:The students acquire the knowledge about capital structure, financing, working capital and capital budgeting. CO3:The learner develops the financial management skills relating to investing, financing and dividend decision making.
5.	**INCOME TAX LAW & PRACTICE - I**	CO1:The students will understand the concepts of Income Tax and various provisions of I.T Act CO2:The students will learn to calculate the income from salary, income from house property and Profits and gains from business. CO3:The students acquire the knowledge about types of filing , E-filing & submission of returns.
SEMESTER – VI		
1.	**TECHNOLOGY IN BANKING**	CO1: The students will be able to understand the concepts of application of technology in BankingSector CO2:The students gets insight into Electronic Banking and Electronic Banking Services. CO3:Thestudentswill learntheroleofTechnology in Bank and Modern technology inBankingSector
2.	**MANAGEMENT**	CO1: Knowledge on various tools and techniques of

	ACCOUNTING	Management. CO2: Obtaining practical skills in solving management problems. CO3: Analysis and Interpretation of Financial Statements to provide information to management for taking important decisions.
3.	**ENTREPRENEURIAL DEVELOPMENT**	CO1: Understanding the concept of Entrepreneurship and the effectiveness of manpower in Entrepreneurship. CO2: To provide students to knowledge about the preparation of project Report. CO3: Knowledge on Entrepreneurial Development Programmes and Agencies.
4.	**INCOME TAX LAW & PRACTICE - II**	CO1: The students will understand the concepts of Income Tax and various provisions of I.T Act CO2: The students will learn to calculate the income from capital gain, income from other sources. CO3: The students acquire the knowledge about various deductions applicable to an individual. CO4: The students will understand & learn the procedure for calculation of taxable income and calculation of tax liability. CO5: The students will understand about the Income tax authorities and procedure for assessment.
5.	**PORTFOLIO MANAGEMENT**	CO1: The students will understand the basic concepts of Portfolio Management.

		CO2: The students will understand and acquire the knowledge and the techniques of Portfolio Management and theories relating to portfolio Analysis.

Program Name: Bachelor of Commerce (Corporate Secretaryship)

PROGRAM OUTCOME

PO1:After completing three years for Bachelor Degree in Commerce (Corporate Secretaryship) Program, studentswould gain a through grounding in the fundamentals of Secretary Ship and finance and cost control,overallcommunication, business ethics.

PO2:The secretary roles and responsibilities, finance administration, tax formalities,frametheagenda& communication with the entire levels focused curriculum offers a number of specializationsandpracticalexposureswhichwouldequipthestudenttofacethemodern-daychallengeinsecretaryshiprolesinbusiness.

PO3: The students are made to understand about their social responsibility and accountability towards the welfare of thesociety and are given knowledge on the ethical values of business.

PO4: The course offers a number of job opportunities in the various fields of Banking, Auditing, Finance, Marketing, HR, Taxation, Stock Market, Business managers and so on.

PROGRAM SPECIFIC OUTCOME

PSO1:Studentswillbeabletodemonstrateprogressivelearningofcompanyformationformalitiesissuesandaccounting&communication processfromtoptobottomin management&governmentofficialandpublic.

PSO2: Students will demonstrateprogressive affective domain development of values, the role ofaccountinginsocietyandbusiness.

PSO3: Students will learn relevant financial accounting career skills applying both quantitative andqualitativeknowledgeto their futurecareers inbusiness.

PSO4:Students will learn relevant managerial accounting career skills, applying both quantitative andqualitativeknowledgeto their futurecareers inbusiness.

PSO5: Learners will gain through systematic and subject skills within various disciplines of commerce,Accounting, economics,finance, auditingandmarketing, entrepreneurialskills.

PSO6: Learners will be able to recognize features and roles of businessman entrepreneur, managers,consultant, company secretary, which will help learners to possess knowledge and other soft skills and toreact aptlywhen confrontedwithcritical decisionmaking.

PSO7: Learners will be able to prove proficiency with the ability to engage in competitive exams and professional courses like ACS,CA, CMA,ICWA.PGCourseslikeM. Com,MBAandotherArtscourses.

PSO8: Learners will acquire the skills like effective communication, decision making, problem solving inday-to-daybusiness affairs,especially leadershipqualities.

PSO9: Learners will involve in various co- curricular activities to demonstrate relevancy of foundationalandtheoreticalknowledgeoftheiracademicmajorandto gain practicalexposure.

PSO10: Learners can also acquire practical skills to as tax consultant, audit assistant and other financialsupportingservices

PSO11:Learners will be able to do higher education and advance research in the field of commerceandcompany secretaryship and finance.

COURSE OUTCOME:

S. No.	Course Name	Course Outcome
SEMESTER - I		
1.	**FINANCIAL ACCOUNTING**	CO1:The students get to know about the principles of accounting in general. CO2: The students get knowledge about the accounting terms and concepts. CO3: Students learn the various methods of maintaining the accounting records. CO4: Understanding the system of keeping financial accounting records for Sole Trading concern and non-Trading organizations.
2.	**BUSINESS COMMUNICATION**	CO1: The students get an exposure regarding the concept of communication CO2: The students understand the basic principles of

		effective business communication. CO3: The students are given guidelines and also the basic techniques of writing modern forms of communication letters related to business. CO4: The students learn to write different types of business letters and reports.
3.	**INTERNATIONAL TRADE**	CO1:The students will understand the basics concept of International Trade and theories of International trade. CO2:The students will understand and gain information about WTO and how globalization of economy take place CO3:The students will acquire the knowledge about the Trade policy & Balance of payment. CO4:The students will understand the role of IMF SDR & IBRD in International Trade
SEMESTER – II		
1.	**ADVANCED FINANCIAL ACCOUNTING**	CO1: The students learn to summarize, analyse and report the financial transactions pertaining to a business. CO2: The students learn about maintaining of accounts for Partnership, Branches, and Departments. CO3: The students are involved in the preparation of financial statements available for public consumption such as Stockholders, suppliers, banks, employees, government agencies, business owners, and other people who are interested in receiving such information for decision making purposes
2.	**CORPORATE MANAGEMENT**	CO1:The students will understand the basics concept of

		Management and also gain knowledge about the significance of management in corporate world. CO2:The students will be able to understand the functions of Management. CO3:The students will acquire the knowledge about the HRM and performance appraisal and incentive techniques.
3.	**BUSINESS ECONOMICS**	CO1:TheStudentswill understand aboutthenatureandscopeof business economics CO2:The Students will gain knowledge about the law of demandandsupply concept CO3:The students will acquire the knowledge about the different types ofmarketsandthepriceoutputdeterminationundereachmarket. CO4:The students will able to learn how to Employmarginalanalysisfordecisionmaking
SEMESTER – III		
1.	**CORPORATE ACCOUNTING**	CO1: The students learn the preparation of Company accounts. CO2:TheStudents get knowledge on the various provisions of Companies Act. CO3: Understanding the applications of Accounting Transactions in Corporate Sector.
2.	**COMPANY LAW & SECRETARIAL PRACTICE**	CO1: The students will understand the procedural aspect of a company formation. CO2:The students will understand the role of company secretary CO3:The students will get knowledge aboutsecretarial practice on all aspects of the functions of acorporatesecretary.
3.	**BUSINESS**	

	STATISTICS	CO1: Know the most widely used probability distributions and recognize them in applications. CO2: Know the main tools to describe the index numbers, such as the price and cost of living, CO3: Recognize the importance of the analyzing time series and understand when it is appropriate to use normal approximations for the distribution of a statistic. CO4: Be able to derive Sampling procedures and estimators. CO5: Be able to construct exact and approximate confidence intervals. CO6: Possess techniques of Hypothesis testing CO7: Learn to develop complex mathematical reasoning.
SEMESTER – IV		
1.	**ADVANCED CORPORATE ACCOUNTING**	CO1: The students learn the preparation of final accounts of Banking. CO2: Students get knowledge on the concepts and maintaining of accounts related to special events in company like external reconstruction, holding and liquidation of company Internal reconstruction etc. CO3: Understanding the applications of Accounting Transactions in Corporate Sector.
2.	**INDIRECT TAXATION**	CO1:The students will be able to understand the concepts of Tax system & Indirect taxations in India. CO2:The students gets insight into concept of GST, GST taxation, assessment procedure and GST audit. CO3:The students acquire knowledge about customs duty and export incentives
3.	**SECURITIES LAW & MARKET OPERATIONS**	CO1:Studentswillunderstandthedifferentfeaturesoffinancialassetssuchasmoneymarketinstruments,bonds,andstocks,andhowtobu

		yandselltheseassetsinfinancialmarkets. CO2:Studentswillunderstandthebenefitofdiversificationofholdingaportfolioofassets,andtheimportance played by themarketportfolio CO3:Students will knowhowtoapplydifferentvaluationmodelstoevaluatefixedincomesecurities,stocks,and howtousedifferentderivativesecuritiestomanagetheirinvestmentrisks.
SEMESTER – V		
1.	**COST ACCOUNTING**	CO1: To know the various elements of Cost. CO2: Students learn to prepare Cost Sheets. Tender and Quotations CO3: Understanding the process of ascertaining, classification and controlling costs. CO4: Students learn to calculate material cost, labour cost and overhead cost.
2.	**CORPORATE GOVERNANCE & ETHICS**	CO1:The students will be able to understand the concept of corporate governance CO2:The students acquire knowledge about the governance which ensures ethics in corporate management. CO3:The learn will get information about corporate governance forums. CO4:The students will be able to understand the corporate social responsibilities with help of case studies.
3.	**BUSINESS LAW**	CO1:The learner understand the basic provisions of Indian Contract Act, Sales of Goods Act , Right to Information Act &

		Intellectual Property law. CO2:The students acquire knowledge about various elements of contract. CO3:Enable the students to understand the Legal Remedies available in the Law to the business and other people. CO4:The learn will get information about various types of crime and punishments
4.	**INCOME TAX LAW & PRACTICE -I**	CO1:The students will understand the concepts of Income Tax and various provisions of I.T Act CO2:The students will learn to calculate the income from salary, income from house property and Profits and gains from business. CO3:The students acquire the knowledge about types of filing , E-filing & submission of returns.
5.	**MARKETING**	CO1: Students gets exposure on the importance and relevance of marketing in today's context. CO2: Understanding the basic features of Indian marketing and importance of advertisement in today's marketing era. CO3: Students get knowledge about the marketing mix and relevance of appropriate marketing mix. CO4: Knowledge on current aspects of marketing such as E-marketing, MIS
SEMESTER – VI		
1.	**INDUSTRIAL LAW**	CO1:The students will gain insight knowledge on various legal Acts to protect the health, safety & welfare of the employees. CO2:The students will acquire knowledge about the rules and regulations relating to Industrial relations, social security and

		working conditions prevalent in the present business.
2.	**MANAGEMENT ACCOUNTING**	CO1: Knowledge on various tools and techniques of Management. CO2: Obtaining practical skills in solving management problems. CO3: Analysis and Interpretation of Financial Statements to provide information to management for taking important decisions.
3.	**ENTREPRENURIAL DEVELOPMENT**	CO1: Understanding the concept of Entrepreneurship and the effectiveness of manpower in Entrepreneurship. CO2: To provide students to knowledge about the preparation of project Report. CO3: Knowledge on Entrepreneurial Development Programmes and Agencies.
4.	**INCOME TAX LAW & PRACTICE-II**	CO1: The students will understand the concepts of Income Tax and various provisions of I.T Act CO2: The students will learn to calculate the income from capital gain, income from other sources. CO3: The students acquire the knowledge about various deductions applicable to an individual. CO4: The students will understand & learn the procedure for calculation of taxable income and calculation of tax liability. CO5: The students will understand about the Income tax authorities and procedure for assessment.

5.	**INSTITUTIONAL TRAINING**	CO1: The students will get practical training for duration of 30 days relateto either in (a)OfficeManagement or(b)Secretarial Practice and submit the report IN OFFICEMANAGEMENT: The student willacquaintthetrainingwith: 1. Company'sactivities,organizationstructure,departments andauthorityrelationship. 2. Studyoflayout,workingconditions,officemaintenance,safetyandsanitaryconditions. 3. Study of the secretarial service, communication, equipments, postal and mailing services and equipments. 4. Acquaintancewithofficemachines and equipmentsand accounting, machine 5. Acquaintance with filling department, sales, purchases, sales accounts, salary, administration and personnel departments. IN SECRETARIAL PRACTICE: The student willacquaintthetrainingwith: 1. The training pertaining to secretarial practice shall be on all aspects of the functions of a corporate secretary.

PROGRAMME NAME: BA ENGLISH

PROGRAMME OUTCOME

PO.1 This programme broadens the aspects of literature and makes the students to understand the cultural, the historical as well as the social values.

PO.2 Students apply as well as analyse the textual knowledge in real life experience.

PO.3 Women's writing, Translational studies, World Classics, Indian writing, American Literature, British Literature formulates and introduces the different genre in Literature

PO.4This programme helps the learners to have an intense knowledge on the study of literature

PROGRAMME SPECIFIC OUTCOME:

PSO 1. Demonstrate knowledge of literature as a discipline by studying a range of literary texts written in English or translated into English from the past to present times

PSO 2. Show an understanding of the significant historical, political, and social backgrounds relevant to the literary texts studied

PSO 3. Derive an understanding of a variety of literary forms, styles, and structures for close analysis of texts

PSO 4. Appreciate literature as a source of understanding ideologies, practical wisdom, and aesthetic pleasure

PSO 5. Apply language in academic and non-academic contexts and in a standardised system for communication.

S. NO.	COURSE NAME	COURSE OUTCOME
SEMESTER I		
1.	**BRITISH LITERATURE- PAPER I**	CO1.Students will learn the origins of English poetry forms by learning various schools of poets and different tradition of poetry along with poetical terms. CO2. With the basic understanding of poetry students will get knowledge about the epic poetry and grandeur of writing in non- detailed poetry form. CO3. As beginners' students will learn the discourse of writing and the importance of prose form during 16^{th} - 17^{th} century

		CO4.non-detailed prose help students to learn the human values through literature and help them to understand the different practices in religion during 16-17th century. CO5. Reading a play help the students to know the form of theatre and introduce Elizabethan art form to the learners.
2.	**SHAKESPEARE**	CO1.To make students understand the histories during the period of Shakespeare. CO2.Recollecting the features of Shakespearean comedies and applying to the text. CO3. Knowing the elements of Shakespearean tragedies and dramatic aspects through the text. CO4.To make students know the influence on the romantics through Shakespeare's tragic comedy. CO5.Recollecting the features of Elizabethan theatre along with the life and works of Shakespeare.
3.	**BACKGROUND TO ENGLISH LITERATURE-PAPER-I**	CO1.To appreciate literary form and structure in shaping a text's meaning CO2.To learn the various types of Indo-European languages and the characteristic features of Old, Middle and Modern English

		CO3.Acquire how literature also influences the social and political history of each period CO4. Compare English Literature of one period with that of another. CO5. The background reading of East and west, state and culture and language would have widened their idea and thoughts.
SEMESTER-II		
1.	**BRITISH LITERATURE- PAPER II**	CO1.This paper will introduce the students to the high enlightenment period till modern age. It also runs through the background history and the cultural and traditional development along with the literature and how literature adapted it. CO2.The romantic poetry form and neo classical forms and characteristics are introduced along with the poetry and its technical aspects. CO3.The development and structural forms of prose are introduced by reading major prose writers of the age. CO4.Various movements are introduced as this age forms the basis for very many political, literary and religious movements. CO5.Describe the distinct features of British literature of the same period.

		Analyze and interpret seminal novels, poetry by close reading.
2.	**INDIAN WRITING IN ENGLISH**	CO1.Students will understand the evolution of Indian writing in English by explaining the colonization and the impacts. CO2.Identify the influence of classical Indian tradition and the impact of western colonization on Indian writers. CO3.Students will be aware to analyze and interpret the Indian ethos found in the representative texts. CO4.Evaluate Indian English texts from postcolonial perspective by closely analyzing the language and form. CO5.It also makes students aware how literature helped the national movements and how it included political ideas in its genres.
3.	**BACKGROUND TO ENGLISH LITERATURE-PAPER-II**	CO1.To apply literary terminology for Narrative, Poetic and Dramatic genres CO2. Acquire familiarity with a wide variety of forms. CO3.To know the impact of socio-political history in literature CO4. Analyse how the religious, social and political history of England influences the English writers

		CO5. To understand literature through philosophical point of view.
SEMESTER-III		
1.	**BRITISH LITERATURE- PAPER III**	CO1.Identify the basic terms, concepts of Victorian era in British literature. CO2.Demonstrate familiarity with a range of both central and more obscure Victorian texts, and have an analytical knowledge of some aspects of Victorian literature and culture. CO3.Analyse the work of a range of Victorian writers, both canonical and less well-known, and with a range of genres including the novel, short story and poetry. CO4.Analyse and interpret seminal poetry of the period with close reading. CO5.Analyse and explainrepresentative intellectualcurrents of the Victorian era.
2.	**ASPECTS OF ENGLISH LANGUAGE- PAPER I**	CO1. Helps the students to understand the origin, evolution and properties of language. It also directs to

		comprehend the significance of human language in comparing with other form of languages. CO2. To determine the correct usage of the language and help students to make impeccable structure in speaking as well as writing. CO3. To facilitate the understanding of English Grammar and its contemporary usage. CO4. Improves in learning the structure and feature of language CO5.Helps to evaluate the knowledge and understanding of students in English Grammar. It also motivates the students to learn conversion and transformation of sentences.
3.	**BACKGROUND TO ENGLISH LITERATURE-PAPER-III**	CO1.Insists students the importance of literary terms and concepts for their advanced course learning. CO2. Enables them to comprehend the impact of the history of the language on literature. CO3. Benefits them with new literary theories and to analyse the texts based on the theories. CO4.Teaches them the commencement of World War I and its impact. CO5.Educates them with the

		knowledge of World War II and its consequences.
SEMESTER-IV		
1.	**AMERICAN LITERATURE - PAPER I**	CO1. Helps students learn the origin and history of America through poetry. CO2. Enables them to understand the philosophical ideologies of the American writers. CO3. Serves its purpose by enabling students to know about drama, its techniques and the ways to analyse it. CO4. Provides an overview of narrative style and learn the cultural and political backdrop of America. CO5.Supports students to assess the thematic aspects in the novel, the writing style and the techniques used.
2.	**ASPECTS OF ENGLISH LANGUAGE – PAPER II**	CO1. Introduces the branch of linguistics and phonetics. This course also widens the knowledge of students in learning the kinds and scope of linguistics CO2. Familiarizes the pronunciation and phonetic transcription in language. It also aids in recognizing the similarities as well as differences in

		pronouncing the sounds in language. CO3. Determines the language through structural and functions aspects. CO4.Helps the students to familiarize with lexical terms including its tone, intonation and pitch. CO5.Motivates the students to have deep insight on the scientific approach of language system.
3.	**BACKGROUND TO EUROPEAN AND AMERICAN LITERATURE**	CO1.Gives the students the knowledge of the ancient Greece and its philosophers, the Roman Empire and also basic concepts present in the European and American literature. CO2.Makes them aware of the European social, political and cultural history. CO3.Assists them to understand the background of America and the revolutions. CO4. Makes sure that it aids them to study the Colonial system and its impacts. CO5. Guides them to learn the narrative process, writing techniques and styles, along with it's historical backdrop

SEMESTER-V		
1.	**AMERICAN LITERATURE – PAPER II**	CO1. 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.). CO2. Identify relationships between moments in American history, colonialism, and culture and their representation in works of American literature. CO3.Articulate ways that American literature reflects complex historical and cultural experiences. CO4. Produce a mix of critical, creative, and/or reflective works about American literature to 1865. CO5.Evaluate new forms of space, identity and writing that transformed canonical English literary structures.
2.	**WORLD CLASSICS IN TRANSLATION**	CO1. Demonstrate familiarity with the principal texts of the Classical canon (The Odyssey) and primary forms of Classical literature (poetry, drama and novels). CO2. Classics in translation facilitate comparative study. CO3.Discuss critically in a socio-historical context some of those texts and forms.

		CO4.Demonstrate an understanding of the importance of Classical literature in the formation of Western civilisation. CO5.Access to psychological studies in literature
3.	**ASPECTS OF ENGLISH LANGUAGE –III YEAR & SEMESTER**	CO1. Introduces the differences in Indian pronunciation and British pronunciation. Student's knowledge gets widen by recognizing the regional varieties of language which includes accent, style, jargon. CO2. Emphasis is given to the structural grammar and Ic analysis. It enables them to have knowledge on approach of grammar. CO3.Introduces the significance of academic writing. CO4. The pronunciation practice makes the students to understand the variations and the writing style gets developed by the report writing, content writing and creative writing. CO5. Students have an insight on the internet for the Language purpose.
4.	**INTRODUCTION TO LITERARY THEORY AND CRITICISM**	CO1.To understand the basic concepts of major literary theories and criticisms. CO2.Guides in interpreting a text

		using a literary. CO3.Developes critical thinking with the aid of literary criticism. CO4.To identify the influence of literary theories in the contemporary literature. CO5.Students learn to analyse the themes and structure of a literary work using literary theories and criticisms.
5.	**INTRODUCTION TO JOURNALISM**	CO1.The students will be introduced to other scopes by learning the English language and literature and have a broader understanding on how literature and media is correlated and interconnected. CO2.It traces the history of journalism in Indian having a basic understanding of world press invention and development of print media. CO3.It discusses the aspects of press and the governing principles and assess the various components of news paper CO4.It analyze the importance of a news agencies, advertisements, photo journalism and News agencies and also look into how it is working. CO5.Evaluate the elements of reporting in print, radio, television, and online platforms and learn the

		editing, proof reading and designing in print and visual media.
6.	**VALUE EDUCATION**	CO1.Helps the students to become more responsible and sensible by inculcating values and morals to them through value education. CO2.To understand the importance of value based living in day to day life. CO3.Students will recognise, understand and appreciate the importance of being socially responsible in their life. CO4.Students develop the inner and external personality. CO5.Value education nurtures their minds against the social evils and prepares them to tackle such situations in the society.
SEMESTER-VI		
1.	**POSTCOLONIAL LITERATURES IN ENGLISH**	CO1.This paper introduces students to world literature that have changed the aspects in literary and political field. Thus, unit one which deals with African Literature introduces the African cultural and traditional forms through reading their literature. CO2.Defines the problems and consequences of colonization. It also identifies the key authors, and literary

		forms in Postcolonial Literature. CO3.Understand how ancestry, race, class, gender, history and identity are present in the literary texts of colonizers and the colonized. CO4.Examine the use of English language by the colonized to express their experiences and emergence of different English forms with culture specific words. CO5.Critical opinions about the contexts of exploration and colonialism in relation to postcolonial studies.
2.	**CONTEMPORARY LITERATURE**	CO1.Instructs the features of globalization CO2.Defines and introduces the background of war poetry CO3.Inculcate interests to focus on worried contemporary literature CO4.Ignites the minds to compare the glory of writings CO5.Focuses on the vocabulary of culture and society
3.	**INDIANLITERATURES IN ENGLISH**	CO1.Students will understand the evolution of Indian writing in English by explaining the colonization and the impacts which highly include the contemporary space. CO2.Identify the influence of Indian

		tradition and the impact of western colonization on Indian writers and literature. CO3.Students will be aware to analyze and interpret the Indian ethos found in the representative texts. CO4.Evaluate Indian English texts from post-colonial perspective by closely analyzing the language and form. It also introduces the ideal figures of modern Indian and Diasporic writers. CO5.It also makes students aware how literature helped the national movements and how it included political ideas in its genres.
4.	**WOMEN'S WRITING**	CO1. Introducing the specific issues on gender aspects through theories and concepts of feminism. CO2.Knowing the qualities of prose through feminist writers. CO3. Understanding the poetic forms and appreciation through learning poems from the perspectives of feminism. CO4.Imparting the dramatic nuances through drama written by female writers. CO5. To develop the reading ability in students through short stories by female writers.

5.	**INTRODUCTION TO TRANSLATION STUDIES**	CO1.To understand the history, evaluation and various developments in the field of translation studies with the help of various theories. CO2. Analyses the complexity of translation especially in translation a poetry CO3.Appreciate the various components of language like culture, philosophy and literary tradition that are carried over in the process of translation. CO4.To identify the problems of loss and gain. CO5.To analyse the limitations and facilitations of translation.

PROGRAMME NAME: BSW

PROGRAMOUTCOMES

PO1:Thecoursewillmakestudentunderstand social work, methods and models of social work practice

PO2: To understand the fields work practice and research in social work

PO3: To understand and practice ethical and professional behavior acquire knowledge in human rights and social, economic, environmental justice

PO4: Acquire the ability to develop communication, interpersonal and documentation skills

PO5: Develop skills for management of Non-Governmental Organisations.

PROGRAMME SPECIFIC OUTCOMES

PSO1:Acquireknowledgeonfundamentalssocial work, methods of social work and models of social work practice

PSO2: Understand the psychology and sociology to gain insight into the challenges faced by the problems in society.

PSO3:Be capable enough to understand the various fields of practice from children to elderly in life span of human.

PSO4: Explore in details the application of various methods of social work and application of research in social work practice

PSO5:Understanddetailsthe ethics and principles of social work practice and practice with people based on values of social work of equality and social justice

PSO6:Imbibe the values and ethics of social work practice

PSO7: To understand the skills required for social work practice and to use in practice.

PSO8: To develop the reporting skills in casework, group work and community organisation

PSO9:Understand the management and functioning of Nongovernmental organisations

PSO10:Equip themselves in social entrepreneurship skills and other related skills

SL.NO	COURSE NAME	COURSE OUTCOME
SEMESTER - I		
1.	**SOCIAL WORK PROFESSION-HISTORY AND PHILOSOPHY**	CO1. To appreciate the history and philosophy of Social Work and its emergence as a profession. CO2. To comprehend its underlying ideologies, philosophical base, theories and approaches to practice. CO3. To understand social work as a profession – its beliefs, values and principles. CO4. To develop an understanding of the various

		methods and fields of Social Work practice. CO5. To gain an understanding of current trends in Social Work practice.
2.	**SOCIOLOGY FOR SOCIAL WORK**	CO1. To understand Sociology as a discipline and its relevance for Social Work CO2. To initiate an understanding of basic Sociological concepts about society, its structure and dynamics CO3. To create the ability among students to analyse the Indian Social system, Social Phenomena & Social problems CO4. To understand social stratification CO5. To understand social change and social movements
3.	**CHILD RIGHTS**	CO1. To develop an understanding of the Rights of Children and the Provisions for Ensuring justice CO2. To sensitize the students on the needs and problems of children in Indian society. CO3. To explore health and educational services for children CO4. To understand the child rights CO5. To understand the role of NGOS and to develop an understanding on the role of social work in working with Children in need
SEMESTER - II		
1.	**SOCIAL WORK PRACTICE WITH INDIVIDUALS**	CO1. To introduce the various methods of Social Work practice CO2. To enable and explore the history, skills, principles, values, techniques and case work relationship CO3. To equip students with knowledge in various

		models of Case Work. CO4. To understand the helping process CO5. To understand the recording and supervision in case work
2.	**HUMAN GROWTH AND DEVELOPMENT**	CO1. To understand the term psychology, field of psychology and relationship with social work CO2. To understand principles of human development process CO3. To develop an understanding of the developmental task in prenatal period to late childhood CO4. To develop an understanding of the developmental task in adulthood CO5. To develop an understanding of the developmental task in middle and old age and to learn to apply human growth and development principles for better social work interventions
3.	**UNSYSTEMS FOR DEVELOPMENT AND SOCIAL CHANGE**	CO1. To enable students, familiarize with UN systems andframeworks for development CO2. To critically analyze the global issues and MDG CO3. To understand Organizations of Economic and Social Council CO4. To explore Programmes of the UN – Aims and Programmes CO5. To understand UN Entities and other relatedagencies – Aims and Programmes
SEMESTER - III		
1.	**SOCIAL WORK PRACTICE WITH GROUPS**	CO1. To acquire knowledge of the objectives, characteristics values of working with groups. CO2. To understand the significance of the methods and their uses in the Indian context and equipping students with

		a broad range of skills in social work practice. CO3. To develop the necessary skills to apply the methods of working with groups. CO4. To understand the Stages in Social Group Work CO5. To understand Recording in Group Work and the Role of a Group Worker in Different Settings
2.	**HUMAN BEHAVIOUR**	CO1. To understand the basic concepts of human behavior. CO2. To gain knowledge on psychological base of human behavior, perception, learning and intelligence CO3. To understand the motivation and emotion CO4. To understand attitude, adjustment and defense mechanisms CO5. To understand mental health and community mental health
SEMESTER - IV		
1.	**SOCIAL WORK PRACTICE WITH COMMUNITIES AND SOCIAL ACTION**	CO1. To Understand the community as a method, its specific approaches and models CO2. To develop the understanding of principles, historical development, model, approaches and social planning. CO3. To develop understanding of process and skills in community Organisation CO4. To understand the social action and models of social actions CO5. To understand Community Organisation &Social Action in different settings
2.	**ECONOMIC AND POLITICAL SYSTEMS AND PROCESSES**	CO1. Understand the importance of economics and politics for social work. CO2. Understand the Indian political and economic system and be able to examine problem situations in the

		field. CO3. Develop skills in analyzing the political & economic processes in the context of development/under development. CO4. To know the performance of Five Year Plans in India and to realize the significance of economic & political aspects of planning. CO5. To understand problems in the economic and political system of India
SEMESTER - V		
1.	**SOCIAL WELFARE ADMINISTRATION**	CO1. Develop an understanding of the administration process in the agency in the total frame of social work practice. CO2. Develop ability to apply the basic principles of social work to administration of social welfare and development agencies. CO3. To acquire knowledge and skills of the basic components of the administrative and organization process. CO4. Develop an understanding of the procedures related to establishment and management of social welfare organization/agencies governmental and non-governmental CO5. To understand the human resource development
2.	**GENERALIST PRACTICE OF SOCIAL WORK**	CO1. To understand Generalist Practice as a method of Social Work CO2. To equip the students with knowledge and skills in the Integrated Method of Social Work Practice CO3. To understand the planning in generalist practice CO4. To understand the intervention

		CO5. To understand Evaluation & Termination
3.	**SOCIAL WORK RESEARCH AND STATISTICS**	CO1. To develop an understanding of the nature, purpose and importance of social work research CO2. To develop competence to conceptualise a problem, analyse and assess social problems and needs at the micro-level CO3. To understand the types of Research, Research Design & Sampling: CO4. To acquire research skills in conducting research by developing ability to prepare appropriate tools and collect the data CO5. To understand Basic Statistical analysis of data
4.	**FIELDS OF SOCIAL WORK**	CO1. To develop an understanding regarding the macro level of practice in Social Work and to develop skills in students to envisage, plan and work out strategies in working with different macro level interventions CO2. To understand Social Work with the Senior Citizens CO3. To understand Social Work with Rural and Urban Communities CO4. To understand Social Work with the Displaced CO5. To understand the social work practice in industries
5.	**WOMEN DEVELOPMENT-ISSUES AND CONCERNS**	CO1. To gain an understanding of Gender positions in society CO2. To enable students, comprehend the various domains of development and its impact on men and women CO3. To understand the various approaches to development processes specifically for women CO4. To empower students with skills in social work

		practice for women's development CO5. To understand the legislations related to woman
SEMESTER - VI		
1.	**HEALTH CARE**	CO1. To understand the concept and dimensions of health – physical, social, environmental and mental health. CO2. To give the student an insight into etiology, symptoms, treatment and prevention of communicable disease, non-communicable diseases, deficiency diseases and physical handicaps. CO3. To appreciate indigenous systems and their influence on holistic health CO4. To help the student understand the role of the government in the health issues CO5. To understand of international organisation related to health
2.	**DISASTER PREPAREDNESS AND RISK REDUCTION**	CO1. To develop an understanding of ecological balance and imbalance. CO2. To understand the process of Disaster Management. CO3. To know the Disaster Management Framework in India. CO4. To analyse the role of social worker in disaster management. CO5. To understand the legislation for disaster management
3.	**SOCIAL ENTERPRISE MANAGEMENT**	CO1. To provide students with an overview on Social Enterprise as a major sector CO2. To introduce concepts underlying Social Enterprise Management CO3. To equip students with skills and strategies that

		would empower them to become Social Entrepreneurs or take up Leadership/Managerial roles in social Enterprises CO4. To understand the resource of social enterprise CO5. To understand the measuring impact of social entrepreneurship
4.	**CONFLICT AND PEACE BUILDING**	CO1. To develop appreciation for India's multi-cultural and multi- religious traditions and sensitivity towards difference CO2. To need to create peace and integration among people CO3. To develop the capacity to understand the wide range of activities associated with capacity building, reconciliation and societal transformation CO4. To understand peace interventions and social change CO5. To understand National and International agencies and their Interventions

PROGRAMME OUTCOME, PROGRAMME SPECIFIC OUTCOME & COURSE OUTCOME(POSTGRADUATE COURSES)

ProgrammeName:-M.Sc INFORMATION TECHNOLOGY

Programme Outcomes:

PO1: Apply the knowledge of mathematics, science and computing in the core information technologies.

PO2: Identify, design, and analyze complex computer systems and implement and interpret the results from those systems

PO3: Design, implement and evaluate a computer-based system, or process component, to meet the desired needs within the realistic constraints such as economic, environmental, social, political, ethical, health,Safety, and sustainability.

PO4: Select and apply current techniques, skills, and tools necessary for computing practice and integrate IT-based solutions into the user environment effectively.

PO5: Analyze the local and global impact of computing on individuals, organizations, and society.

PO6: Apply ethical principles and responsibilities during professional practice.

PO7: Function effectively as a team member or a leader to accomplish a common goal in a multidisciplinary team.

PO8:Communicate effectively with a range of audiences using a range of modalities including written, oral and graphical.

Programme Specific Outcomes

PSO1 : To apply knowledge of recent computing technologies, skills and current tools of Information technology

PSO2 : To design and conduct experiments, as well as to analyze and interpret data.

PSO3 : To Understand the contemporary research issues in the different areas of computer science

PSO4: To explore research gaps, analyze and carry out research in the specialized/emerging areas.

PSO5: To design software systems, components or processes to meet identified needs within economic, environmental and social constraints.

PSO6: To express/present ideas in an impressive and professional manner.

PSO7: To recognize the need to engage in lifelong learning through continuing education and research

PSO8: To work in multidisciplinary and multicultural environment, become entrepreneur based upon societal needs, understanding of professional, social and ethical responsibilities.

SEMESTER-I

S. No	Course Name	Course Outcome
1.	**C++ AND DATA STRUCTURES**	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 Solve problem involving graphs, trees and heaps CO4. Apply Algorithm for solving problems like sorting, searching, insertion and deletion of data
2.	**COMPUTER ARCHITECTURE**	CO1. Explain the organization of basic computer , its design and the design of control unit. CO2. Demonstrate the working of central processing unit and RISC and CISC Architecture. CO3. Describe the operations and language f the register transfer, micro operations and input- output organization. CO4. Understand the organization of memory and memory management hardware. Elaborate advanced concepts of computer architecture, Parallel Processing, interprocessor communication and synchronization
3.	**DATABASE**	CO1. Describe the fundamental elements of relational

	MANAGEMENT SYSTEMS	database management systems Explain the basic concepts of relational data model, entity-relationship model, relational database design, relational algebra and SQL CO2. Design ER-models to represent simple database application scenarios CO3. Convert the ER-model to relational tables, populate relational database and formulate SQL queries on data. CO4. Improve the database design by normalization. CO5. Familiar with basic database storage structures and access techniques: file and page organizations, indexing methods including B tree, and hashing.
4.	**VISUAL PROGRAMMING**	CO1. Demonstrate fundamental skills in utilizing the tools of a visual environment such as command, menus and toolbars. CO2. Implement SDI and MDI applications using forms, dialogs, and other types of GUI components. CO3. Understand the connectivity between VB with MS-ACCESS, ORACLE and SQL and SQL database CO4. Implement the methods and techniques to develop projects.

SEMESTER-II

S. No	Course Name	Course Outcome
1.	**OPERATING SYSTEMS**	CO1. To understand the design of control unit. CO2. Understanding CPU Scheduling, Synchronization, Deadlock Handling and Comparing CPU Scheduling Algorithms. CO3. Solve Deadlock Detection Problems. Describe the role of paging, segmentation and virtual memory in operating systems.

		CO4. Description of protection and security and also the Comparison of UNIX and Windows based OS. CO5. Defining I/O systems, Device Management Policies and Secondary Storage Structure and Evaluation of various Disk Scheduling Algorithms.
2.	**PROGRAMMING IN JAVA**	CO1. Use the syntax and semantics of java programming language and basic concepts of OOP. CO2. Develop reusable programs using the concepts of inheritance, polymorphism, interfaces and packages. CO3. Apply the concepts of Multithreading and Exception handling to develop efficient and error free codes. CO4. Design event driven GUI and web related applications which mimic the real word scenarios.
3.	**DATA WAREHOUSING AND DATA MINING**	CO1. Understand the functionality of the various data mining and data warehousing component CO2. Appreciate the strengths and limitations of various data mining and data warehousing models CO3. Explain the analyzing techniques of various data CO4. Describe different methodologies used in data mining and data ware housing. CO5. Compare different approaches of data ware housing and data mining with various technologies.
4.	**INTERNET TECHNOLOGY**	CO1. Understand the basic concepts and applications of the Internet and World Wide Web. CO2. Apply relevant Internet knowledge to enhance their understanding of other networking situations. CO3. Use current Internet Technology necessary for daily life application.

SEMESTER-III

S. No	Course Name	Course Outcome
1.	**COMPUTER NETWORKS**	CO1. Understand basic computer network technology. CO 2. Identify the different types of network topologies and protocols. CO3. Enumerate the layers of the OSI model and TCP/IP. CO 4. Identify the different types of network devices and their functions within a network CO5. Understand and building the skills of sub-netting and routing mechanisms. CO6. Familiarity with the basic protocols of computer networks, and how they can be used to assist in network design and implementation
2.	**DESIGN AND ANALYSIS OF ALGORITHMS**	CO 1. Able to Argue the correctness of algorithms using inductive proofs and Analyze worst-case running times of algorithms using asymptotic analysis. CO 2. Able to explain important algorithmic design paradigms (divide-and-conquer, greedy method, dynamic-programming and Backtracking) and apply when an algorithmic design situation calls for it. CO3. Able to Explain the major graph algorithms and Employ graphs to model engineering problems, when appropriate. CO4. Able to Compare between different data structures and pick an appropriate data structure for a design situation. CO5. Able to Describe the classes P, NP, and NPComplete and be able to prove that a certain problem is NP-Complete
3.	**ADVANCED JAVA PROGRAMMING**	CO1. Develop program using event handling. CO2. Use network concepts (client/server, socket) in the program.

		CO3. Develop program using JDBC connectivity to access data from database and execute different queries to get required result. CO4. Develop web-based program using servlet and JSP
4.	**INFORMATION SECURITY**	CO1. Explain various Information security threat and controls for it. CO2. Analyze a security incidents and design countermeasures. CO3. Explain information security incident response. CO4. Apply the techniques of Common Key cryptography and Public Key cryptography. CO5. Explain the mechanism to protect confidentiality and completeness of data.
5.	**MOBILE COMPUTING**	CO1. Explain the basics of mobile Computing CO2. Describe the functionality of Mobile IP and Transport Layer CO3. Classify different types of mobile telecommunication systems CO4. Demonstrate the Adhoc networks concepts and its routing protocols CO5. Make use of mobile operating systems in developing mobile applications.

SEMESTER-IV

Project (Viva-Voce)

ProgrammeName:-M.Sc COMPUTER SCIENCE

Programme Outcomes:

PO1: Be technology-oriented with the knowledge and ability to develop creative solutions, and better understand the effects of future developments of computer systems and technology on people and society.

PO2: Get some development experience within a specific field of Computer Science, through project work.

PO3: Get ability to apply knowledge of Computer Science to the real-world issues.

PO4: Be familiar with current research within various fields of Computer Science.

PO5: Use creativity, critical thinking, analysis and research skill.

PO6: Learn new technology, grasping the concepts and issues behind its use and the use of computers.

PO7: Get prepared for placement by developing personality & soft skills.

PO8: Communicate scientific information in a clear and concise manner.

PO9: Build up programming, analytical and logical thinking abilities.

PO10: Be able to understand the role of Computer Science in solving real time problems in society.

PO11: Know the recent developments IT, future possibilities and limitations, and understand the value of lifelong learning.

Programme Specific Outcomes

PSO1: Enrich the knowledge in the areas like Artificial Intelligence, Web Services, Cloud Computing, Paradigm of Programming language, Design and Analysis of Algorithms, Database Technologies Advanced Operating System, Mobile Technologies, Software Project Management and core computing subjects.

PSO2: Students understand all dimensions of the concepts of software application and projects.

PSO3: Students understand the computer subjects with demonstration of all programming and theoretical concepts with the use of ICT.

PSO4: Developed in-house applications in terms of projects.

PSO5: Interact with IT experts & knowledge by IT visits.

PS06: Get industrial exposure through the 6 months project in IT industry.

PS07: To make them employable according to current demand of IT Industry and responsible

citizen.

PS08: Aware them to publish their work in reputed journals.

SEMESTER-I

S. No	Course Name	Course Outcome
1.	**DESIGN AND ANALYSIS OF ALGORITHMS**	CO1. Able to Argue the correctness of algorithms using inductive proofs and Analyze worst-case running times of algorithms using asymptotic analysis. CO2. Able to explain important algorithmic design paradigms (divide-and-conquer, greedy method, dynamic-programming and Backtracking) and apply when an algorithmic design situation calls for it. CO3. Able to Explain the major graph algorithms and Employ graphs to model engineering problems, when appropriate. CO4. Able to Compare between different data structures and pick an appropriate data structure for a design situation. CO5. Able to Describe the classes P, NP, and NP Complete and be able to prove that a certain problem is NP-Complete
2.	**ADVANCED JAVA PROGRAMMING**	CO1. Design GUI using AWT CO2. Develop program using event handling. CO3. Use network concepts (client/server, socket) in the program. CO4. Develop program using JDBC connectivity to access data from database and execute different queries to get required result. CO5. Develop web-based program using servlet

		and JSP
3.	**SYSTEM SOFTWARE**	CO1. To understand the basics of system programs like editors, compiler, assembler, linker, loader, interpreter and debugger. CO2. Describe the various concepts of assemblers and macro processors. CO3. To understand the various phases of compiler and compare its working with assembler. CO4. To understand how linker and loader create an executable program from an object module created by assembler and compiler. CO5. To know various editors and debugging techniques
4.	**THEORETICAL FOUNDATIONS OF COMPUTER SCIENCE**	CO1. Analyze language-recognition and generation-problems through the powers and limitations of abstract formal models of computation (regularity, contextfreedom, recursive enumerability), and identify possible machine and/or grammar constructions for the languages CO2. Identify and implement possible machine and/or grammar constructions for language-recognition and generation-problems with resource-restrictions: determinism/nondeterminism, "normal-form" machines/grammars, variants of machines/computation models CO3. Constructions of machines and/or grammars for language-recognition and

		generation-problems follow general programming paradigms such as semantics of states/variables, recursion/induction/iteration-loops, and divide/conquer. CO4. Limitations of the abstract formal models of computation are studied through contradictory arguments (pumping lemmas), closure properties, and diagonalization argument.

SEMESTER-II

S. No	Course Name	Course Outcome
1.	**COMPUTER NETWORKS**	CO1. Understand basic computer network technology. CO2. Identify the different types of network topologies and protocols. CO3. Enumerate the layers of the OSI model and TCP/IP. CO4. Identify the different types of network devices and their functions within a network CO5. Understand and building the skills of subnetting and routing mechanisms. CO6. Familiarity with the basic protocols of computer networks, and how they can be used to assist in network design and implementation
2.	**DIGITAL IMAGE PROCESSING**	CO1. Review the fundamental concepts of a digital image processing system. CO2. Analyze images in the frequency domain using various transforms.

		CO3. Evaluate the techniques for image enhancement and image restoration. CO4. Categorize various compression techniques. CO5. Interpret Image compression standards. CO6. Interpret image segmentation and representation techniques.
3.	**OBJECT ORIENTED ANALYSIS AND DESIGN**	CO1. Explain OOAD concepts and various UML diagrams CO2. Select an appropriate design pattern CO3. Illustrate about domain models and conceptual classes CO4. Compare and contrast various testing techniques CO5. Construct projects using UML diagrams
4.	**MOBILE COMPUTING**	CO1. Explain the basics of mobile Computing CO2. Describe the functionality of Mobile IP and Transport Layer CO3. Classify different types of mobile telecommunication systems CO4. Demonstrate the Adhoc networks concepts and its routing protocols CO5. Make use of mobile operating systems in developing mobile applications

SEMESTER-III

S. No	Course Name	Course Outcome
1.	**Principles of Compiler Design**	CO1. Understand the major phases of compilation and to understand the knowledge of Lex tool & YAAC tool Develop the parsers and

		experiment the knowledge of different parsers design without automated tools CO2. Construct the intermediate code representations and generation CO3. Convert source code for a novel language into machine code for a novel computer CO4. Apply for various optimization techniques for dataflow analysis
2.	**Information Security**	CO1. Explain various Information security threat and controls for it. CO2. Analyze a security incidents and design countermeasures. CO3. Explain information security incident response. CO4. Apply the techniques of Common Key cryptography and Public Key cryptography. CO5. Explain the mechanism to protect confidentiality and completeness of data.
3.	**Artificial Intelligence**	CO1. Demonstrate fundamental understanding of the history of artificial intelligence (AI) and its foundations CO2. Apply basic principles of AI in solutions that require problem solving, inference, perception, knowledge representation, and learning. CO3. Demonstrate awareness and a fundamental understanding of various applications of AI techniques in intelligent agents, expert systems, artificial neural networks and other machine

		learning models. CO4. Demonstrate proficiency developing applications in an 'AI language', expert system shell, or data mining tool. CO5. Demonstrate proficiency in applying scientific method to models of machine learning. CO6. Demonstrate an ability to share in discussions of AI, its current scope and limitations, and societal implications
4.	**Cryptography**	CO1. Apply the fundamental concepts of cryptography CO2. Describe the difference between symmetric and asymmetric cryptography CO3. Define the basic requirements for cryptography CO4. Identify processes to support secure protocols CO5. Describe the process for implementing cryptographic systems CO6. Define key management concepts CO7. Define Public Key Infrastructure CO8. Identify processes for key administration and validation CO9. Describe the implementation of secure protocols
5.	**Multimedia Systems**	CO1. Describe the types of media and define multimedia system. CO2. Describe the process of digitizing (quantization) of different analog signals (text, graphics, sound and video).

		CO3. Use and apply tools for image processing, video, sound and animation. CO4. Apply methodology to develop a multimedia system. CO5. Apply acquired knowledge in the field of multimedia in practice and independently continue to expand knowledge in this field.

SEMESTER-IV

Project (Viva-Voce)

ProgrammeName:-MSW

Programme Outcomes:

PO1:Transformthestudentsintoprofessionalsocialworkerscommittedtothevaluesofsocialwor kbymaximizingopportunitiesforeveryindividualtorealizehisorherhighest potential.

PO2:Advancepracticeofknowledge,valuesandskillsconsistentwiththehighestidealsofthe profession.

PO3:Promoterespect,awarenessandappreciationforcultureandsocialjusticeateverylevelofthe society.

PO4: To develop research skills and social action

PO5: To understand the social worker specialisation in human resource management, medical and psychiatric social work and community development

PROGRAMME SPECIFIC OUTCOMES

PSO1:Acquireknowledgeonfundamentalssocial work practice, methods and field of social work and scope of social work practice

PSO2:To understand and be able to do self-introspection to get trained to be efficient social workers

PSO3: Understand and practice the values and skills of social work practice

PSO4:Proficientlybeabletofollow the ethical guidelines of social work profession both in national and international perspectives

PSO4:GraspthefundamentalconceptsofNaturalandAcquiredimmunityand the role of organs and cells in the development of immune response.

PSO5:Understandthe social work profession in cultural perspective and to get the understanding of counselling methods of intervention

PSO6: Be capable on understanding various models of practice including indigenous models

PSO7: To learn the theory and practice of social work research and how to conduct action-oriented research and pure research

PSO8: To explore and application of linkage of social work theory, practice and research in social work practice.

PSO9: To understand and explore the labour legislations, industrial relations, organisationbehaviours and human resource management as social workers and understand how to apply social work interventions in the field

PSO10: To understand the skills and knowledge required to equip the students as medical social workers, psychiatric social workers, community health workers and understand how to apply social work interventions in the field

PSO11: To clearly understand rural community development, urban community development, development planning and entrepreneurship development as social workers and understand how to apply social work interventions in the field

POS12: To have clear understanding of social legislations, management of organisations, counselling and fields of social work practice.

M.S.W SEMESTER-I

S.NO	COURSE NAME	COURSE OUTCOME
1.	**SOCIAL WORK PROFESSION - HISTORY AND PHILOSOPHY**	CO1. To gain an understanding of the history and philosophy of Social Work and its emergence as a Profession CO2. To develop insights into the origin and development of Voluntary organization CO3. To understand the ideologies, theories and approaches in social work CO4. To appreciate Social Work as a Profession and to recognize the need and importance of Social Work Education and training CO5. To understand international social work practice
2.	**WORK WITH INDIVIDUALS (SOCIAL CASE WORK)**	CO1. To understand Social Case Work as a method of Social Work and develop skills in Social Work practice CO2. To understand the helping process CO3. To comprehend theory and models and apply them in direct practice with individuals CO4. To understand the tool and techniques of working with individuals CO5. To become aware of the scope of using the methods in various settings
3.	**WORK WITH GROUPS (SOCIAL GROUP WORK)**	CO1. To understand Group Work as a method of Social Work and develop skills in practice CO2. To understand models and apply them in practice with groups CO3. To understand the phases of social group work

		process CO4. To understand the group processes and dynamics CO5. To become aware of the scope of using the method in various settings
4.	**FIELD WORK PRACTICUM I**	CO1. To get exposed to wider area of social realities at the micro level CO2. To develop analytical and assessment skills of social problems at the level of individual, group and community and local, regional, national and international dimensions CO3. To acquire documentation skills to ensure professional competence CO4. To develop the right values and attitudes required for a professional social worker CO5. To link theory into practice
5.	**SOCIAL AND PSYCHOLOGICAL FOUNDATIONS FOR SOCIAL WORK**	CO1. To give an understanding of concepts in Psychology and Sociology relevant to Social Work. CO2. To understand the various stages of Human Growth and Development. CO3. To understand the behaviour and mental health CO4. To enable the student to gain knowledge about the society and its dynamism CO5. To understand the social movements in India
SEMESTER-II		
1.	**COMMUNITY ORGANIZATION & SOCIAL ACTION**	CO1. To understand a community as a social system CO2. To understand the history of CO and models CO3. To learn techniques and skills of CO as a method of Social Work CO4. To understand social action as a method of social work

		CO5. To understand methods and approaches in Community Organisation and Social Action
2.	**SOCIALWORK RESEARCH AND STATISTICS**	CO1. To understand the nature, principles and methods of Social Work Research CO2. To develop the skills of independently conceptualizing a problem and executing a research study CO3. To understand the designs, methods and tool of collecting data CO4. To understand qualitative research CO5. To understand and learn the application of appropriate statistical techniques in Social Work Research
3.	**FIELD WORK PRACTICUM -II**	CO1. Acquire knowledge and practice related to social work intervention at the individual, group and community level in different fields. CO2. To train students to practice social work from an ecological, development and integrated perspective CO3. Develop skills for problem solving in work at the micro level and change at the macro level. CO4. Provide concurrent opportunity for the integration of class-room learning and Field Practicum CO5. Develop professional values and commitment and the professional ideal
4.	**DISASTER MANAGEMENT**	CO1. To develop an understanding of eco system equilibrium and dis-equilibrium CO2. To develop skills to analyze the factors

		contributing to disaster CO3. To develop and understanding of the process of Disaster Management CO4. To understand the legislations and policy related to disaster management CO5. To understand the stress management
5.	**WORKING WITH PEOPLE LIVING WITH HIV / AIDS**	CO1. To help students get a better understanding of HIV / AIDS in India CO2. To enable students in developing skills to work with people living with HIV CO3. To encourage students in understanding the ethical and human rights issues CO4. To understand the approaches to working and awareness raising and preventive Programmes in the field of people living with HIV/AIDS CO5. To understand the social and legal issues related to HIV/AIDS.
6.	**GENDER AND DEVELOPMENT**	CO1. To develop an understanding of the perspective of gender and development CO2. To develop and ability to identify areas of work with women and men and concept of feminism CO3. To understand the protective measures for women in India CO4. To understand the global perspectives in women development CO5. To understand strategies and interventions that changes the situation.
SEMESTER-III		
1.	**RURAL COMMUNITY DEVELOPMENT**	CO1. To Understand the community as a method, its specific approaches and models CO2. To develop ability to utilize appropriate

		approaches and skills to work with communities CO3. To develop sensitivity and commitment towards issues of marginalized and oppressed groups. CO4. To understand rural community development and rural administration CO5. To understand Rural Governance: Panchayat systems and local self-government in ancient India.
2.	**HUMAN RESOURCE MANAGEMENT AND DEVELOPMENT**	CO1. Gain knowledge about the Concepts, Principles and Strategies of HRD CO2. Understand the strategic role and efficient use of human resources CO3. Acquire the skills of implementing Strategic HR aiming at higher practices; Acquiring counseling skills. CO4. To understand training and development and talent development CO5. To understand employee empowerment
3.	**MEDICAL SOCIAL WORK**	CO1. To develop an in-depth understanding of the patients and their problems and to enhance social work skills and intervention in health care settings. CO2. To develop a holistic and integrated approach to Medical Social Work practice. CO3. To develop an analytical view in relation to the Psychological, Socio – cultural & environmental factors in disease and to develop an inter-interdisciplinary approach in the health care settings. CO4. To understand the medico legal issues and medical social work department CO5. To understand medical social work in different settings
4.	**URBAN COMMUNITY**	CO1. To enable students to gain an understanding about

	DEVELOPMENT	the urban poor. CO2. To develop sensitivity and commitment for working with the urban poor. CO3. To expose students to skills and techniques of working with urban poor. CO4. To understand the urban community development in India and people participation CO5. To understand conscientization and programme planning
5.	**LABOUR LEGISLATIONS**	CO1. Gain knowledge about labour legislations and labour welfare CO2. Understand the legal provisions of labour welfare CO3. Acquire the skills of working with corporate sector and legislations related to wages CO4. To understand the social security legislations CO5. To understand the enforcement authorities
6.	**PSYCHIATRIC SOCIAL WORK**	CO1. To acquire knowledge of various treatment approaches and to develop appropriate skills CO2. To understand the need for preventive and promotive approaches CO3. To develop ability to apply Social work methods in the promotion of mental health. CO4. To understand the rehabilitation in Psychiatry CO5. To understand the policies and programmes related to mental health.
7.	**MANAGEMENT OF ORGANIZATIONS**	CO1. To understand the environment and its impact on nature, structure and development of the organizations in corporate, public and voluntary sectors. CO2. Understand policies and procedures involved in establishing and maintaining human service

		organization, need for change. CO3. To understand the programme development CO4. To understand project management CO5. Acquire skills to network and participate in the management of resources – human material, environmental and network.
8.	**FIELD WORK PRACTICUM III**	CO1. To study the rural and semi-rural life in all its ramifications including group dynamics and power structure in rural community CO2. To develop an understanding of the process of programme formulation and programme management of the rural local bodies, government and non-government agencies CO3. To practically understand the concept of Industrial Relations and to acquire the related competencies CO4. To familiarize with the Labour Legislations CO5. To learn to apply the various methods of Social Work in various Industrial Settings CO6. To equip the students with the necessary assessment skills to understand the psycho-social problems of the patient and family with respect to the consequences of the disease and disability CO7. To enable the students to practice the methods of Social Work, particularly, Social Case work and Social Group Work CO8. To enable the students to function as a member of the Multidisciplinary team with respect to the Medical, Physical and Psycho-social Treatments.
9.	**COUNSELING -**	CO1. To develop a basic understanding of theory and

	THEORY AND PRACTICE	skills in counselling CO2. To learn the different approaches and to develop an eclectic approach to counselling CO3. To integrate counselling skills in social work practice CO4. To understand the Egan model of counselling CO5. To understand the counselling in different settings.
10	**SOCIAL POLICY AND SOCIAL LEGISLATION**	CO1. To develop an understanding of the social policy in the perspective of the National Goals as stated in the Constitution CO2. To develop the capacity to recognize the linkage between development issues and social policy in terms of the plans and programmes CO3. To develop an understanding of the concepts of social policy and social welfare policy CO4. To understand the policy and planning in India CO5. To understand the major legislations in India
11	**HUMAN RIGHTS AND SOCIAL WORK**	CO1. To provide a perspective and foundation for a human rights culture among students. CO2. To create awareness on the Indian legal system, rule of law, human rights related to custody and detention. CO3. To equip students with knowledge about the global market and human rights. CO4. To understand the rights of marginalized sections CO5. To understand the human rights movements
SEMESTER-IV		
1.	**DEVELOPMENT PLANNING**	CO1. To develop theoretical understanding of development and planning CO2. To enable students to gain an understanding of

		the administrative machinery involved in development. CO3. To provide knowledge on various methods strategies and development efforts. CO4. To understand the role and contribution of professional social worker in the development. CO5. To understand the cooperative movement in India and development of SC and ST
2.	**INDUSTRIAL RELATIONS AND LABOUR WELFARE**	CO1. To gain knowledge about trade unions CO2. To understand functions and activities of trade unions CO3. To understand conciliation and collective bargaining CO4. To understand the labour welfare CO5. To acquire the skill of working with the workers and unions and employee empowerment
3.	**COMMUNITY HEALTH**	CO1. To develop an understanding of the Health Care System in India. CO2. To develop skills in planning and implementation of Community Health programmes. CO3. To understand the health policy and programmes and communicable and non-communicable diseases CO4. To understand maternal and child health CO5. To have an insight into the existing programmes and services at the local, National and International level.
4.	**ENTREPRENEURSHIP DEVELOPMENT**	CO1. To enable students comprehend the role of entrepreneurship in economic development CO2. To provide an understanding, nature and process of entrepreneurship development CO3. To motivate the students to innovate and develop entrepreneurial initiatives

		CO4. To understand the entrepreneurship personality characteristics CO5. To understand small scale industries
5.	**ORGANIZATIONAL BEHAVIOUR AND DEVELOPMENT**	CO1. To help students gain knowledge on the dynamics of human behavior in the organization setup. CO2. To enable students to gain understanding on the factors influencing human behavior in organization CO3. To understand the key pillars of organization behaviour CO4. To understand the foundation of Organisation behaviour CO5. To help students to build knowledge and develop skill in implementation of OD practices.
6.	**MENTAL HEALTH AND SOCIAL WORK**	CO1. To understand the concept of Mental Health and Positive Mental Health and acquire knowledge of Psychiatric disorders CO2. To develop skills in identifying mental disorders in health setting and community work. CO3. To sensitize students of the need for a proactive, preventive approach in mental health. CO4. To understand the psychiatric assessment CO5. To understand the mental health programme among vulnerable groups.
7.	**FIELD WORK PRACTICUM IV**	CO1. To enable the students to understand socio-economic dynamics with special reference to the family setting. CO2. To focus on urban community life pattern – its social, economic, political and cultural aspects with specific focus to informal settlements, their needs and problems CO3. To practically understand the concept of

		Industrial Relations and to acquire the related competencies CO4. To familiarize with the Labor Legislations CO5. To learn to apply the various methods of Social Work in various Industrial Settings CO6. To equip the students with the necessary skills for the Psychosocial assessment of persons with mental disorders and disabilities CO7. To apply the methods of Social Work in the management of persons with mental disorders.
8.	**MIGRATION ISSUES AND HUMAN SECURITY**	CO1. Understand migration in the context of development and displacement CO2. Explore current and emerging trends on internal and International migrations CO3. Acquire knowledge on determinants of migration and rights of Migrants CO4. To understand international migration and globalization CO5. To understand migration and human security.
9.	**SOCIAL WORK IN THE UNORGANIZED SECTOR**	CO1. To provide an understanding into the extent and nature of unorganized workers in Urban and rural India. CO2. To understand the unorganized sector CO3. To provide an understanding to the problem of unorganized worker, nature of work and services available for these groups CO4. To understand policies, programmes and legislations CO5. To develop skills for intervention and working with the workers of the unorganized sector
10.	**SOCIAL WORK AND PERSONS WITH**	CO1. To develop understanding of the needs and problems of persons with disability.

	DISABILITY	CO2. To understand policies, programmes and services available to persons with disability. CO3. To provide opportunities for social work intervention to the persons with persons CO4. To understand UN declaration of human rights of disabled persons CO5. To understand work, occupation and disability.
11.	**UN SYSTEMS FOR DEVELOPMENT AND SOCIAL CHANGE**	CO1. To enable students, familiarize with UN systems and frameworks for development CO2. To familiarize students with current UN documents, treaties and policies for development CO3. To understand Organisation of economic and social council CO4. To understand the programme of the UN CO5. To critically analyze the functioning and achievements of the UN Systems

Programme: M.COM (GENERAL)

Programme Outcomes:

PO1. To provide a systematic and rigorous learning and exposure to Banking and Finance related disciplines.

PO2. To train the student to develop conceptual, applied and research skills as well as competencies required for effective problem solving and right decision making in routine and special activities relevant to financial management and Banking Transactions of a business.

PO3. To acquaint a student with conventional as well as contemporary areas in the discipline of Commerce.

PO4. To enable a student well versed in national as well as international trends.

PO5. To facilitate the students for conducting business, accounting and auditing practices, role of regulatory bodies in corporate and financial sectors nature of various financial instruments.

PO6. To provide in-depth understanding of all core areas specifically Advanced Accounting, International Accounting, Management, Security Market Operations and Business Environment, Research Methodology and Tax planning.

Programme Specific Outcome (PSO)

PSO1. Develop an ability to apply knowledge acquired in problem solving.
PSO2. Ability to work in teams with enhanced interpersonal skills and communication.
PSO3. The students can work in different domains like Accounting, Taxation, HRM, Banking and Administration.
PSO4. Ability to start their own business.
PSO5. Ability to work in MNCs as well as pvt, and public companies.
PSO6. To develop team work, leadership and managerial and administrative skills

COURSE OUTCOME:

S.NO	COURSE NAME	COURSE OUTCOME
SEMESTER - I		
1.	**ADVANCED CORPORATE ACCOUNTING AND ACCOUNTING STANDARDS**	CO1. To familiarize the concept of price level changes, social responsibility accounting and human resources accounting CO2. Enable the students to understand about amalgamation, absorption and external Reconstruction CO3. To make them aware about accounting procedures of banking companies and Insurance Companies CO4. Enable the students to gain an idea of liquidation of companies CO5. To introduce and develop knowledge of Holding Companies and Subsidiary Companies accounts
2.	**FINANCIAL MANAGEMENT**	CO1. Understanding the basics of Financial Management.

		CO2. Enabling students to understand the concepts of the Investment, Financing and Working Capital. CO3. Students get knowledge about effective finance management.
3.	**ORGANIZATIONAL BEHAVIOUR**	CO1. Demonstrate the applicability of the concept of organizational behavior to understand the behavior of people in the organization. CO2. Demonstrate the applicability of analyzing the complexities associated with management of individual behavior in the organization. CO3. Analyze the complexities associated with management of the group behavior in the organization. CO4. Demonstrate how the organizational behavior can integrate in understanding the motivation (why) behind behavior of people in the organization.
4.	**MANAGERIAL ECONOMICS**	CO1. Understanding the applications of managerial economics. CO2. Interpret regression analysis and discuss why it's employed in decision-making. CO3. Discuss optimization and utility including consumer behavior. CO4. Assess the relationships between short-run and long-run costs. CO5. Analyze perfectly competitive markets including substitution. CO6. Explain uniform pricing and how it relates to price discrimination and total revenue. CO7. Analyze a chosen company to include the

		above, but to further make recommendations for the company based upon the weekly topics.
5.	**CRM AND RELATIONSHIP MARKETING**	CO1. Benefits of CRM to companies and consumers CO2. How to implement CRM best practices CO3. The importance of bonding and building loyalty with customers CO4. How to build long term customer relationships
SEMESTER - II		
1.	**ADVANCED COST AND MANAGEMENT ACCOUNTING**	CO1. To know about the preparation of Cost sheet of business concerns CO2. To get the knowledge about the preparation of cost control CO3. To understand the methods of payment in wages CO4. To extend the knowledge through the preparation of overheads and machine hour rates CO5. Understand the nature of standard costing and demonstrate the necessary skills to calculate advanced variances. CO6. Understand and critique both the theoretical issues and influences on practical decisions associated with multi-product break-even analysis. CO7. Identify and evaluate the key factors that in luence transfer pricing.
2.	**MARKETING OF SERVICES**	CO1. Understand the Concept of Services and intangible products CO2. Discuss the relevance of the services

		Industry to Industry CO3. Examine the characteristics of the services industry and the modus operand CO4. Analyse the role and relevance of Quality in Services CO5. Visualise future changes in the Services Industry
3.	**CONSUMER BEHAVIOIUR**	CO1. Identify the major influences in consumer behaviour CO2. Distinguish between different consumer behaviour influences and their relationships CO3. Establish the relevance of consumer behaviour theories and concepts to marketing decisions CO4. Implement appropriate combinations of theories and concepts CO5. Recognise social and ethical implications of marketing actions on consumer behaviour CO6. Use most appropriate techniques to apply market solutions
4.	**TOTAL QUALITY MANAGEMENT**	CO1. Understand the fundamental principles of Total Quality Management; CO2. Choose appropriate statistical techniques for improving processes; CO3. Develop research skills that will allow them to keep abreast of changes in the field of Total Quality Management
SEMESTER - III		
1.	**RESEARCH METHODOLOGY**	CO1. Identify and discuss the role and

		importance of research in the social sciences. CO2. Identify and discuss the issues and concepts salient to the research process. CO3. Identify and discuss the complex issues inherent in selecting a research problem, selecting an appropriate research design, and implementing a research project. CO4. Identify and discuss the concepts and procedures of sampling, data collection, analysis and reporting.
2.	**KNOWLEDGE MANAGEMENT**	CO1. Apply complex theories and practice of knowledge and intellectual capital management; CO2. Apply theories to a wide range of scenarios; CO3. Formulate action plans for knowledge intensive organisations; CO4. Distinguish aspects of industrial era management that may be inappropriate for knowledge intensive organisations and provide alternatives; CO5. Formulate a framework for thinking about knowledge intensive organisations;
3.	**FUNDAMENTALS OF INFORMATION TECHNOLOGY**	CO1.Understand basic concepts and terminology of information technology. CO2. Have a basic understanding of personal computers and their operations. CO3. Be able to identify issues related to information security.
4.	**CONSUMER RIGHTS AND EDUCATION**	CO1.Understand why consumers need protection CO2.Understand the role of consumer guidance society of India

		CO3.Understand the advantages and limitations of the consumer movement and the rights of consumers CO4.Understand business malpractices and legislative regulation to protect consumer
5.	**ADVERTISING AND SALESMANSHIP**	CO1. Students able to Categorize business activities, such as production, management, and finance, and describe how these activities relate to marketing. • CO2. Describe the history of the advertising industry and its relation to today's marketplace. CO3. Explain the impact of multiculturalism and multi-generationalism on advertising marketing activities. CO4. Identify the importance of understanding cultural diversity from a marketing perspective. CO5. Identify the expected wages and salaries for jobs in the advertising and marketing industry
6.	**BUSINESS ETHICS, CORPORATE GOVERNANCE & SOCIAL RESPONSIBILITY**	CO1. Students understand the ethical issues related to business and good governance necessary for long term survival of business. CO2. Apply a pragmatic and pluralistic approach to business ethics and CSR CO3. Evaluate how decisions are actually made in business ethics. CO4. Explain ethical issues that are found in corporate governance and shareholder relationships. CO5. Explain the rights and duties of employees to the organization and the issues around this

		stakeholder group. CO6. Identify the key ethical elements with respect to suppliers and competitors. CO7. Develop an understanding of the relationship between business and civil society organizations (CSO).
SEMESTER - IV		
1.	**INVESTMENT ANALYSIS AND PORTFOLIO THEORY**	CO1. Analyze and evaluate financial markets, how securities are traded, mutual funds, investment companies, and investor behavior. CO2. Construct optimal portfolios and illustrate the theory and empirical applications of asset pricing models. CO3. Analyze bond prices and yields and fixed-income portfolios. CO4. Characterize the implications of the market efficiency evidence on active portfolio management.
2.	**MERCHANT BANKING AND FINANCIAL SERVICES**	CO1. To give an idea about fundamentals of financial services and players in financial sectors CO2. To create an awareness about merchant banking, issue management, capital markets and role of SEBI CO3. To understand the concept of leasing, hire purchase and factor CO4. Know the basics of the Merchant Banking in India. CO5. Understand the functioning of Merchant Bankers related to Issue Management Process, Substantial Acquisition of Equity Shares,

		Buyback of Equity Shares and Delisting of Shares. CO6. Know the regulatory environment in which the Merchant Bankers operates in India.
3.	**INTERNATIONAL MARKETING**	CO1. Have developed an understanding of major issues related to international marketing CO2. Have developed skills in researching and analyzing trends in global markets and in modern marketing practice CO3. Be able to assess an organization's ability to enter and compete in international markets.

PROGRAMME: MSC VISUAL COMMUNICATION

Programme Outcomes:

PO1: Creative Thinking: Take informed actions after identifying the assumptions of the visual medium implications and evaluating the validity & usefulness of the decisions taken.
PO2: Effective Communication: Speak, read, write and listen in English and one Indian language and communicate effectively and interact with people.
PO3: Social Interaction: Draw out view of others, moderate lack of agreement and lend a hand to reach views and executing the ideas through the visual medium.
PO4: Ethics: Be socially responsible in creating media content and realize its impact on the society, not forgetting the values of the society.
PO5: Life-long learning: Acquire the ability to continuously keep updated in the latest trends and technologies of modern and new media.

Programme Specific Outcome (PSO)

PSO1: Understand the basic nature and basic concepts of Development of Visual Communication, Media Laws and Ethics, Media Economics, New Media Technology, Media Language, Media Research, International Media, Media Content and Dissertation on any media issue.
PSO2: Understand the applications of Photography, 3D Animation, Audio and Video Production, Radio & Television Technology and Computer Animation

including Cinema.

PSO3: Perform procedures as per laboratory standards in the areas of Drawing and Graphic designing, Advance Photography, Video Editing, Script writing, Computer Graphics, Web Designing & Development, Graphics and Animation, Documentary Film Making.

PSO4: Understand the concepts of Elements of Film, Media Culture and Society, Advertising and Corporate Communication, Cable & Satellite Communication, Production Management, Communication Skills and Media Organization.

PSO5: Analyze the fundamentals of computers and their usage in the areas of 2D, 3D graphics & ANIMATION, Television, and film production.

S.NO	COURSE NAME	COURSE OUTCOME
SEMESTER - I		
1.	**INTRODUCTION TO HUMAN COMMUNICATION**	CO1. Get knowledge in Nature and Scope of human communication. CO2. Understand the Theories of Interpersonal Communication. CO3. Get knowledge on Theories of Persuasion. CO4.Understand Public Communication. CO5. Understand what is Visual Persuasion-Semiotic Approach
2.	**MEDIA AESTHETICS**	CO1. Gain knowledge in Principles of design and applied media aesthetics, contextualisation and perception. CO2. Have a detail knowledge in Structuring Light and Lighting. CO3. Understand the Structuring color, functions, compositions and feel. CO4. Understand the Structuring space-area and frames, depth and volume. CO5. Have a detail knowledge in two and three dimensional space and its visual possibilities.

3.	**INDIAN CINEMA**	CO1. Have a thorough knowledge in Early Cinema-Indian. CO2. Have detail understanding in Post Independence and Parallel Cinema. CO3. Gaining the knowledge in European, Asian and Latin American Cinema-Directors. CO4. Have a good knowledge Indian Films-Decades. CO5. Understand the Contemporary Indian Cinema-Directors.
4.	**STORY DEVELOPMENT & SCRIPTWRITING**	CO1. Understand the Story Problems-Terminology of Story Design. CO2. Gain knowledge about Elements of Story. CO3.Have detail view in Principles of Story Design. CO4. Have a good knowledge in Scriptwriting Tools and Techniques, Formats. CO5. Understand the Script Analysis-Exercises, Drills, Case Studies.
5.	**FILM LANGUAGE**	CO1. Understand Film Language as a visual communication system. CO2. Understand Basic elements and tools, Camera Movements. CO3. Gain knowledge Editing-Triangle Principles, visual punctuation, transition. CO4. Have detail view in Signs, Syntax, Montage Codes, Framed Images, Diachronic Shots, Scene motion.

		CO5. Gain knowledge in Guidelines and Rules of Filming (staging), dialogue, matching, glances.
SEMESTER – II		
1.	**VISUAL CULTURE IN INDIA**	CO1. Have detail view in Visual Culture in India. CO2. Understand the Film Culture. CO3. Gain knowledge in Folk Media and Narratives. CO4. Have a thorough knowledge Cartoon and Comic Traditions in India. CO5. Have a detail view in Visual Culture/Urban Culture.
2.	**STORY DEVELOPMENT & SCRIPTWRITING**	CO1. Understand Terminology of Story Design. CO2.Have a detail view on Elements of Story. CO3. Gain knowledge in Principles of Story Design. CO4.Have a detail view on Scriptwriting Tools and Techniques, Formats. CO5.Understand Script Analysis-Exercises, Drills, Case Studies.
3.	**FILM LANGUAGE**	CO1. Gain knowledge in Film Language as a visual communication system. CO2. Have a detail view on Basic elements and tools, Camera Movements. CO3. Gain knowledge in Editing-Triangle Principles, visual punctuation, transition. CO4. Understand Signs, Syntax, Montage Codes, Framed Images, Diachronic Shots, Scene motion. CO5. Have a detail view on Guidelines and Rules of Filming.
4.		CO1. Have a detail view on Visual Culture in

	VISUAL CULTURE IN INDIA	India. CO2. Gain knowledge in Film Culture. CO3. Gain knowledge in Popular Culture in India, Folk Media and Narratives. CO4. Understand Cartoon and Comic Traditions in India. CO5.Understand Contemporary Visual Culture/Urban Culture.
5.	**WORLD CINEMA**	CO1. Gain knowledge in Early Cinema-World-Indian Beginning to World War. CO2.Understand detail view on Hollywood Cinema CO3.Have knowledge in European Films and Film Makers. CO4.Gain knowledge in Asian and Latin American Cinema-Directors. CO5.Have a detail view on Contemporary Cinema.
SEMESTER – III		
1.	**VISUAL RESEARCH METHODS**	CO1. Have knowledge in Research Process. CO2.Gain knowledge in Content Analysis of Visual Images. CO3. Have a detail view on Social Semiotic Approach. CO4. Have knowledge in Audience Survey, Reception Analysis. CO5.Gain knowledge in Researching for Story.
2.	**ENTERTAINMENT & SOCIETY**	CO1. Have a detail view on Mass Mediated Entertainment. CO2. Understand detail view on Narrative Theory

		and Dramatic Theory. CO3. Gain knowledge in Understanding Entertainment Audiences. CO4.Gain knowledge in News as Entertainment. CO5. Understand detail view on Business of Entertainment
3.	**FILM ANALYSIS & CRITICISMS**	CO1. Gain knowledge in Mass Communication. CO2. Have a detail understanding Structuralisms Expressionism. CO3. Gain knowledge in Cinema Vetier Realism. CO4. Understand detail view on Post-modern approaches, Feminist Approaches. CO5. Have a detail understanding Contemporary Cinema.
SEMESTER – 1V		
1.	**PROJECT MANAGEMENT**	CO1. Have a detail understanding Market-Industries. CO2. Have a detail view on Project Management. CO3. Gain knowledge in Talent Management . CO4. Gain knowledge in Scheduling, Time Management, Delivery, Distribution, Contingency Plan. CO5. Have a detail view on Project Finance and Budgeting.
2.	**GAME DESIGN**	CO1. Have a detail understanding Gaming History. CO2. Gain knowledge in Social and Cultural implications of games. CO3. Have a detail view on Game design. CO4.Understand Stages and Process of Design-Game Scripting/Writing.

		CO5.Have a detail view on Mobile Gaming,

M.SC. Applied Microbiology

Program Outcomes (PO)

PO1: Post Graduants will obtain wide knowledge and leadership skills for a self confidence for successful career in the field of Microbiology

PO2: Post Graduants will be able to investigate and explain applied science based problems in clinical, environmental, industrial and pharmaceutical oriented

PO3: Post Graduants will work as a team with each other enthusiastically to solve the problems with innovative thoughts and new techniques

PO4: Post Graduants will acquire practical skills - plan & execute experimental techniques independently as well as to analyse& interpret data.

PO5: Post Graduants will effectively be able to manage available resources in time.

PO6: Post Graduants will be able to learn separately and develop critical thinking and solve the recent issues in Applied Microbiology.

PO7: Post Graduants will achieve ability to communicate competently and able to understand moral and social responsibility.

PO8: Post Graduants will carry on to learn and to adjust themselves in a world of constantly growing recent research.

Program Specific Outcomes (PSO)

Students who graduate with a Master of Science in Applied Microbiology will,

PSO1: Acquire a significant knowledge on fundamental and advanced aspects of Applied Microbiology.

PSO2: Gain in-depth knowledge on different antimicrobial activities from the viewpoint of targets, resistance mechanisms and spectrum evaluation methods.

PSO3: Increase proficiency in laboratory techniques of basic microbiology, Instrumentation, microbial genetics, molecular biology, medical, applied microbiology, Food and Agricultural Microbiology.

PSO4: To understand the immune system of human being and grasp the fundamental concepts of immunity and the contribution of organs and cells in the development of immune response against antigen.

PSO5: Add insight into the various aspects of immunogenetics, molecular immunology and clinical biochemistry.

PSO6: Assimilate technical skills on immune technology, Medical Microbiology, Applied microbiology and biotechnology.

PSO7: Acquire research skills- in problem-oriented issues in the society and environment, to plan & execute experimental techniques independently as well as to analyse& interpret the data.

Course Outcomes
Semester 1:

S. No	SUBJECT	COURSE OUTCOME
1.	**MICROBIAL TAXONOMY**	CO1. Acquire knowledge on different taxonomical classifications CO2. Know about classification of bacteria CO3. Gain knowledge about classification of fungi CO4. Gain knowledge about taxonomical classification of protozoa CO5. Know about algae.
2.	**GENERAL MICROBIOLOGY & LABORATORY ANIMAL SCIENCE**	CO1. To obtain knowledge on various classes of microorganisms; their structure extracellular and intracellular components, cultural characteristics and their growth conditions. CO2. Know about the different parts and working mechanisms of basic light microscope up to electron microscopes, phase contrast microscope, dark field

		microscopy and instrument like centrifuges with deep knowledge on the sample preparation and staining techniques like differential staining, special staining method, CO3. Acquire knowledge on sterilization techniques with adequate information on sterile, aseptic conditions and disinfection. To have brief learning about culturing techniques and nutrition requirements. CO4. To get adequate knowledge about algae and their types and beneficial uses of their by products CO5. They will get enormous knowledge about lab animal handling and their maintenance.
3.	**IMMUNOLOGY**	CO1. Understanding about the fundamental concepts of immunity and its types, contributions of theorgans and cells in immune responses. CO2. Understand about the antigens & their properties and involvement in immune response CO3. Understand the different types of antibodies like monoclonal and polyclonal& their production. CO4. Understand the mechanisms involved in antigen-antibody reactions like agglutination andPrecipitation and getting adequate knowledge CO5. Gaining adequate knowledge about tissue transplantation and tumor immunology CO6. Comprehensive knowledge leading to hypersensitive conditions and its consequences in immune system CO7. Know how MHC functions in the immune system CO8.Gain knowledge on vaccines, immunization and its schedule
4.	**METABOLIC PATHWAYS**	CO1. The structure and function of specialised proteins and enzymes.

		CO2. The relationship between the structure and function of specific biological molecules. CO3. How enzymes are regulated. CO4. The main principles of metabolic biochemistry concepts. CO5. How homeostasis is controlled in the body. CO6. The function of specific anabolic and catabolic pathways and how these pathways are controlled and interrelated. CO7. How current research has provided us with an understanding of the molecular basis of the control of metabolism. CO8. Be able to communicate scientific information effectively in writing. CO9. Hypothesis-based experimental design
5.	**MICROBIAL DIVERSITY**	CO1. Describe common groups of bacteria and archaea in different ecosystems, and their role in biogeochemical key processes in these environments. CO2. Describe for cultivation-independent methods for studies of the composition of microbial communities and for the function and occurrence of individual groups. CO3. Describe genomic-based methods to study microbial diversity in nature and for the mechanisms behind it. CO4. Describe important interactions within microbial communities and between microorganisms and plants and animals. CO5. Evaluate, synthesise and present scientific studies of genetic and functional microbial diversity in different ecosystems. CO6. Use bioinformatic tools and databases that are used to study microbial diversity.

6.	**GENERAL MICROBIOLOGY & LABORATORY ANIMAL SCIENCE, IMMUNOLOGY - PRACTICAL**	CO1. Understand the structural similarities and differences among microorganisms and theunique structure/function relationships of prokaryotic cells. CO2. Know the fundamentals of microbial gene expression and regulation. CO3. Appreciate the diversity of microorganism and microbial and communities and recognize how microorganism solve the fundamental problems their environments present. CO4.Understand how microorganisms cause disease. CO5. Use an understanding of general immunity, serology principles, accurate performance of serological assay procedures and correct interpretation of test results, to make appropriate and effective on-the-job professional decisions. CO6. Perform basic serological laboratory testing, assess laboratory data and report findings according to laboratory protocol. CO7. Adapt serology laboratory techniques and procedures when errors and discrepancies in results are obtained to effect resolution in a professional and timely manner.

Semester 2:

S. No	SUBJECT	COURSE OUTCOME
1.	**VIROLOGY**	CO1. Gain information properties of viruses, virions and prions CO2. Acquire basic knowledge bacterial viruses CO3. Acquire knowledge on various plant viruses CO4. Get adequate knowledge about different DNA and RNA viruses

		CO5. Assimilate knowledge on epidemiology, diagnosis and treatment of various viral disease.
2.	**SYSTEMIC MEDICAL BACTERIOLOGY**	CO1, Learn the methods of collection, transport and processing of clinical specimens. CO2. Gain knowledge on antibiotic sensitivity discs, testing procedures and their quality control. CO3. Know the morphological, biochemical, cultural properties of bacteria. CO4. Get complete information about fungal characterization CO5. learn about Isolation and characterization of bacteriophages
3.	**MYCOLOGY AND PARASITOLOGY**	CO1. Acquire detailed knowledge on taxonomy of Fungi and Lichens. CO2. Obtain complete knowledge about the mycoses. CO3. Understanding of diagnostic mycology. CO4. Assimilate Mycotoxins and antifungal agents. CO5. In-depth knowledge on life cycle, pathogenecity and lab diagnosis Protozoan diseases. CO6. Gain knowledge on Helminth parasites. CO7. A thorough knowledge on parasites causing infections in immunocompromised hosts and AIDS.
4.	**INDUSTRIAL & PHARMACEUTICAL MICROBIOLOGY**	CO1. Basic understanding about screening, isolation and preservation of industrially important microbes. Co2. Grasp the information on design of inoculum development and nutritional media. CO3. Gain knowledge on various factors influencingfermentation process. CO4. Obtain knowledge on microbial growth kinetics and sterilization processes. CO5. Obtaining in-depth information on scale-up process.

		CO6. Assimilate knowledge on industrially important microbes. CO7. Gain the knowledge on commercial production primary and secondary metabolites such as amino acids and antibiotics
5.	**BIOSTATISTICS & BIOINFORMATICS**	CO1. Understanding about the fundamental concepts of bioinformatics. CO2. Understanding about the fundamental types of databases. CO3. Understanding about the fundamental concepts of Human genome project. CO4. Understanding about the concepts of sequence comparison analysis. CO5. Understanding about the fundamental concepts of DNA microarray and next generationsequencing
6.	**PRACTICAL – SYSTEMIC BACTERIOLOGY, MYCOLOGY, PARASITOLOGY AND VIROLOGY**	CO1. Learn the methods of collection, transport and processing of clinical specimens. CO2. Gain knowledge on antibiotic sensitivity discs, testing procedures and their quality control. CO3. Know the morphological, biochemical, cultural properties of bacteria.

Semester 3:

S. No	SUBJECT	COURSE OUTCOME
1.	**MICROBIAL GENETICS**	CO1. Understand historical events inDNA research. CO2. Molecular basis of heritable through experimental evidences. CO3. Know in detail of the physical & chemical properties and structure of DNA & RNA. CO4. Gain knowledge about the organization of

		chromosomes and its various types. CO5. Understood the replication mechanism of double-strand and single- strand DNA bacterial and viral system. CO6. Assimilate knowledge regarding extra chromosomal DNA and its different types and function and mechanism of transfer and integration with host chromosome. : Rudimentary knowledge about plasmids and transposons especially as cloning vectors. CO7. Study the various aspects and types mutation and its impact on the environment. CO8. Get a complete map about molecular recombination process DNA and RNA in both prokaryotes & eukaryotes. CO9. Firm grasp of E.coli gene mapping methods as well as those of yeast
2.	**GENETIC ENGINEERING**	CO1. Technical know - how on versatile techniques in recombinant DNA technology. CO2. An understanding on application of genetic engineering techniques in basic and applied experimental biology CO3. Proficiency in designing and conducting experiments involving genetic manipulation.
3.	**MOLECULAR BIOLOGY**	CO1. Acquire knowledge about the basic structure of biomolecules and their stability. . CO2. Attain knowledge about the basics in structure of Nucleic acid and their various forms. CO3. Learn about the organization of genetic materials in organisms. CO4. Study about the types of damage and repair mechanisms. CO5. Know about the mechanisms DNA replication, transcription and translation processes in organisms.

		CO6. Acquire knowledge about various types and processing in RNA molecule. CO7. Gain knowledge in the mechanisms of gene expression. CO8. Achieve knowledge about the regulation of gene activity at various level.
4.	**SOIL AND AGRICULTURAL MICROBIOLOGY**	CO1. understand the factors influencing presence of and activities of microorganisms in different soils CO2. explain influence of pesticides on soil microorganisms CO3. explain biodegradation and biofuel generation CO4. Develop skills in using techniques for isolation, characterization and identification of soilmicroorganisms CO5. Identify pesticide degrading microorganisms by using microbiological techniques.
5.	**ENVIRONMENTAL BIOTECHNOLOGY**	CO1. Gain knowledge on causes and effects of biofilm. CO2. Assimilate the principles and designing of bioreactors. CO3. In-depth knowledge on Waste water treatment systems. CO4. Obtain complete knowledge on biodegradation of environmental contaminants. CO5. Get clear view about biomass from the wastes.
6.	**PRACTICAL:MICROBIAL GENETICS, MOLECULAR BIOLOGY & GENETIC ENGINEERING**	CO1. Acquire knowledge about thebasic isolation and purification of the major macromolecules. CO2. Attain knowledge about theestimation of of Nucleic acids and proteins. CO3. Learn about the various electrophoresis methods. CO4. Study about the types of damage and repair mechanisms. Know about the mechanisms DNAtransformation and gene transfer methods.

		CO5. Acquire knowledge about PCR and restriction analysis.

Semester 4:

S. No	SUBJECT	COURSE OUTCOME
1.	**FOOD, DAIRY AND ENVIRONMENTAL MICROBIOLOGY**	CO1. Know the microorganisms present in different types of food. CO2. Understand the principles behind food preservation and the various methods involved in it. CO3. Comprehend the factors influencing microbial growth and survival in foods. CO4. Know the role of microorganism in fermentation and the various types of fermented foodproducts. CO5. Know the spoilage organisms in different types of foods CO6. Realize the importance of food sanitation and appreciate the practice of GMPs. CO7. Gives knowledge about various aquatic habitats and treatment of liquid waste. CO8. Understand the degradation of xenobiotic, aromatic and phenolic compounds. CO9. Gives knowledge about bioaccumulation and bio fouling.
2.	**RESEARCH METHODOLOGY**	CO1. The role of research in service industries and in other contexts CO2. Methodological considerations and research design, the research process CO3. Identification of research approaches and evaluating research strategies CO4. Setting research aim(s) and objectives

		CO5. Critically reviewing literature and secondary data CO6. Critical thinking skills, and how these relate to research CO7. Types of data: quantitative and qualitative CO8. Selecting samples and exploring research techniques CO1. Collecting primary data through observation, interviews and questionnaires CO2. Data interpretation such as the use of basic descriptive statistics as well as relationships within data sets and tests of significance. CO3. Research Ethics, Data presentation techniques and research report writing.
3.	**PRACTICAL – SOIL, AGRICULTURAL, FOOD AND ENVIRONMENTAL MICROBIOLOGY**	CO1. Quantify the organisms present in food. CO2. Analyse the microbiological quality of raw milk by MBRT and Resazurin test CO3. Evaluate the microbiological quality of curd by Standard Plate Count CO4. Isolate and identify the yeast and mould in spoiled foods CO5. Identifying the toxins in grains by Thin Layer Chromatography CO6. Analyse the potabilty of water

BRANCH: M.Sc BIOTECHNOLOGY

PROGRAM OUTCOME

PO1: Graduate will gain and apply knowledge of biotechnology, Science and Engineering concepts to solve problems related to the field of biotechnology.

PO2: They will be able to design and apply appropriate tools and techniques in biotechnological engineering practices.

PO3: Graduates will able to undertake need and impact of biotechnological solution on environment and societal context keeping in view need for sustainable development.

PO4: They are able to effectively communicate with biotech and other interdisciplinary professionals.

PO5: They will be able to design, perform experiments analyze and interpret data for investigating complex problem in biotechnology related fields.

PROGRAM SPECIFIC OUTCOME

PSO1: An expert in Biotechnology subjects knowledge.

PSO2: An expert in Biotechnology practical skills

PSO3: Efficient researcher using biotechnology practical skills.

PSO4: Development of own entrepreneur skills in biotechnology industry.

PSO5: Well versed in the field of various biotechnology fields (medical, microbial, agricultural, environmental, plant and animal).

S.NO	COURSE NAME	COURSE OUTCOME
SEMESTER I		
1.	**BIOCHEMISTRY**	CO1.Students will be able to demonstrate an understanding of fundamental biochemical principles, such as the structure/function of biomolecules, CO2.Students will able to demonstrate metabolic pathways, and the regulation of biological/biochemical processes. CO3.Students will able to apply the scientific method to the processes of experimentation

		and hypothesis testing CO4.Students able to apply and effectively communicate scientific reasoning and data analysis in both written and oral forums
2.	**MOLECULAR GENETICS**	CO1.Be able to demonstrate their understanding of biochemical and molecular genetics phenomena CO2. Be able to demonstrate knowledge of the current state of research in particular areas of the biomolecular sciences. CO3.Be able to relate genetics and biochemistry to cellular and organismal processes CO4.Be able to describe mechanisms of biochemical processes.
3.	**MOLECULAR CELL BIOLOGY**	CO1. Exhibit a knowledge base in cell and molecular biology. Elucidate structure of the cell and their organization into tissue. CO2. Critique and professionally present primary literature articles in the general biomedical sciences field CO3. Exhibit clear and concise communication of scientific data CO4.Engage in review of scientific literature in the areas of biomedical sciences
4.	**BIOINSTRUMENTATION**	CO1.Discuss the applications of biophysics and principle involved in bioinstruments CO2.Describe the methodology involved in biotechniques

		CO3.Describe the applications of bioinstruments CO4.Demonstrate knowledge and practical skills of using instruments in biology and medical field
5.	**ENZYMOLOGY**	CO1.Describe the major classes of enzyme and their functions in the cell; CO2. Explain the role of co-enzyme cofactor in enzyme catalyzed reaction; CO3.Differentiate between equilibrium and steady state kinetics and analyzed simple kinetic data and estimate important parameter (Km. Vmax, Kcatetc); CO4. define and describe the properties of enzymes in and regulates biochemical pathways
6.	**BIOSTATISTICS**	CO1.Describe the roles biostatistics serves in the discipline of public health. CO2.Apply basic statistical concepts commonly used in public health and health Sciences CO3.Demonstrate basic analytical techniques to generate results CO4.Interpret results of commonly used statistical analyses in written summaries. Demonstrate statistical reasoning skills accurately and contextually
SEMESTER II		
1.	**MICROBIOLOGY**	CO1. Exhibit knowledge about normal and common pathogenic microorganism

		associated with human infectious diseases. Explains importance of microbes in various field CO2.Students will be able to acquire, articulate, retain and apply specialized language and knowledge relevant to microbiology. CO3.Students will acquire and demonstrate competency in laboratory safety and in routine and specialized microbiological laboratory skills applicable to microbiological research or clinical methods, including accurately reporting observations and analysis. CO4. Students will communicate scientific concepts, experimental results and analytical arguments clearly and concisely, both verbally and in writing.
2.	**PLANT AND ANIMAL BIOTECHNOLOGY**	CO1.Apply biotechnological methods for basic research CO2.Apply bimolecular methods to veterinary pharmacology, to the design, correct use and traceability of medicines CO3. Apply biomolecular techniques for the diagnosis and study of epidemiology and etiopathogenesis of infective and parasitic animal diseases, as well as for the production of biotechnological vaccines for veterinary use; CO4.An appreciation of the issues associated with growing and using transgenic plants as

		food crops.
3.	**GENETIC ENGINEERING**	CO1. Students may obtain interest in Molecular biology research CO2. Students may acquire knowledge about the methods of Rdna technology. CO3. Understand the importance of plasmids and viruses to genetic engineering CO4. Know the natural function of restriction endonucleases and how a normal bacterial cell protects its DNA from their activity.
4.	**TISSUE ENGINEERING**	CO1.Describe the principles of tissue engineering CO2.Describe clinical applications of tissue engineered products in regenerative medicine CO3. Define the importance of scaffold materials in tissue engineering with focus on surface-, mechanical- and biological properties CO4.Describe different scaffold materials and define in what applications these materials can be applied
5.	**PHARMACEUTICAL BIOTECHNOLOGY**	CO1.Acquire knowledge in basic principles of genetic engineering and enzyme technology CO2. Apply the principles of biosensors and protein engineering in Pharmaceutical Industry CO3. Explain the concepts of rDNA technology and its applications CO4. Describe the conceptof immunity and

		production of vaccine
6.	**ENVIRONMENTAL BIOTECHNOLOGY**	CO1.Understand and assimilate The concepts and specific terminology of environmental biotechnology. CO2.Search and manage information from various sources CO3.Describe the scientific bases that are applied by environmental biotechnology. CO4.Describe the properties of microorganisms with potential application to processes of environmental biotechnology.
SEMESTER–III		
1.	**BIOINFORMATICS**	CO1.Students will interpret relationship among living things and analyze and solve biological problem, from the molecular to ecosystem level using basic biological concepts. Students will able to conduct basic bioinformatics research CO2. The student can explain which type of data is available from the most common protein sequence and structure databases (UniProt, GenBank, Protein Data Bank, CATH). CO3.The candidate can explain the theories underlying the most common methods for sequence searches and sequence alignments, and in particular knows the principle and main steps for pairwise and multiple sequence alignments

		CO4. The student can explain and is able to apply the main steps of dynamic programming for/too simple alignments of short sequences
2.	**IMMUNOLOGY**	CO1. Exhibit knowledge about immunological response, mechanism of this response, its regulation and the genetic basis. Provide knowledge about protection against disease and auto immune disorders to choices in their daily life CO2.Describe the function of phagocytes in the non-specific immune system CO3. Describe professional antigen presenting cells and define their purpose CO4. Define the major histocompatibility complexes (MHCs) type 1 and 2 and explain their functions
3.	**BIOPROCESS TECHNOLOGY**	CO1.Exhibit knowledge about bioreactors, analyze and formulate mechanism for enzymatic reactions, specify required technology to effectively utilize genetically engineered microorganism for bioprocessing. CO2.Describe and analyse the control of in vitro cellular growth processes. CO3. Discuss and evaluate the operational considerations and relative advantages relating to the choice of techniques used in downstream processing of biotechnology products. CO4. Discuss and critically analyze the

		upstream and downstream aspects of exemplar industry bioprocesses, spanning biopharmaceutical and industrial biotechnology applications.
4.	**NANOTECHNOLOGY**	CO1.Explain methods of fabricating nanostructures. CO2. Relate the unique properties of nanomaterials to the reduce dimensionality of the material. CO3.Describe tools for properties of nanostructures. CO4. Discuss applications of nanomaterials and implication of health and safety related to nanomaterials.
5.	**MOLECULAR DEVELOPMENTAL BIOLOGY**	CO1.To provide an introduction to the processes of development and the mechanisms by which they are achieved. CO2.The course will integrate, wherever possible, results from different experimental systems (vertebrate and invertebrate animals, plants) and from different experimental approaches (embryology, developmental genetics, cell and molecular biology). CO3.To develop the skill of observing developing organisms and recording by notes and drawings; CO4.To introduce some of the surgical and cellular experimental techniques of developmental biology.
6.	**POTENTIAL APPLICATION**	CO1.Demonstrate mastery of the core

	AND COMMERCIAL ASPECTS OF BIOINFORMATICS	concepts of Bioinformatics, including computational biology, database design and implementation, and probability and statistics. CO2. Demonstrate the ability to apply skills in a professional environment via an industrial or academic internship in Bioinformatics. CO3.Be able to effectively communicate scientific information in written and oral form CO4.Explain about various techniques used in genomics and proteomics
SEMESTER – IV		
1.	**RESEARCH METHEDOLOGY**	CO1.Apply a range of quantitative and / or qualitative research techniques to business and management problems / issues CO2. Understand and apply research approaches, techniques and strategies in the Appropriate manner for managerial decision making CO3. Demonstrate knowledge and understanding of data analysis and interpretation in relation to the research process CO4.Conceptualise the research process and develop necessary critical thinking skills in order to evaluate different research approaches utilized in the service industries.
2.	**BIOETHICS**	CO1.Students will gain awareness about Intellectual Property Rights (IPRs) to take measure for the protecting their ideas CO2. They will able to devise business

		strategies by taking account of IPRs CO3. They will be able to assists in technology upgradation and enhancing competitiveness. CO4. They will acquire adequate knowledge in the use of genetically modified organisms and its effect on human health
3.	**STEM CELL BIOLOGY**	CO1.The different types of stem cells, how they are derived and the extent of their plasticity. CO2.How tumor stem cells give rise to metastases and treatment-resistant remnant cells that cause relapse, and how this impacts on the development of future cancer treatment strategies CO3.How epigenetic mechanisms encompassing various DNA modifications and histone dynamics are involved in regulating the potentiality and differentiation of stem cells CO4. How microRNAs are involved in regulating stem cell differentiation