



ALVA'S COLLEGE (AUTONOMOUS) MOODUBIDIRE

Pos & Cos of the Academic year 2025 -26

UG Courses

BACHELOR OF COMPUTER APPLICATIONS B.C.A.

Program Outcomes (PO)

PO1: Computational information: Appreciate and apply mathematical organization, computing and domain information for the conceptualization of computing models from clear harms.

PO2: Difficulty Analysis: Talent to classify, significantly evaluate and prepare complex computing problems using fundamentals of computer knowledge and request domains.

PO3: Accomplish Computing Troubles: Ability to invent and ways experiments interpret data and present well up to date conclusions.

PO4: Current Implement Procedure: Skill to select recent computing tools, skills and techniques compulsory for original software solutions

PO5: Ultimate Education: Identify the need for and enlarge the ability to appoint in permanent education as a Computing qualified.

PO6: Announcement Usefulness: Converse successfully with the computing society as well as culture by being able to know successful documentations and presentations.

PO7: Personality & Group Job: Ability to job as a part or manager in various teams in multidisciplinary situations.

PO8: Modernization and Private Enterprise: Classify opportunities, private enterprise dream and use of original

thoughts to build worth and means for the betterment of the human being and the world.

Program Specific Outcome (PSO)

PSO1: An ability to enhance the application of knowledge of theory subjects in diverse fields.

PSO2: Develop language proficiency to handle corporate communication demands.

PSO3: Preparing students in various disciplines of technologies such as computer applications, computer networking, software engineering, JAVA, database concepts and programming.

PSO4: In order to enhance programming skills of the young IT professionals, the concept of project development in using the technologies learnt during the semester has been introduced.

PSO5: To enhance logical ability and programming concepts by implementing programming lab.

PSO6: Preparing students for future aspects by building and improving their creativity, social awareness, and general knowledge.

PSO7: Encouraging students to convert their start-up idea to reality by implementing.

PSO8: Ability to understand the changes or future trends in the field of computer application.

PSO9: Ability to identify, formulate, analyze and solve problems of programming using different languages.

COURSE OUTCOME :

FOC (FUNDAMENTALS OF COMPUTERS)

After completing this course satisfactorily, a student will be able to:

- Understand the fundamentals of computer system
- Identify different components within the computer system
- Understand different types of input and output devices 80
- Demonstrate the working concepts of different devices connected to computer
- Explain different generations of programming languages and their significance
- Understand the use of Word processing, Spreadsheet, Presentation and DBMS applications

- Understand Digital computer and digital systems functioning.

Programming in C(Theory)

After completing this course satisfactorily, a student will be able to:

- Confidently operate Desktop Computers to carry out computational tasks
- Understand working of Hardware and Software and the importance of operating systems
- Understand programming languages, number systems, peripheral devices, networking, multimedia and internet concepts
- Read, understand and trace the execution of programs written in C language
- Write the C code for a given problem
- Perform input and output operations using programs in C
- Write programs that perform operations on arrays

Discrete Mathematics for Computer Applications (Theory)

After the successful completion of the course, the student will be able to:

- Study and solve problems related to connectives, predicates and quantifiers under different situations.
- Understand the basic concepts of Discrete Probability.
- To develop the knowledge about derivatives and know various applications of differentiation.
- Understand the Applications of Discrete Mathematics in Modelling Computation.
- Understand the basic concepts of Mathematical reasoning, set and functions

II SEMESTER :

DATA STRUCTURE

After the successful completion of the course, the student will be able to:

- Describe how arrays, records, linked structures, stacks, queues, trees, and graphs are represented in memory and used by algorithms
- Describe common applications for arrays, records, linked structures, stacks, queues, trees, and graphs
- Write programs that use arrays, linked structures, stacks, queues, trees, and graphs
- Demonstrate different methods for traversing trees
- Compare alternative implementations of data structures with respect to performance

- Describe the concept of recursion, give examples of its use
- Discuss the computational efficiency of the principal algorithms for sorting, searching, and hashing.

Object Oriented Programming with JAVA

After the successful completion of the course, the student will be able to:

Understand the features of Java and the architecture of JVM

- Write, compile, and execute Java programs that may include basic data types and control flow constructs and how type casting is done
- Identify classes, objects, members of a class and relationships among them needed for a specific problem and demonstrate the concepts of polymorphism and inheritance
 - The students will be able to demonstrate programs based on interfaces and threads and explain the benefits of JAVA's Exceptional handling mechanism compared to other Programming Language
- Write, compile, execute Java programs that include GUIs and event driven programming and also programs based on files.

Discrete Mathematical Structures:

After completing this course satisfactorily, a student will be able to:

- To understand the basic concepts of Mathematical reasoning, set and functions.
- To understand various counting techniques.
- Understand the concepts of various types of relations, partial ordering and equivalence relations.
- To understand the concept of probability and mathematical induction.
- Familiarize the fundamental concepts of graph theory and shortest path algorithm.
- To understand the concept of binary tree representation.

III SEMESTER :

Course Title: Database Management System

At the end of the course, students will be able to:

- Understand the various database concepts and the need for database systems.
- Identify and define database objects, enforce integrity constraints on a database using DBMS.

- Demonstrate a Data model and Schemas in RDBMS.
- Identify entities and relationships and design ER diagrams for given real-world problems.
- Represent ER model to relational model and its implementation through SQL.
- Formulate queries in Relational Algebra, Structured Query Language (SQL) for database manipulation.
- Understand the transaction processing and concurrency control techniques.

Course Title: C# and Dot Net Framework C

At the end of the course, students will be able to:

- Understand Object Oriented Programming concepts like Inheritance and Polymorphism in C# programming language.
- Interpret and Develop Interfaces for real-time applications.
- Build custom collections and generics in C#.

Course Title: Computer Communication and Network

At the end of the course, students will be able to:

- Explain the transmission technique of digital data between two or more computers and a computer network that allows computers to exchange data.
- Apply the basics of data communication and various types of computer networks in real world applications.
- Compare the different layers of protocols.
- Compare the key networking protocols and their hierarchical relationship in the conceptual model like TCP/IP and OSI.

Course Title: Open Source Tools:

- Recognize the benefits and features of Open Source Technology and to interpret, contrast and compare open source products among themselves
- Use appropriate open source tools based on the nature of the problem
- Write code and compile different open-source software.

IV Semester:

Course Title: Python Programming

Course Outcomes (COs): At the end of the course, students will be able to:

- Explain the basic concepts of Python Programming.
- Demonstrate proficiency in the handling of loops and creation of functions.
- Identify the methods to create and manipulate lists, tuples and dictionaries.
- Discover the commonly used operations involving file

handling. • Interpret the concepts of Object-Oriented Programming as used in Python. • Develop the emerging applications of relevant fields using Python.

Course Title: Computer Multimedia & Animation

At the end of the course, students will be able to:

- Write a well-designed, interactive Web site with respect to current standards and practices.
- Demonstrate in-depth knowledge of an industry-standard multimedia development tool and its associated scripting language.
- Determine the appropriate use of interactive versus standalone Web applications

Course Title: Operating System Concepts

At the end of the course, students will be able to:

- Understand the fundamentals of the operating system.
- Comprehend multithreaded programming, process management, process synchronization, memory management and storage management.
- Compare the performance of Scheduling Algorithms
- Identify the features of I/O and File handling methods.

V SEMESTER:

Design And Analysis of Algorithms (Theory)

After the successful completion of the course, the student will be able to:

- CO1. Understand the fundamental concepts of algorithms and their complexity, including time and space complexity, worst-case and average-case analysis, and Big-O notation.
- CO2. Design algorithms for solving various types of problems, such as Sorting, Searching, and Graph traversal, Decrease-and-Conquer, Divide-and-Conquer and Greedy Techniques.
- CO3. Analyze and compare the time and space complexity of algorithms with other algorithmic techniques.
- CO4. Evaluate the performance of Sorting, Searching, Graph traversal, Decrease-and-Conquer, Divide-and-Conquer and Greedy Techniques using empirical testing and benchmarking, and identify their limitations and potential improvements.
- CO5. Apply various algorithm designs to real-world problems and evaluate their effectiveness and efficiency in solving them.

Statistical Computing & R Programming (Theory)

After the successful completion of the course, the student will be able to:

- CO1. Explore fundamentals of statistical analysis in R environment.

- CO2. Describe key terminologies, concepts and techniques employed in Statistical Analysis.
 - CO3. Define Calculate, Implement Probability and Probability Distributions to solve a wide variety of problems.
 - CO4. Conduct and interpret a variety of Hypothesis Tests to aid Decision Making.
- CO5. Understand, Analyse, and Interpret Correlation Probability and Regression to analyse the underlying relationships between different variables

Software Engineering (Theory)

After the successful completion of the course, the student will be able to:

- ☐ CO1 How to apply the software engineering lifecycle by demonstrating competence in communication, planning, analysis, design, construction, and deployment.
- ☐ CO2 An ability to work in one or more significant application domains.
- ☐ CO3 Work as an individual and as part of a multidisciplinary team to develop and deliver quality software.
- ☐ CO4 Demonstrate an understanding of and apply current theories, models, and techniques that provide a basis for the software lifecycle.

CO5 Demonstrate an ability to use the techniques and tools necessary for engineering practice

Cloud Computing (Theory)

Course Outcomes (COs): After the successful completion of the course, the student will be able to:

- CO1 Explain the core concepts of the cloud computing paradigm such as how and why this paradigm shift came about, the characteristics, advantages and challenges brought about by the various models and services in cloud computing.
- CO2 Apply the fundamental concepts in data centres to understand the trade-offs in power, efficiency and cost.
- CO3 Identify resource management fundamentals like resource abstraction, sharing and sandboxing and outline their role in managing infrastructure in cloud computing.
- CO4 Analyze various cloud programming models and apply them to solve problems on the cloud.

Digital Marketing (Theory)

After the successful completion of the course, the student will be able to:

CO1. Understand the fundamental concepts and principles of digital marketing.

CO2. Develop practical skills to implement various digital marketing strategies and techniques

CO3. Analyse and evaluate the effectiveness of digital marketing campaigns.

CO4. Apply critical thinking and problem-solving skills to real-world digital marketing scenarios.

CO5. Create comprehensive digital marketing plans and strategies.

Employability skills

- The employability skills are embedded in the Qualification Packs of the different job roles in various sectors under the National Skill Qualification Framework.
- Aims to provide learning experience through a blended approach of text and video-based interactive e-learning lessons.

VI SEMESTER

PHP & MySQL:

Course Outcomes: After the successful completion of the course, the student will be able to:

- Design dynamic and interactive web pages and websites.
- Run PHP scripts on the server and retrieve results.
- Handle databases like MySQL using PHP in websites.

Advanced JAVA and J2EE

Course Outcomes: After the successful completion of the course, the student will be able to:

- Identify the need for advanced Java concepts like Enumerations and Collections
- Construct client-server applications using Java socket API
- Make use of JDBC to access database through Java Programs
- Adapt servlets to build server side programs
- Demonstrate the use of JavaBeans to develop component-based Java software

Artificial Intelligence and Applications

Course Outcomes (COs): After the successful completion of the course, the student will be able to

- Gain a historical perspective of AI and its foundations.
- Become familiar with basic principles and strategies of AI towards problem solving
- Understand and apply approaches of inference, perception, knowledge representation, and learning.
- Understand the various applications of AI

Fundamentals of Data Science (Theory)

Course Outcomes (COs): After the successful completion of the course, the student will be able to:

- Understand the concepts of data and pre-processing of data.

- Know simple pattern recognition methods
- Understand the basic concepts of Clustering and Classification
- Know the recent trends in Data Science

Web Content Management System (Theory)

After the successful completion of the course, the student will be able to:

- Understand content development basics
 - Gain Knowledge of tools for multimedia content development for audio/ video, graphics, animations, presentations, screen casting
 - Host websites and develop content for social media platforms such as wiki and blog
 - Understand e-publications and virtual reality
- A• Use of e-learning platform Moodle and CMS applications Drupal and Joomla

BSc PROGRAMME

CORE SUBJECT: CHEMISTRY

Program Outcome:

By the end of the program, the students will be able to

1. Understand the applications of chemistry in various fields.
2. Get the broad and balanced knowledge of chemistry.
3. Develop practical skills which can be applied in actual practice.
4. Get the knowledge necessary for employment and higher education.

I Semester Chemistry Paper-I

Course Outcome:

1. Principles of chemical kinetics and different theories of reaction rate.
2. Adsorption isotherms and adsorption by liquids.
3. Physical and chemical properties of solvents.
4. Nature of bonding in organic molecules and criteria for aromaticity, resonance, hyper conjugation etc.

5. The concepts of organic reactions and techniques of writing the reaction mechanism.
6. Basics of analytical methods and chromatographic techniques.
7. Analytical skills involved in volumetric analysis.

Chemistry Practicals - I

Course Outcome: After the completion of the course, the student will develop the skill of analysis by volumetric methods.

II SEMESTER Chemistry Paper-II

Course Outcomes:

On completion of this course, the student will be able to appreciate the following aspects.

1. Molecular structure of solids and their properties.
2. Different types of liquid crystals and their applications.
3. Thermodynamic properties of gases.
4. Applications of chemicals in daily life.
5. General characteristics and properties of s and p block elements.
6. Organic reaction pathways and writing the reaction mechanism.
7. Basic concepts of electrophilic and nucleophilic substitution reactions.

Chemistry Practical-II

Course Outcome:

After the completion of the course, the student will develop the skill of chromatographic technique and qualitative organic analysis.

Name of the Degree Program: BSc (Honors) Chemistry with Analytical Specialization

Program Outcomes:

By the end of the program the students will be able to:

1. PO. 1: To create enthusiasm among students for Analytical chemistry and its application in various fields of life.
2. PO. 2: To provide students with broad and balanced knowledge and understanding of key concepts in Analytical chemistry
3. PO. 3: To develop in students a range of practical skills so that they can understand and assess risks and work safely measures to be followed in the laboratory.
4. PO. 4: To develop in students the ability to apply standard methodology to the solution of problems in chemistry

5. PO. 5: To provide students with knowledge and skill towards employment or higher education in Analytical chemistry or multi-disciplinary areas involving Analytical chemistry.
6. PO. 6: To provide students with the ability to plan and carry out experiments independently and assess the significance of outcomes and to cater to the demands of chemical Industries of well- trained graduates
7. PO. 7: To develop in students the ability to adapt and apply methodology to the solution of unfamiliar types of problems.
8. PO. 8: To instil critical awareness of advances at the forefront of chemical sciences, to prepare students effectively for professional employment or research degrees in chemical sciences and to develop an independent and responsible work ethics

Semester 1

Title of the Course: DSC-1: Analytical and Organic Chemistry – I

Course Outcomes:

1. The concepts of chemical analysis, accuracy, precision and statistical data treatment
2. Prepare the solutions after calculating the required quantity of salts in preparing the reagents/solutions and dilution of stock solution.
3. The concept of volumetric and gravimetric analysis and deducing the conversion factor for determination
4. Handling of toxic chemicals, concentrated acids and organic solvents and practice safety procedures.
5. The concepts of Organic reactions and techniques of writing the movement of electrons, bond breaking, bond forming
6. The Concept of aromaticity, resonance, hyper conjugation, etc.
7. Understand the preparation of alkanes, alkenes and alkynes, their reactions, etc.
8. Understand the mechanism of nucleophilic, electrophilic reactions

BSc Semester 2 – Chemistry (Hons) with specialization in Analytical Chemistry

Title of the Course: DSC –2:INORGANIC AND PHYSICAL CHEMISTRY - I

Course Outcomes:

1. To know the concept of Bohr's atomic theory and atomic spectrum of Hydrogen.
2. Importance of de Broglie equation, Heisenberg's Uncertainty Principle.
3. Understand the properties of S, P, D and F block elements: atomic radii, ionic radii, covalent radii, ionization enthalpy, electron gain enthalpy, electronegativity.
4. Understand about Ideal and Real gases: kinetic theory of gases.
5. To know the different properties of Liquid state: surface tension, viscosity, refraction, parachor.
6. The concepts of unit cell, space lattice, laws of Crystallography.

7. Understand Nernst distribution law and its applications.

THIRD SEMESTER BSc CHEMISTRY

DSC-3:Analytical and Organic Chemistry-II

Course Specific Outcomes

After the completion of this course, the student would be able to

- 1) Understand the importance of fundamental law and validation parameters in chemical analysis
- 2) Know how different analytes in different matrices (water and real samples) can be determined by spectrophotometric, nephelometric and turbidometric methods.
- 3) Understand the requirement for chemical analysis by paper, thin layer and column chromatography.
- 4) Apply solvent extraction method for quantitative determination of metal ions in different samples
- 5) Utilize the ion-exchange chromatography for domestic and industrial applications
- 6) Explain mechanism for a given reaction.
- 7) Predict the probable mechanism for an reaction

Explain the importance of reaction intermediates, its role and techniques of generating such intermediates

- 8) Explain the importance of Stereochemistry in predicting the structure and property of organic molecules.
- 9) Predict the configuration of an organic molecule and able to designate it.
- 10) Identify the chiral molecules and predict its actual configuration
- 11) Apply solvent extraction method for quantitative determination of metal ions in different samples
- 12) Utilize the ion-exchange chromatography for domestic and industrial applications
- 13) Explain mechanism for a given reaction.
- 14) Predict the probable mechanism for an reaction

Explain the importance of reaction intermediates, its role and techniques of generating such intermediates

- 15) Explain the importance of Stereochemistry in predicting the structure and property of organic molecules.
- 16) Predict the configuration of an organic molecule and able to designate it.
- 17) Identify the chiral molecules and predict its actual configuration.

III SEM PRACTICALS

Course Specific outcomes

After the completion of this course, the student would be able to

- 1) Understand the importance of instrumental methods for quantitative applications
- 2) Apply colorimetric methods for accurate determination of metal ions and anions in water or real samples

- 3) Understand how functional groups in a compound is responsible for its characteristic property
- 4) Learn the importance of qualitative tests in identifying functional groups.
- 5) Learn how to prepare a derivative for particular functional groups and how to purify it.

IV SEMESTER

DSC-4: Inorganic and Physical Chemistry-II

Course outcomes: After the completion of this course, the student would be able to

1. Predict the nature of the bond formed between different elements
2. Identify the possible type of arrangements of ions in ionic compounds
3. Write Born - Haber cycle for different ionic compounds
4. Relate different energy parameters like, lattice energy, entropy, enthalpy and solvation energy in the dissolution of ionic solids
5. Explain covalent nature in ionic compounds
6. Write the M.O. energy diagrams for simple molecules
7. Differentiate bonding in metals from their compounds
8. Learn important laws of thermodynamics and their applications to various thermodynamic systems
9. Understand adsorption processes and their mechanisms and the function and purpose of a catalyst
10. Apply adsorption as a versatile method for waste water purification.
11. Understand the concept of rate of a chemical reaction, integrated rate equations, energy of activation and determination of order of a reaction based on experimental data
12. Know different types of electrolytes, usefulness of conductance and ionic mobility measurements
13. Determine the transport numbers

IV SEM PRACTICALS

Course outcomes: At the end of the course student would be able to

1. Understand the chemical reactions involved in the detection of cations and anions.
2. Explain basic principles involved in classification of ions into groups in semi-micro qualitative analysis of salt mixture
3. Carryout the separation of cations into groups and understand the concept of common ion effect.
1. Understand the choice of group reagents used in the analysis.
2. Analyse a simple inorganic salt mixture containing two anions and cations
3. Use instruments like conductivity meter to obtain various physicochemical parameters.
4. Apply the theory about chemical kinetics and determine the velocity constants of various reactions.

5. Learn about the reaction mechanisms.
6. Interpret the behaviour of interfaces, the phenomena of physisorption and chemisorptions and their applications in chemical and industrial processes.
7. Learn to fit experimental data with theoretical models and interpret the data

V SEMESTER BSc CHEMISTRY

PAPER - V : INORGANIC AND PHYSICAL CHEMISTRY

BSCCHCN501

Course outcomes:

After the completion of this course, students will

- i) Understand the types of bonding in compounds and the theories to explain them
- ii) Understand nuclear reactions, the importance of nuclear phenomenon, radiation chemistry & its applications.
- iii) Know the application of Quantum mechanics to particle in a box and hydrogen atom.
- iv) Know chemistry of main group elements and acid base concepts.
- v) Know chemical dynamics and kinetics of chemical reactions.

PRACTICAL V

INORGANIC & PHYSICAL CHEMISTRY PRACTICAL

BSCCHPN501

Course outcomes:

- i) Students will have practical experience in systematic semimicro qualitative analysis of inorganic mixtures containing less familiar elements.
- ii) Students acquire the knowledge in the preparation of inorganic complexes.
- iii) Theoretical knowledge of students is strengthened with laboratory experiments using instruments like colorimeter, conductivity meter and potentiometer.

PAPER - VI: ORGANIC CHEMISTRY AND SPECTROSCOPY

BSCCHCN502

Course outcomes:

After the completion of the course students will be able to:

- i) Differentiate aliphatic and aromatic compounds, understand the concept of resonance and write simple reaction mechanisms.
- ii) Identify some of the heterocyclic compounds, their structure and physiological properties.

iii) have the basic knowledge of molecular spectroscopic methods like rotational, vibrational, Raman, NMR and UV Spectroscopy.

PRACTICAL VI

ORGANIC CHEMISTRY PRACTICAL

BSCCHPN502

Course outcomes:

- i) Students will know how to systematically identify organic compounds containing two functional groups by qualitative method.
- ii) Students will be able to do simple single stage organic synthesis.

VI SEMESTER BSc CHEMISTRY

PAPER VII: INORGANIC AND PHYSICAL CHEMISTRY

BSCCHCN601

Course outcomes:

After the completion of course, the students will

- i) know the Kinetics of complex formation and also the electronic spectra of complexes which will help them in selecting the methods of synthesis and identification of complex compounds.
- ii) understand the theories of bonding in complex compounds.
- iii) understand the principle of steam distillation and separation of components of binary mixtures.
- iv) get introduced to thermal methods of analysis.
- v) understand the concept of galvanic cells and potentiometric methods of quantitative analysis.

PRACTICAL – VII

PHYSICAL & INORGANIC CHEMISTRY PRACTICAL

BSCCHPN601

Course Specific outcomes:

- i) Students learn the application of gravimetry and volumetry in chemical analysis.
- ii) Learn some of the instrumental and physical methods used in quantitative analysis.

PAPER VIII: ORGANIC CHEMISTRY AND SPECTROSCOPY

BSCCHCN602

Course Specific outcomes:

After the completion of the course, the students will

- i) know the mechanism of selected electrophilic and nucleophilic substitution reactions

- ii) understand the mechanism of addition reactions in organic compounds.
- iii) get exposure to symmetry and group theory.
- iv) get introduction to photo electron spectroscopy and flame photometry.

PRACTICAL – VIII

ORGANIC CHEMISTRY PRACTICAL

BSCCHPN602

Course Specific outcomes:

After the practical course, the students will know

- i) two and three stage synthesis of selected organic compounds.
- ii) how to analyze amino acids, phthalic acid, glucose and phenol volumetrically.
- iii) to determine the saponification and iodine value of oils

DEPARTMENT OF MANAGEMENT

PROGRAM OUTCOMES, PROGRAM SPECIFIC OUTCOMES, COURSE OUTCOMES

BACHELOR OF BUSINESS ADMINISTRATION (BBA):

SEP AND NEP SCHEME

Semester	Course/Subject	Course Outcomes	Program Outcomes (Sum of all six semesters)
SEP I	Principles of Management	1.The ability to understand the concepts of business management, principles and	

		function of management in a developing economy 2.The ability to explain and undertake the process of planning and decision making in modern management system 3.The ability to create organization structures based on authority, task and responsibilities. 4.The ability to explain the principles of direction, importance of communication, barrier of communication, motivation theories and leadership styles. 5. The ability to understand the requirement of good control system and control techniques.	On successfully completing the program the student will be able to: 1. Understand concepts and principles of management/business; identify the opportunities in the corporate environment and manage the challenges 2.Demonstrate the knowledge of management science to solve complex corporate problems using limited resources. Display enhanced personality and soft skills 3.Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings. 4.Demonstrate entrepreneurial competencies 5.Exhibit managerial skills in the areas of marketing, finance, HR, etc. 5.Identify business opportunities, design and implement innovations in workspace. 5. Possess a sturdy foundation for higher education
	Business Accounting-I	1.understand the mechanism of accounting as well as accounting standards 2.pass journal entries and prepare ledger accounts 3.prepare subsidiary books 4. understand the depreciation accounting 5. prepare trial balance and final accounts of sole proprietary concern	On the successful completion of B.B.A., the students will be able to: PSO1: Acquire Practical learning through summer internship, industrial visit and Business Plan etc. PSO2: Demonstrate analytical and problem-solving skills
	Contemporary Marketing Management	1. Familiarize to the concepts and Contemporary issues of marketing and its applications. 2. Understand the 4 Ps of marketing and its strategies. 3. Analyse the importance of digital and green marketing 4. Describe the service and rural marketing concepts and challenges	

	Open Elective Business Organisation	1. Understand the concepts and form of Business organizations. 2. Examine the dynamics of the most suitable form of business organizations in different situations. 3. Analyse business models for different organisations. 4. Evaluate changes in the working pattern of modern organisations	through specialization in Finance, Human Recourse and Marketing to solve the business issues. PSO3: Understand and develop the new dimensions of knowledge through open electives to cater the need of the industry.
II	Business Environment	1.Explore the dynamic nature of business in an intensely competitive environment. 2.Examine the two-way impact of Business on Environment and Environment on Business. 3.Identify and evaluate the multidimensional settings within which businesses operate. 4.Forecast possible impacts of change in policies and law son operations of business. 5.Build a conducive internal business environment for the firm to operate.	PSO4: Comprehend the core concepts, methods and practices in management. PSO5: Venture into his/her own business or excel in executive roles in private /government sector. PSO6: Demonstrate the ability to create business plans PSO7: Develop an understanding of business that reflects the moral responsibility of business to all relevant stakeholders and the natural environment.
	Business Accounting-II	1.Understand and prepare accounts for consignment 2.Prepare accounts for the Not-For-Profit Organisations 3.Understand the distinction between Unlimited and Limited Liability Partnership 4.Prepare accounts of Partnership Firms in the various circumstances of Admission, Retirement and Death of a Partner 5.Prepare accounts on Dissolution of Partnership Firm	PSO8: Matured Individuals and responsible Citizens to the country PSO9: Demonstrate Ability to work in Groups

	Work Force Management	1.To understand the basic concepts of Workforce or Human Resource Management. 2.To be aware of how the Human Resource works in an organization. 3.To understand about the role and functions of Human Resource	
	Optional Course Foreign Trade Management	1.Get awareness about development in import and export of India 2.Understand the comprehend theories of International Trade. 3.Apply appropriate Trade mechanism to manage foreign trade in India	
NEP III	Cost Accounting	1. Be able to demonstrate an understanding of the elements of cost and prepare a cost sheet. 2. Be able to prepare material related documents, understand the management of stores and issue procedures. 3. Develop the ability to calculate Employee costs. 4. Able to classify, allocate apportion overheads and calculate overhead absorption rates. 5. Understand and reconcile cost and financial account	
	Organisational Behaviour	1. Demonstrate an understanding of the role of OB in business organization. 2. Demonstrate an ability to understand individual and group behavior in an organization. 3. Be able to explain the effectiveness of organizational change and development of organisation. 4. Demonstrate an understanding of the process of organizational development and OD Interventions.	

	Statistics for Business Decisions	1. To understand the basic concepts in statistics. 2. To classify and construct statistical tables. 3. To understand and construct various measures of central tendency, dispersion and skewness. 4. To apply correlation and regression for data analysis	
	Social Media Marketing	1. Understand social media marketing goals for successful online campaigns. 2. Analyze the effective social media marketing strategies for various types of industries and businesses. 3. Design social media content and create strategies to optimize the content's reach to the target audience. 4. Appraise the reach and track progress in achieving social media objectives with a variety of measurement tools and metrics. 5. Design a suitable social media campaign for the business goals	
IV	Management Accounting	1. Explain the application of management accounting and various tool used 2. Make inter – firm and inter- period comparison of financial statements 3. Analyse financial statements using various ratios for business decisions. 4. Prepare fund flow and cash flow statements 5. Prepare different types of budgets for the business	
	Financial Markets and Services	1. Understand the financial system, Institutions, financial markets and services. 2. Analyse the concepts relevant to Indian financial market and relevance.	

		3. Understand concept of financial services, types and functions. 4. Understand the types of financial Instruments. 5. Demonstrate an understanding the functioning of stock markets.	
	Financial Management	1. To identify the goals of financial management. 2. To apply the concepts of time value of money for financial decision making. 3. To evaluate projects using capital budgeting techniques. 4. To design optimum capital structure using EBIT and EPS analysis. 5. To evaluate working capital effectiveness in an organization.	
	Financial Education and Investment Awareness	1. Provide the foundation for financial decision making. 2. List out various savings and investment alternatives for a common man. 3. Give a detailed overview of stock market and stock selection 4. Orient the learners about mutual funds and the criteria for selection	
V	Production and Operations Management	1. Understand ever growing importance of Production and Operations Management in uncertain business environment. 2. Gain an in-depth understanding of Plant Location and Layout 3. Appreciate the unique challenges faced by firms in Inventory Management. 4. Understand the subject as to Production Planning and Control.	

		5. Develop skills to operate competitively in the current business scenario	
	Income Tax-I	1. Comprehend the procedure for computation of Total Income and tax liability of an individual. 2. Understand the provisions for determining the residential status of an Individual. 3. Comprehend the meaning of Salary, Perquisites, Profit in lieu of salary, allowances and various retirement benefits. 4. Compute the income house property for different categories of house property. 5. Comprehend TDS & advances tax Ruling and identify the various deductions under section 80.	
	Banking Law and Practice	1. Understand the legal aspects of banker and customer relationship. 2. Open the different types of accounts. 3. Describe the various operations of banks. 3. Understand the different types of crossing of cheques and endorsement. 4. Understanding of different types of E-payments	
	Finance Elective Advanced Corporate Financial Management	1. Understand and determine the overall cost of capital. 2. Comprehend the different advanced capital budgeting techniques. 3. Understand the importance of dividend decisions and dividend theories. 4. Evaluate mergers and acquisition.	

		5 Enable the ethical and governance issues in financial management	
	Marketing Elective Consumer Behaviour	1.Understanding of Consumer Behaviour towards products, brands and services. 2.Distinguish between different consumer behaviour influences and their relationships. 3.. Establish the relevance of consumer behaviour theories and concepts to marketing decisions. 4. Implement appropriate combinations of theories and concepts. 5. Recognise social and ethical implications of marketing actions on consumer behaviour.	
	Human Resource Elective Performance and Compensation Management	1.Understand the concepts of Compensation management. 2.Describe job evaluation and its methods. 3.Evaluate the different methods of wages. 4.Describe performance management and methods of performance management. 5.Preparation of Payroll	
	Logistic and Supply Chain Management Freight Trasport Management	1.Understand the different functions of Commercial transport. 2.Analyse pricing and pricing strategy. 3.Understand transport administration. 4.Understand of transport and export documentations	
	Vocational Information Technology for Business	1.Understand the fundamentals of information technology 2. Understand usage of information technology in business.	

		3.Learn core concepts of computing and modern systems 4.Applications of Excel and SQL. 5.Awareness about latest information	
	Employability Skills	1.Develop systematic problem-solving abilities 2.Enhance verbal and non-verbal reasoning skills. 3.Improve numerical and analytical abilities. 4.Enhance English Language and communication skills	
VI	Business Law	1. Comprehend the laws relating to Contracts and its application in business activities. 2. Comprehend the rules for Sale of Goods and rights and duties of a buyer and a Seller. 3. Understand the importance of Negotiable Instrument Act and its provisions relating to Cheque and other Negotiable Instruments. 4. Understand the significance of Consumer Protection Act and its features 5. Understand the need for Environment Protection.	
	Income Tax -II	1.Understand the procedure for computation of income from business and other Profession. 2.the provisions for determining the capital gains. 3.Compute the income from other sources. 4.Demonstrate the computation of total income of an Individual.	

		5. Comprehend the assessment procedure and to know the power of income tax authorities.	
	International Business	1. Understand the concept of International Business. 2. Differentiate the Internal and External International Business Environment. 3. Understand the difference MNC and TNC 4. Understand the role of International Organisations in International Business. 5. Understand International Operations Management	
	Finance Elective Security Analysis and Portfolio Management	1. Understand the concept of basics of Investment. 2. Evaluate the different types of alternatives. 3. Evaluate the portfolio and portfolio management. 4. Understand the concept of risk and returns 5. Gain the knowledge of fundamental and technical analysis	
	Marketing Elective Advertising and Media Management	1. Understand the nature, role, and importance of IMC in marketing strategy 2. Understand effective design and implementation of advertising strategies 3. Present a general understanding of content, structure, and appeal of advertisements 4. Understand ethical challenges related to responsible management of advertising and brand strategy. 5. Evaluate the effectiveness of advertising and agencies' role	
	Human Resource Elective	1. Understand, interpret question reflect upon and engage with the notion of "diversity".	

	Cultural Diversity at Work Place	2. Recall the cultural diversity at work place in an organization. 3. Support the business case for workforce diversity and inclusion. 4. Identify diversity and work respecting cross cultural environment. 5. Assess contemporary organizational strategies for managing workforce diversity and inclusion.	
	Logistic and Supply Chain Management Sourcing for Logistics and Supply Chain Management	1. Understand the role of sourcing in logistics and supply chain management, and its impact on overall business performance. 2. Analyze and evaluate sourcing strategies and decisions, including make-or-buy, insourcing vs. outsourcing, and supplier selection criteria. 3. Develop effective supplier relationship management skills, including negotiation, communication, and collaboration. 4. Apply sourcing best practices, including risk management, sustainability, and ethical sourcing. 5. Evaluate the impact of technology and innovation on sourcing, and apply relevant tools and techniques to optimize sourcing processes and outcomes	
	Vocational Goods and Services Tax	1. Understand the basics of taxation, including the meaning and types of taxes, and the differences between direct and indirect taxation. 2. Analyze the history of indirect taxation in India and the structure of the Indian taxation system. 3. Understand the framework and definitions of GST, including the constitutional framework, CGST, SGST, IGST, and exemptions from GST.	

		4. Understand the time, place, and value of supply under GST, and apply this knowledge to calculate the value of supply and determine GST liability. 5. Understand input tax credit under GST, including its meaning and process for availing it, and apply this knowledge to calculate net GST liability.	
	Mini Project	1. Students will deepen their understanding of theoretical concepts learnt in their courses. 2. Helps to bridge the gap between academic learning and practical application, preparing students for future challenges in their careers. 3. The process fosters students' problem-solving abilities, enabling them to approach complex problems with confidence and creativity. 4. Opportunity to explore current industry practices and trends. 5. Develop a conceptual framework to address the identified problem statement by applying the research methodology concepts and theories. Test and validate data to address the research questions/hypothesis.	

Bachelor of Commerce

Semester	Course	Course Outcome	Programme Outcome
I	QUANTITATIVE T TECHNIQUES-I	1. Students connect formulas to problem solving and decision making. 2. Students utilize the idea of Index Number to comprehend current market conditions. 3. Students understand merits of dispersion, mean, median and mode. 4. Students compute the ratio and proportions, discount, percentage that utilized in business.	Provide students with the knowledge, skills, attitudes and values that will help them take decisions for their lives. b. Hands on tools to help them in the world of business and commerce with in depth awareness of the contents of different courses under the Programme. c. Holistic development of the personality to understand and actively participate in the well-being of the society. d. Work collaboratively and productively in teams. Critically evaluate new ideas, research findings, methodologies and theoretical
	FINANCIAL ACCOUNTING- I	1. Can apply various principles, concepts and conventions while maintaining books of accounts of an organisation. 2. Students will prepare the final account of a sole proprietor independently. 3. Students prepare final accounts of non-trading concerns independently. 4. Students can identify the causes for differences in cash and pass book balance. 5. Students understood the charging of depreciation in cost method and written down value method.	

	FOUNDATION OF COMMERCE-I	1. Students understand the Concept of HRM, & Changing role of the HR Manager in a dynamic business environment. 2. Students leant the various dimensions of HRM. 3. Students understand various approaches to studying marketing and the different marketing philosophies that guide business strategies. 4. Students gained knowledge on the concept of market segmentation and its importance for targeting specific customer groups. 5. Students understand the Fundamental concepts of Financial Management.	framework in their chosen elective field. e. Courses like Financial Accounting, Quantitative Techniques, and Foundation of Commerce will built the basics of the field and help a student choose electives in the 3rd & 4th Semester. Corporate Accounting course will help a student build confidence in the accounting knowledge of the corporate world,
	INDIVIDUAL AND TEAM MANAGEMENT	1. Students can become effective in their day to day transactions. 2. Students can develop strategies to manage conflicts. 3. Students can learn various Interpersonal skills. 4. Can communicate effectively in teams with team members. 5. Enhance individual resourcefulness in all walks of life and can improve the quality of their thinking and become self motivated in their personal dealings.	Business and Corporate Law will strengthen the legal aspects of the business, Financial Management, Direct Tax, Cost & Management Accounting & GST will help in all round growth of a learner about the working of any business.

II	QUANTITATIVE TECHNIQUES-II	Learned to establish relationships between variables in real world situations by using correlation and regression analysis. 1. Students are able to use ideas from probability to solve practical issues. 2. Students are able to predict results using time series. 3. Students recognize the relationship between two variables .	
	FINANCIAL ACCOUNTING- II	1. Students gained recent developments in the accounting field. 2. Students will convert a single entry into a double entry system of bookkeeping of a sole proprietor or firm. 3. Will prepare ledger accounts in the book of hire purchaser 4. Will analyse the net result and financial position of various departments of an organisation. 5. Will prepare a royalty chart and ledger accounts in the book of lessee.	

	FOUNDATION OF COMMERCE- II	1. Understand the concept of Insurance, Banking and Finance. 2. Apply fundamental conceptual knowledge to analyse and interpret areas in Insurance, Banking and Finance. 3. Students learn new reforms and technology in the field of Insurance 4. Evaluate the Investment opportunities using risk and return 5. Students understand Various innovative and Digital banking concepts.	
	FUNDAMENTAL S OF ORGANISATION AL BEHAVIOUR	1. Create awareness about how organizational behaviour works in an organization and its role and functions. 2. Develop insight with different theories of motivations and strategies in improve motivation in the workplace 3. Understand group dynamics and demonstrate skills required for working in groups and team building 4. Understand the concepts of Personality and attitude, Perception and motivation,	

III	CORPORATE ACCOUNTING-I	1. Students understand the underwriting of shares and SEBI regulations 2. They understand the different types of ratios and calculate the pre and post incorporation profits. 3. They learnt the methods of valuation of Goodwill 4.They understand the factors affecting valuation of shares, right issues, valuation of warrants 5. They learnt statutory provisions regarding preparation of financial statements of companies as per schedule III of companies act,2013 and IND AS-1	
	BUSINESS STATISTICS	1. Familiarizes statistical data and descriptive statistics for business decision- making, 2. Comprehend the measures of variation and measures of skewness. 3. Demonstrate the use of probability and probability distributions in business. 4. Validate the application of correlation and regression in business decisions. 5. Show the use of index numbers in business.	

	COST ACCOUNTING	1. Students can learn the basic concepts of cost accounting. 2. Students come to know how to purchase material from suppliers and can prepare store ledger accounts using different methods. 3. Students are able to solve problems on systems of wage payment under Halsey, Rowan and Taylor's piece rate system. 4. Students can solve problems on primary and secondary distribution of overheads under different methods. 5. Students can learn what are the reasons for the difference in profits as per cost and financial books and can prepare reconciliation statements.	
	CYBER SECURITY	1). Students would be able to understand the concept of cyber security and issues and challenges associated with it. 2.Students, at the end of this course, should be able to understand the cyber crimes, their nature, legal remedies and as to how report the crimes through available platforms and procedures 3) students should be able to appreciate various privacy and security concerns on online social media and understand the reporting procedure of inappropriate content, underlying legal aspects and best practices for the use of social media platforms	

IV	CORPORATE ACCOUNTING-II	1. Students understand the process of redemption of preference share 2. Students learned merger and acquisition of companies 3. Students understand the concept of internal reconstruction of companies 4. They learnt accounting treatment on liquidation of company 5. They understand the theoretical concepts of recent development in accounting and accounting standards	
	BUSINESS REGULATORY FRAMEWORK	1. Students learnt to Recognize the laws relating to Contracts and its application in business activities. 2. Student learnt to Acquire knowledge on bailment and indemnification of goods in a contractual relationship and role of agents. 3. Students Comprehend the rules for Sale of Goods and rights and duties of a buyer and seller. 4. Students learnt to distinguish the partnership laws, its applicability and relevance. 5. Student Rephrase the cyber law in the present context.	

	COSTING METHODS AND TECHNIQUES	1. Students can prepare job cost sheets of various industries and their applications. 2. Students can ascertain the cost of a contract. 3. Students can analyze the cost of each process and determine the selling price of an output. 4. Will ascertain the cost and transport charges of transport industries. 5. Analyse the variances for material and labour costs of various manufacturing industries. 6. Can prepare an individual Cash budget or for an industry. So can do financial planning.	
	FINANCIAL EDUCATION AND INVESTMENT AWARENESS	1. Students Understand the Different Modes of Investment. 2. Students Understand the Difference between With Risk And Risk free investments. 3. Students understand the Concept of Stock Market. 4. Students are aware of Sensex And Nifty. 5. Students Understand Role of Investment in Economic Development.	

V	FINANCIAL MANAGEMENT	1. Understand the role of financial managers effectively in an organization. 2. Learnt to apply the compounding & discounting techniques for time value of money. 3. Learned to take investment decisions with appropriate capital budgeting techniques for investment proposals. 4. Understand the factors influencing the capital structure of an organization. 5. Understand & estimate the working capital requirement for the smooth running of the business	
	INCOME TAX LAW AND PRACTICE-I	1. Students understand the provisions of direct Tax Laws in India. 2. Students are able to determine the residential status of an individual 3. Students are able to calculate Taxable HRA, Gratuity, Pension, leave cash encashment and VRS 4. Students are able to compute the income from Salary and House property under different situations. 5. Students learnt TDS & Advance tax ruling and identify the various deductions under section 80.	

	AUDITING	1. Students have gained a comprehensive understanding of auditing concepts. 2. Students have learned about the importance of internal control system in preventing errors and irregularities. 3. Students understand the procedure of verification and valuation of various assets and liabilities. 4. Students learnt the audit procedure of various entities, appointment, powers and rights of an auditor. 5. Students can analyse the importance of audit reports, professional ethics.	
	FINANCIAL INSTITUTIONS AND MARKETS	1. Students understand the structure of the Indian Financial System and its constituents. 2. Students are able to outline the role of money market and capital market in Economic Development. 3. Comprehend primary and secondary market and its relevance in capital formation. 4. Students learnt the role played by banking and financial institutions in economic development. 5. Students understand the different types of NBFCs and their contributions.	

	RETAIL MANAGEMENT	1. Understand the contemporary of retail management, issues, strategies and trends in retailing. 2. Students understand the theories and strategies of retail planning. 3. Students perceive the roles and responsibilities of store manager and examine the visual merchandising and its techniques in the present context. 4. Students understand the factors to be considered while fixing the price in retailing. 5. Students understand the emerging trends in retailing.	
	GST	1. The students learnt the concepts of GST, types and Structure of GST. 2. The students are able to categorize taxable and exempted goods and services. 3. Students are able to analyse the differences between mixed and composite supply. 4. Students come to know about GSTIN and documents required for GST registration. 5. Students able to know about Input tax credit and person who liable for Input tax credit	
	EMPLOYABILIT Y SKILLS	1. Develop systematic problem-solving abilities 2. Enhance verbal and non-verbal reasoning skills. 3. Improve numerical and analytical abilities 4. Enhance English language and communication skills	

VI	ADVANCED FINANCIAL MANAGEMENT	1. Understand and determine the overall cost of capital. 2. Comprehend the different advanced capital budgeting techniques. 3. Understand the importance of dividend decisions. 4. Learned to evaluate mergers and acquisition. 5. Understand the ethical and governance issues in financial management.	
	INCOME TAX LAW AND PRACTICE-II	1. Students understand the procedure for computation of Income from business and profession. 2. The students are able to compute taxable and exempted capital gains. 3. Students understood the computation of Income from other sources. 4. Students are able to demonstrate the computation of total income of an Individual. 5. Comprehend the assessment procedure and various powers of income tax authorities.	

	MANAGEMENT ACCOUNTING	1. Students understand the basic concepts of management accounting. 2 Students can analyse and interpret financial statements to inform business decisions. 3 Students can solve problems on ratio analysis and prepare financial statements using accounting ratios. 4 Students can prepare cash flow statements according to accounting standards. 5 Students understand the procedure of management audit and report on management audit.	
	INVESTMENT MANAGEMENT	1. Students understand the basic concepts of investment. 2. Students can perform fundamental analysis to evaluate investment opportunities. 3. Students understand the concept of risk and return and can calculate Alpha and Beta. 4. Students can perform technical analysis to identify trends and patterns in investment markets. 5. Students understand the concept of portfolio management and can construct an optimum portfolio to achieve goals.	

	CUSTOMER RELATIONSHIP MANAGEMENT	1. Students Aware of the concept of customer Relationship. 2. Students Analyze the CRM link with other Aspects of marketing. 3. Students impart basic knowledge of the role of CRM. 4. Students aware of the different CRM Models. 5. Students Aware and Analysis of different issue in CRM.	
	ASSESSMENT OF PERSONS OTHER THAN INDIVIDUALS AND ITR FILING	1. Students understood conditions for allowing depreciation and computation of allowable depreciation. 2. Students are able to assess the taxable income of partnership firm and companies 3. Syllabus focuses on filing of income tax return, documents required. 4. The students can relate them to practical questions and get theoretical understanding of case laws and amendments.	

B.COM (COMPUTER APPLICATION)

Semester	Course/ Subject	Course Outcome	Programme outcome
I	QUANTITATIVE TECHNIQUES-I	1. Students Study concerning metrics of dispersion, mean, median, and mode. 2. Students Connect a formal quantitative approach to problem solving and decision-making. 3. Students Utilize the idea of index numbers to comprehend current market conditions 4. Students Compute the ratios, proportions, discounts, and percentages that are utilized in business.	a. Provide students with the knowledge, skills, attitudes and values that will help them take decisions for their lives. b. Hands on tools to help them in the world of business and commerce with in depth awareness of the contents of different courses under the Programme. c. Holistic development of the personality to understand and actively participate in the well-being of the society. d. Work collaboratively and productively in teams. Critically evaluate new ideas, research findings, methodologies and theoretical framework in their chosen elective field. e. Courses like Financial Accounting, Quantitative Techniques, and Foundation of Commerce will built the basics of the field and help a student choose electives in the 3rd & 4th Semester. Corporate Accounting course will help a student build confidence in the
	FINANCIAL ACCOUNTING -I	1.The students understood the concept of accounting, it's usages, importance and limitations, systems and preparation of journal and ledger accounts 2.They learnt the practical aspects of depreciation accounting and also change in method of depreciation and its calculations. 3.They understood the preparation and theoretical aspect of non trading concerns. 4.They understood the treatment of cash book and pass book and also overdraft problems from BRS. 5.They understood the preparation of trading and profit and loss accounts and also Balance sheet of Sole trading concerns and it's importance.	

II	QUANTITATIVE TECHNIQUES-II	1.Students Establish relationships between variables in real-world situations by using methods like regression and correlation. 2.Students Use the ideas from probability distributions to solve practical issues. 3.Students Predict future results using time series 4.Students Recognise the relationship between two variables and how to use ratios and proportions to express it.	accounting knowledge of the corporate world, Business and Corporate Law will strengthen the legal aspects of the business, Financial Management, Direct Tax, Cost & Management Accounting & GST will help in all round growth of a learner about the working of any business.
	FINANCIAL ACCOUNTING -II	1.Students will be able to understand the recent trends in accounting. 2.Students understood the concept and practicality of conversation of single entry in to double entry system 3.The students can focus on accounting treatment for hire purchase systems and the different methods calculation of Interest. 4.Students will learn about royalty accounts. 5.Students will study about inter departmental transfer, invoice price etc.,	
III	CORPORATE ACCOUNTING - I	1) Students understand the underwriting of shares and SEBI regulations 2)They understand the different types of Ratios under pre and post incorporation concepts 3) They learnt about methods of valuation of Goodwill	

		4) They understand the factors affecting valuation of shares, right issues, valuation of warrants 5) They learnt about statutory provisions regarding preparation of financial statements of companies as per schedule III of companies act, 2013 and IND AS-1	
	CYBER SECURITY	1) Students would be able to understand the concept of cyber security and issues and challenges associated with it. 2. Students, at the end of this course, should be able to understand the cybercrimes, their nature, legal remedies and as to how report the crimes through available platforms and procedures 3) students should be able to appreciate various privacy and security concerns on online social media and understand the reporting procedure of inappropriate content, underlying legal aspects and best practices for the use of social media platforms	
IV	CORPORATE ACCOUNTING - II	1) Students understand the redemption of preference share 2) Students learnt about merger and acquisition of companies 3) Students understand the concept of internal reconciliation of companies 4) They learnt about liquidation of company	

		5) They understand the theoretical concepts of recent development in accounting and accounting standards	
	FINANCIAL EDUCATION AND INVESTMENT AWARENESS	1.Students Understand the Different Modes of Investment. 2. Students Understand the Difference between With Risk and Risk free investment. 3.Students understand the Concept of Stock Market. 4.Students Aware of Sensex and Nifty. 5.Students Understand Role of Investment in Economic Development.	
	COMPUTERIZED ACCOUNTING	1.Understanding of basics concepts of accounting in respects of revenue, expenses, assets, liability and equity 2.Competency to enter accounting transactions in accounting software and generate different account reports 3.Ability to make cost analysis reports, profits and loss accounts ,balance sheets and cash flow statements 4.Develops skill in maintaining accounting records, payroll and inventory methods 5.Know about computerized accounting for account maintenance, making management decisions etc	
V	FINANCIAL MANAGEMENT	1.Students learnt the role of financial managers, scope of financial management etc.,	

		2.They learnt to apply the compounding & discounting techniques for time value of money. 3.They understood to take investment decisions with appropriate capital budgeting techniques for investment proposals. 4.They understood the factors influencing the capital structure of an organization and its calculations. 5.They learnt to estimate the working capital requirement for the smooth running of the business	
	INCOME TAX LAW AND PRACTICE- I	1.Students understand the provisions of direct Tax Laws in India. 2.Students are able to determine the residential status of an individual 3.Students are able to calculate Taxable HRA, Gratuity, leave cash encashment and VRS 4. Students are able to compute the income from house property under different categories. 5.Students learnt TDS & Advance tax ruling and identify the various deductions under section 80.	
	EMPLOYABILITY SKILLS	1)Develop systematic problem-solving abilities 2)Enhance verbal and non-verbal reasoning skills. 3)Improve numerical and analytical abilities 4)Enhance English language and communication skills	

	DIGITAL MARKETING	1.Students learn about digital marketing channels of distribution and strategy and planning for digital marketing 2.They will learn about different platforms of social media and how to optimizing the social media, social media advertising and content strategy 3.Students will learn about email marketing, effective email campaign and email automation and segmentation 4.Students will learn about mobile marketing strategy, mobile app marketing, analytics in digital marketing	
VI	ADVANCED FINANCIAL MANAGEMENT	1.They learn to Calculate and analyse the overall cost of capital. 2.They learn to Evaluate investment opportunities using techniques such as NPV, IRR, and sensitivity analysis. 3.Understand the factors influencing dividend policy and make informed decisions about dividend payments. 4.They learn to analyse the financial implications of mergers and acquisitions and evaluate their potential success. 5.They understand to Identify and address ethical dilemmas in financial management, ensuring transparency and accountability.	
	INCOME TAX LAW AND PRACTICE - II	1.Students understand the procedure for computation of Income from business and profession.	

		2.The students are able to compute taxable and exempted capital gains. 3.Students are able to compute taxable Income from other sources. 4.Students are able to demonstrate the computation of total income of an Individual. 5.Comprehend the assessment procedure and various powers of income tax authorities.	

B.COM(TAX PROCEDURE)

Semester	Course/ Subject	Course outcome	Programme outcome
I	FINANCIAL ACCOUNTING-I	1.The Students are able to learn calculation of depreciation with change in method 2.The students can learn to record and account for various transaction such as sales, purchase and expenses 3.The Students are able to prepare financial statements of any trust, charitable institutions or sports associations etc. 4.The students can learn to prepare Bank reconciliation statement, reasons for changes and finding mistakes while recording. 5.The students can understand theoretical aspects and passing journal entries	a. Provide students with the knowledge, skills, attitudes and values that will help them take decisions for their lives. b. Hands on tools to help them in the world of business and commerce with in depth awareness of the contents of different courses under the Programme. c. Holistic development of the personality to understand and actively participate in the well-being of the society.
	ITL-I	1.Students are able to understand the theoretical framework of Direct Tax. 2. It enable the students to know how to determine the incidence of tax liability based on their residential status. 3. Students comes to know various incomes which are exempt under section 10. 4. Students are able to understand legal provisions & deductions available under income tax act. 5. It enables the students to compute salary income of an individual.	d. Work collaboratively and productively in teams. Critically evaluate new ideas, research findings, methodologies and theoretical framework in their chosen elective field. e. Demonstrate leadership skills, become academically brilliant, inculcate research skills, urge to become global citizens and become constructive citizens of our country

	GST-I	1.The study familiarises the students with the provisions of Indirect Tax Laws in India. 2.The students can understand supply or not to charge GST under the Act 3.The students can understand Procedure of Registration for liable person n provision of compulsory Registration. 4.The students can understand that eligible for Composition levy.	f. Students will prove themselves in different professional exams like C.A.,C S, CPA, CMA,MPSC,UPSC. as well as other courses. Thorough systematic and subject skills within various disciplines of finance, auditing and taxation, accounting, management, communication, computer and also get the practical skills to work as accountant, audit assistant, tax consultant, and computer operator as well as other financial supporting services.
	INDIVIDUAL AND TEAM MANAGEMEN T	1.Students can become effective in their day to day transactions. 2. Students can develop strategies to manage conflicts. 3. Students can learn various Interpersonal skills. 4. Can communicate effectively in teams with team members. 5. Enhance individual resourcefulness in all walks of life and can improve the quality of their thinking and become self-motivated in their personal dealings.	

II	FINANCIAL ACCOUNTING-II	1.The students can analyse the accounting standards and recent developments in accounting. 2.The students are able to prepare the Financial statements by converting single entry system to double entry system 3.The students can focus on accounting treatment for hire purchase system and how the interest is calculated 4.The students can learn about Royalty income 5.The students can understand the effects of inter departmental transfer by preparing departmental accounts.	
	ITL-II	1.It enables the students to determine key differences between depreciation under accounting method and income Tax act. 2. Students comes to know how to compute income under various heads. 3. Students are able to understand provisions of clubbing of income, set-off of losses & carry forward of losses.	

	GST-II	1.The students can understand how to identify the types of GST. 2.The students can able to know where Reverse and Forward charge is applicable and calculation. 3.The students can Know about applicability of rate of tax through Time of Supply. 4.The students can understands about place of supply to calculate Type of GST to tax liability. 5.The students can understands how to calculate Value of supply to charge GST liability.	
	FOUNDATION OF ORGANISATIONAL	1. The students will be able to create awareness about how organizational behaviour works in an organization and its role and functions. 2. Students can develop insight with different theories of motivations and strategies to improve motivation in the workplace. 3.Understand group dynamics and demonstrate skills required for working in groups and team building 4. Understand the concepts of Personality and attitude, Perception and motivation.	

III	CORPORATE ACCOUNTING -I	1) Students understand the underwriting of shares and SEBI regulations 2) They understand the different types of Ratios under pre and post incorporation concepts 3) They learnt about methods of valuation of Goodwill 4) They understand the factors affecting valuation of shares, right issues, valuation of warrants 5) They learnt about statutory provisions regarding preparation of financial statements of companies as per schedule III of companies act, 2013 and IND AS-1	
	GST- III	1. The Students can understand how to calculate Input tax and set off 2. The students can know about different provisions of ITC 3. The students can know about various books of accounts and documents for business 4. The students can identify various forms to file the GST Returns. 5. The students can know the procedure of Registration of CTP and NRTP	

	ITL-III	1.The students can understands how to calculate tax liability of Individual. 2.The students can understand the provisions of TDS 3. The students can understands the provisions of TCS 4.The students can understands the computation of payment of Advance tax. 5. The students can get the knowledge of income tax Authorities.	
	CYBER SECURITY	1)Students would be able to understand the concept of cyber security and issues and challenges associated with it. 2.Students, at the end of this course, should be able to understand the cybercrimes, their nature, legal remedies and as to how report the crimes through available platforms and procedures 3) students should be able to appreciate various privacy and security concerns on online social media and understand the reporting procedure of inappropriate content, underlying legal aspects and best practices for the use of social media platforms	

IV	CORPORATE ACCOUNTING -II	1) Students understand the redemption of preference share 2) Students learnt about merger and acquisition of companies 3) Students understand the concept of internal reconciliation of companies 4) They learnt about liquidation of company 5) They understand the theoretical concepts of recent development in accounting and accounting standards	
	GST- IV	1.The students can know the calculation of Payment of tax by taxable person. 2.The students can understand the provisions of Assessment 3.The students can understand provisions of Inspection, search, seizure and arrest under GST law. 4.The students can know about the process of Appeal and Revision under GST law.	
	ITL-IV	1.The students can understand how to file the income under Income Tax Act. 2.The students can understands the Assessment procedure as per IT Act 3.The students can understands Assessment of Firms and Companies. 4.The students can able to calculate Interest for default 5.The students can understand Filing of self-assessment tax.	

	FINANCIAL EDUCATION AND INVESTMENT AWARENESS	1.Students Understand the Different Modes of Investment. 2. Students Understand the Difference between With Risk And Risk free investment. 3.Students understand the Concept of Stock Market. 4.Students Aware of Sensex And Nifty. 5.Students Understand Role of Investment in Economic Development.	
V	FINANCIAL MANAGEMENT	1.Understand the role of financial managers effectively in an organization. 2.Learnt to apply the compounding & discounting techniques for time value of money. 3. Learned to take investment decisions with appropriate capital budgeting techniques for investment proposals. 4.Understand the factors influencing the capital structure of an organization. 5.Understand & estimate the working capital requirement for the smooth running of the business	
	ADVANCED INCOME TAX LAW AND PRACTICE-I	1.Students are able to understand the assessment procedure of various persons. 2. Students come to know the special provisions under income tax act to curb the avoidance of tax. 3. It enables the students to know penalties under various sections of income tax act.	

	AUDITING	1. Understand the conceptual framework of auditing. 2. Examine the risk assessment and internal control in auditing 3. Comprehend the relevance of IT in audit and audit sampling for testing. 4. Examine the company audit and the procedure involved in the audit of different entities. 5. Gain knowledge on different aspects of audit reporting and conceptual framework applicable on professional accountants.	
	FINANCIAL INSTITUTIONS AND MARKETS	1. Students understand the structure of the Indian Financial System and its constituents. 2. Students are able to outline the role of money market and capital market in Economic Development. 3. Comprehend primary and secondary market and its relevance in capital formation. 4. Students learnt the role played by banking and financial institutions in economic development. 5. Students understand the different types of NBFCs and their contributions.	

	RETAIL MANAGEMENT	1. Understand the contemporary of retail management, issues, strategies and trends in retailing. 2. students understand the theories and strategies of retail planning. 3. Students perceive the roles and responsibilities of store manager and examine the visual merchandising and its techniques in the present context. 4. students understand the factors to be considered while fixing the price in retailing. 5. students understand the emerging trends in retailing.	
	COST ACCOUNTING	1. Students understood the importance of cost accounting for internal management of an organisation. 2. Will prepare a Cost Sheet. 3. Will prepare the store's ledger. 4. Will analyse the difference in the profits of cost and FA. 5. Learned different incentives and bonus plans for the employees.	

	EMPLOYABILITY SKILLS	1)Develop systematic problem-solving abilities 2)Enhance verbal and non-verbal reasoning skills. 3)Improve numerical and analytical abilities 4)Enhance English language and communication skills	
VI	ADVANCED FINANCIAL MANAGEMENT	1.Understand and determine the overall cost of capital. 2.Comprehend the different advanced capital budgeting techniques. 3.Understand the importance of dividend decisions. 4. Learned to evaluate mergers and acquisition. 5.Understand the ethical and governance issues in financial management.	
	CUSTOMS DUTY	1.Students are able to understand the theoretical framework of indirect tax. 2. Students come to know how the concept of Customs works in international trade. 3. Students understand how the concept of GST is applicable in Imports. 4. It helps the students to understand the import & export procedures in international trade.	

	MANAGEMENT ACCOUNTING	1. Students Can. Understand the basic concepts of management accounting. 2. Students can analyse and interpret financial statements. 3. Students can solve problems on ratio analysis and prepare financial statements using accounting ratios. 4. Students can prepare Cashflow statement according to Cost Accounting Standards. 5. Students can understand the concept of Portfolio Management.	
	Cost Accounting -I	1. Students will prepare a contract account independently. 2. Students will be equipped to understand the concept of process costing and determine the cost per unit of output. 3. Students can analyse material and labour cost variances. 4. Students will prepare operating cost statements of transport agencies. 5. Students understood the concept of job costing and its applications in various industries.	

	INVESTMENT MANAGEMENT	1)Students understand the basic concepts of management accounting. 2)students can analyse and interpret financial statements to inform business decision. 3)students can solve problems on ratio analysis and prepare financial statements using accounting ratios. 4)Students can prepare cash flow statement according to accounting standard. 5)Students understand the procedure of management audit and report on management audit.	
	CUSTOMER RELATIONSHIP MANAGEMENT	1.Students Aware of the concept of customer Relationship. 2.Students Analyze the CRM link with other Aspects of marketing. 3.Students impart basic knowledge of the role of CRM. 4.Students aware of the different CRM Models. 5.Students Aware and Analysis of different issue in CRM.	

B.COM (ACCOUNTING AND FINANCE)

Semester	Course/ Subject	Course outcome	Programme outcome
I	QUANTITATIVE TECHNIQUES - I	1. Students Study concerning metrics of dispersion, mean, median, and mode. 2.Students Connect a formal quantitative approach to problem solving and decision-making. 3. Students Utilize the idea of index numbers to comprehend current market conditions 4.Students Compute the ratios, proportions, discounts, and percentages that are utilized in business.	a. Make students industry ready and develop various finance and accounting skills for better opportunities. b. Develop an attitude and personality with communication, research, analytical skills in c. accounting, finance and related areas required for workplace and higher studies. d. Enhance the capability of decision making at personal and professional level. e. Face global challenges and be exposed to newer avenues in the field of accounting, finance, and allied fields.
	FUNDAMENTALS OF FINANCIAL ACCOUNTING - I	1.Students understand the Basic Accounting Terminology ,Concepts and Conventions. 2.Students understand Rules of Debit and Credit, Passing of journal Entries, preparation of Ledger and Subsidiary books 3.Understanding the preparation of Simple, Two Column and Three Column Cash Book. 4.The students can learn to prepare Bank reconciliation statement, reasons for difference between cash book and pass book and finding mistakes while recording. 5.Understand the concept of Depreciation and Methods of charging depreciation.	

	FUNDAMENTALS OF FINANCIAL MANAGEMENT - I	1. Students understand the basic concept of financial management 2. Apply the concept of time value of money in assessing investment 3. Apply the concept of risk and return in investment 4. Know the concept of capital structure 5. Articulate the concept of leverages	Apply the knowledge and skills in accounting and finance to cater to the needs of enterprise and society
	INDIVIDUAL AND TEAM MANAGEMENT	1. students understand the basic aspects of individual and team management 2. learned to develop strategies for managing conflicts 3. learnt to manage the time effectively 4. developed leadership and management skills. 5. communicate effectively with team members	
II	QUANTITATIVE TECHNIQUES -II	1. Students Establish relationships between variables in real-world situations by using methods like regression and correlation. 2. Students Use the ideas from probability distributions to solve practical issues. 3. Students Predict future results using time series 4. Students Recognise the relationship between two variables and how to use ratios and proportions to express it.	

	FINANCIAL ACCOUNTING	1.Understand the procedure of rectifying the errors committed and to set right the accounting records. 2.Understand and compute the amount of claim for loss of stock and loss of profit. 3.Understanding preparation of final accounts of Sole proprietor 4.Know the features and accounting treatment of Joint Ventures. 5.Prepare Final Accounts of Professionals.	
	FUNDAMENTALS OF FINANCIAL MANAGEMENT - I	1.Students can estimate the working capital requirement of the firm 2. Understand the significance of cost of capital 3.Apply the concept of capital budgeting 4.Analyse risk in capital budgeting. 5.Know the determinants of dividend policy	

	FOUNDATION OF ORGANISATIONAL BEHAVIOUR	1. Create awareness about how organizational behaviour works in an organization and its role and functions. 2. Develop insight with different theories of motivations and strategies in improve motivation in the workplace 3. Understand group dynamics and demonstrate skills required for working in groups and team building 4. Understand the concepts of Personality and attitude, Perception and motivation,	

III	ADVANCED FINANCIAL ACCOUNTING	1.Understand the accounting treatment for Royalty transactions and articulate the Royalty Agreement. 2.Students can understand Accounting treatments for dependent and independent branches 3.Understanding Departmental Accounts, interdepartmental transfers and their accounting treatment 4.Students get knowledge regarding Accounting treatments for Consignment transactions and events in the books of Consignor and Consignee. 5.Learn regarding recording of Hire Purchase transactions in the books of Buyer and the Seller.	
	FUNDS MANAGEMENT	1.Students are able to compute the Preparation of Cash Budget. 2.Students understand the dimensions of Receivables Management. 3.Students learnt different tools and techniques of Inventory Management. 4.Students can analyze and interpret the corporate financial statements by using various techniques. 5. Students are able to prepare Cash Flow Statements as per the latest provisions.	

	COST ACCOUNTING	1.Students learned the basic concepts of cost accounting. 2.Students can prepare stores ledger accounts using different methods . 3.Students learned to solve problems on Halsey, Rowan, Taylor's piece rate system. 4.Students can solve problems on primary and secondary distribution. 5.Students are able to prepare reconciliation statement.	
	CYBER SECURITY	1)Students would be able to understand the concept of cyber security and issues and challenges associated with it. 2.Students, at the end of this course, should be able to understand the cyber crimes, their nature, legal remedies and as to how report the crimes through available platforms and procedures 3) students should be able to appreciate various privacy and security concerns on online social media and understand the reporting procedure of inappropriate content, underlying legal aspects and best practices for the use of social media platforms	

IV	CORPORATE ACCOUNTING - I	1.Students Understand the concept of pre-incorporation profits and their treatment in financial statements. 2.Gain knowledge of different methods used to value goodwill and their implications on financial statements. 3.Learn the techniques of valuing shares based on different valuation models. 4.Students Learn the techniques of valuing shares based on different valuation models. 5.Acquire the ability to prepare comprehensive final accounts for companies in compliance with accounting standards	
	MANAGEMENT OF FINANCIAL MARKETS	1.Students understand the core concepts and components of the Financial markets. 2.Students gained a comprehensive understanding of lease and hire purchase financing. 3.Students are able to define and differentiate factoring and forfeiting, understand the mechanisms and types of factoring. 4.Students are able to calculate the Net Asset Value of Mutual Fund Schemes. 5.Students understand the Various Emerging Trends in Financial Services.	

	COSTING METHODS AND TECHNIQUES	1.Students can prepare job cost sheet and understand the application of contract costing. 2.Students understand the basic elements of process costing and 3.Service costing and can prepare process and service cost statements. 4.Students can apply the ABC system to assign costs to products and services. 5.Students understand marginal costing and can solve problems related to it. 6.Will prepare a flexible and cash budget and solve problems on material and labour variances.	
	FINANCIAL EDUCATION AND INVESTMENT AWARENESS	1.Students Understand the Different Modes of Investment. 2. Students Understand the Difference between With Risk And Risk free investment. 3.Students understand the Concept of Stock Market. 4.Students Aware of Sensex And Nifty. 5.Students Understand Role of Investment in Economic Development.	

V	CORPORATE ACCOUNTING - II	1.To understand the procedure for Redemption of preference shares and Debentures. 2.Students Understand the preparation of the consolidated balance sheet. 3.Students can understand the accounting for price level changes. 4.Students can understand the preparation of Final Accounts of Insurance Companies.	
	INCOME TAX LAW AND PRACTICE-I	1.The study familiarises the students with the provisions of direct Tax Laws in India. 2.The students understood basic concepts of income tax. 3.Students are able to determine the residential status of an individual 4.Students are able to calculate Taxable HRA, Gratuity,leave cash encashment and VRS 5.Finally students are able to compute the taxable salary by understanding all kinds of allowances and perquisites.	
	SECURITY ANALYSIS AND PORTFOLIO MANAGEMENT-I	1.Understand the nature of investment decisions 2.Know the types of issues in the primary market 3.Understand the nature of secondary market 4.Analyse economy, industry and company 5.Apply the tools of technical analysis in investment decisions	

	BUSINESS LAW	1.Understand the concept of Mercantile law, Contract and its formation. 2.Understand the essential elements of Contract. 3.Understand the concept of free consent, Lawful object and Contingent contract. 4.Students understand Discharge of contract and quasi contractual obligations. 5.Students understand Contemporary issues in Business law such as IPR, RTI and Cyber Crimes.	
	DIGITAL BANKING	1.Students understand the use of Digital banking. 2.Students Analyse the Types of Digital banking. 3.Students get practical Usages of Debit card,credit card. 4.students gets Difference between NEFT, RTGS and IMPS 5.Student Analyse use of Digital Banking to Morden Business. 6.Students get Awareness about digital fraud.	

	GST	1.The students learnt the concepts of GST,types and Structure of GST. 2.The students are able to categorize taxable and exempted goods and services. 3.Students are able to analyse the differences between mixed and composite supply. 4.Students come to know about GSTIN and documents required for GST registration. 5.Students able to know about Input tax credit and person who liable for Input tax credit	
	EMPLOYABILITY SKILLS	1)Develop systematic problem-solving abilities 2)Enhance verbal and non-verbal reasoning skills. 3)Improve numerical and analytical abilities 4)Enhance English language and communication skills	

VI	CORPORATE ACCOUNTING - III	1. To understand the procedure of Liquidation of Companies and provisions relating to liquidation. 2. To understand the procedure for mergers and Acquisitions of Companies. 3. To know the Preparation of Final Accounts of Banking Companies. 4. To understand the procedure for Internal reconstruction of Companies. 5.To know the recent advancement like Block chain ,big Data analysis etc, in Corporate Accounting	
	INCOME TAX LAW AND PRACTICE-II	1.The students understood profits and gains of business or profession are also subjected to taxation. 2.The students are able to compute taxable and exempted capital gains. 3.Students understood the concept of provident fund and other incomes. 4.Students gain the knowledge about set off and carry forward of losses. 5.The students are able to assess the taxable income of an individual with understanding of deduction u/s 80.	

	SECURITY ANALYSIS AND PORTFOLIO MANAGEMENT-II	1. Construct Portfolio 2. Analyse risk and return of portfolio 3. Learn portfolio selection models 4. Understand the concept of risk free assets, risk free lending and borrowing 5. Know and apply portfolio revision strategies	
	INSURANCE AND RISK MANAGEMENT	1. Students understand the use of Insurance in Modern Business. 2. Students Evaluate the Growth, Function of Insurance Business. 3. Students Understand the Concept of Risk Management. 4. Students Understand Relationship between Insurance and Risk Management. 5. Students Understand the Role of Insurance Intermediary.	
	ASSESSMENT OF PERSONS OTHER THAN INDIVIDUALS AND ITR FILING	1. The students understood conditions for allowing depreciation and computation of allowable depreciation. 2. The students are able to assess the taxable income of partnership firm and companies 3. Syllabus focuses on filing of income tax return, documents required. 4. The students can relate them to practical questions and get theoretical understanding of case laws and amendments.	

	INDIAN CORPORATE LAW	1.Students gain knowledge of laws relating to formation, administration and operation of a company. 2.Students understand current policy trends and developments in Corporate law 3.Understand Issue and Allotment procedures of Shares and Debentures 4.Understand the procedure of Acquiring the company membership and company meetings. 5. Students understand the essentials of Corporate Meeting and passing of Resolutions.	

BA (HRD)

Programme and Course Out Come Report

Programme outcome (POs):

1. HR Knowledge and Understanding: Demonstrate a solid understanding of human resource theories, principles, and practices, including recruitment, training, performance management, and labor relations.
2. Strategic HR Management: Apply strategic HR management principles to align human resource strategies with organizational goals and objectives.
3. Workforce Planning and Talent Management: Develop effective workforce planning, talent acquisition, and retention strategies to meet organizational needs.
4. Legal and Ethical HR Practices: Apply knowledge of labor laws, regulations, and ethical practices to ensure compliance and fairness in the workplace.
5. Communication and Interpersonal Skills: Exhibit strong communication, negotiation, and conflict resolution skills to foster a positive organizational culture.
6. Problem-Solving and Decision-Making: Utilize analytical and critical thinking skills to address HR-related challenges and make informed decisions.
7. Cultural Competence and Diversity: Promote inclusivity and manage diversity effectively in multicultural and global work environments.
8. Technology and HR Analytics: Leverage technology and HR analytics to enhance decision-making and improve HR processes.
9. Leadership and Teamwork: Demonstrate leadership capabilities and teamwork skills to manage and develop teams effectively.
10. Continuous Learning and Development: Engage in lifelong learning to adapt to evolving HR trends and practices.
11. Research and Innovation: Conduct HR-related research to identify trends, solve workplace issues, and drive organizational improvements.
12. Global Perspective: Develop a global outlook to address HR challenges in international and cross-cultural settings.

These outcomes equip graduates with the skills and knowledge required to pursue roles in human resource management, organizational development, and related fields.

GROUP-1 (CORE COURSES)	Principles and Practices of Management	Understand the basic concepts of principles of management. Understand the different activities performed by middle level and lower-level managers in the organization. Plan, prepare and execute the right decisions.
	Business and Society	Students will be able to analyze how external environment factors such as market trends, regulatory changes, and environmental sustainability impact business strategies. To increase awareness of Social Ethical Responsibilities.
	Personal Development and Interpersonal Skills	Plan for personal development. Develop interpersonal skill. Focus on self-management helping in overall development of the personality
	Employee Engagement (Elective)	Students will be able to identify the concepts and practices of employee engagement. Recognize and sustain the focus of employee engagement in the organization. Create the strategies for employee engagement.
	Dynamics of Human Behavior (Elective)	Identify and evaluate the role of psychology in HRD, focusing on learning process, their nature, types, and factors influencing them. Analyze the types and functions of human senses, sensation and sensitivity. Apply knowledge of psychology to analyze human behavior in educational, social and professional environment.
II SEMESTER		
GROUP-1 (CORE COURSES)	Human Resource Management	Develop necessary skill set for application of various HR practices. Equip with the knowledge on modern HR techniques. Acquire knowledge on modern trends in HRM
	Basics of marketing	Apply the working knowledge of the field of marketing in their respective business. Develop the cognitive and analytical ability with application of marketing knowledge required for marketing career prospects. Understand the concepts and functions of marketing. Analyze marketing environment impacting the business.
	Business Economics	Gain specialized knowledge of economic theories and methodologies in facing the diverse challenges of competitive environment. Explain how the business organization works by applying economics principles and thereby enhance entrepreneurial skills and acquire career opportunities.
	Talent Management	Students will be able to analyze the role of Talent management in building competitive

		advantage and the consequences of poor talent management. Create strategies for developing successional plans and identify high-potential, high-performance employees.
	Professional Skill Development (Elective)	To understand the qualities required to be a good professional. To develop skills for efficient performance. To understand the quality and attribute to build high performance team
III SEMESTER		
GROUP-1 (CORE COURSES)	Organizational Behaviors	To apply the conceptual foundation and theories of organizational behaviour at workplace. To analyse inefficiency and weakness in an individual and apply various measures to improve it in the organisation. To analyse how to develop coordination and teamwork in the organisation. To understand how to use organisation power and politics in an effective manner.
	Strategic Management	Describe and critique the concept of employee participation. Identify problems associated with employee relations. Critically evaluate the role of trade union in settlement of Industrial disputes. Identify the issues associated with wage and salary administration
	Employee Relations	Describe and critique the concept of employee participation. Identify problems associated with employee relations. Critically evaluate the role of trade union in settlement of Industrial disputes. Identify the issues associated with wage and salary administration
	Compensation Management	To discuss the principles and importance of compensation management b) To relate the bases of compensation on performance. c) To develop and design compensation system. d) To identify the contemporary compensation practices.
IV SEMESTER		
GROUP-1 (CORE COURSES)	Organizational Development and Management of Change	Understand the framework of organizational development. Acquire knowledge of interventions designed for organizational development. Acquire knowledge on managing change and resistance to change. Gain insight into organization development as learning system.
	Human Resource Research Methodology	Understand the philosophy of Research. Learn various research techniques and methods. Use statistical values in Human research. Handle

		Quantitative and Qualitative data in research. Understand the Research Ethics.
	Entrepreneurship Development	Equip the knowledge of defining basic terms of entrepreneurship. Identify the elements for success of entrepreneurial ventures. Interpret their own business plan.
	Human Resource Development	Understand relevance of HRD techniques in all fields of work. Apply new practices of HRD to keep pace with changes.
V SEMESTER		
GROUP-1 (CORE COURSES)	Global Human Resource Management	Effectively manage key global human resource functions. Examine current trends and practices in HRM. Contribute to global employee performance management Problem-solve in global human resource challenges.
	Financial Analysis for Human Resource Manager	Understand the basic concepts of accounting and financial management. Understand the different types of financial statements and financial analysis Plan, prepare and execute the right decisions.
	Corporate Communication And Public Relation	Able to use and draft a business correspondent needed. Develop skills and techniques for Public Relation
	Corporate communication and public relation	Students understood the importance of business communication and its channels, theories of public relations and its changes, skills of public relations and its challenges in the global market.
	Dynamics Of Human Behavior	Demonstrate the applicability the concept of human behavior to understand the behavior of people in the organization. Develop individual and learning skills.
	Labour Law	Understand the various industrial laws and its mechanism. Understand the various rights available to the workmen employed in industries and the remedies for its misuse by the employer. . Demonstrate an understanding of the underlying legal principles, rules and institutions which regulate Indian Labour law.
VI SEMESTER		
GROUP-1 (CORE-COURSES)	Trends In Human Resources Development	Understanding of key terms, concepts and practices within the field of HRM and HRD. Understanding competence in development and problem-solving in the area of HRD. Understanding innovative solutions to problems in the fields of HRD
	Business Ethics and Corporate Governance	Evaluate the range of ethical issues that arises in business and the theories that are used to model these issues. Will be able to identify

		various issues that may arise in the domain of Marketing, HRM and Finance in a given organization/situation. Will be able to analyse various ethical codes in corporate governance
	Human Resource Information System	Discuss issues related to HRIS. Develop an understanding about application of HRIS.
	Stress Management	student will be able to Identify the types of stress Discuss issues relating to their daily lives that cause stress. Explain how healthy habits i.e., regular exercise, better sleep, hygiene and proper nutrition can defend against stress and prevent understand the concepts of counselling in detail.
	Wage and Salary administration	Analyse the wage structure in an organization. Understand and calculate incentive packages offered in an organisation. Recognize legal and ethical considerations in compensation management.
	Social And Workforce Psychology	Learn the basic concepts of the field of psychology with an emphasis on application of social psychology in everyday life. learn how they can make adjustments and manage to cope with stress more effectively. develop an understanding of the individual in relation to the social world, the core course also introduces students to the realm of social influence as to how individuals think feel and behave in social situations.

BIOCHEMISTRY

Semester	Course/ Subject	Course outcome	Program outcome(summary of all six semesters)
I	Chemical Foundation of Biochemistry	CO: 1- To understand the basic principles of biochemistry. CO: 2- To understand water as solvent of life, importance of buffers in biological systems, atoms and chemical bonding. CO: 3- To understand fundamentals of physical phenomena associated with adsorption, viscosity, osmotic pressure etc. CO: 4- To acquire and consolidate the fundamental concepts of kinetics and reaction mechanism CO: 5- To understand the concepts of colloids and explore its importance in everyday life.	PO: 1-To create interest in Biochemistry and appreciation for chemical basis of biological processes. PO: 2-To inculcate the spirit of inquiry and value of systematic study of a discipline. Provide a general understanding of the related disciplines with a holistic knowledge generation in biological sciences. PO: 3- To provide an in-depth understanding of chemical reaction mechanism in biological processes. PO: 4-To provide a flavor of historical developments of enzymes and their applications in research, diagnostics and various industries. PO: 5- To gain proficiency in basic laboratory techniques and be able to
II	Bio-Organic chemistry	CO1: To understand the fundamentals of organic chemistry and their importance in understanding Biochemical reactions CO2:To acquire knowledge of organic reactions, isomerism and	apply the scientific method to the processes of experimentation, hypothesis testing, data interpretation and logical conclusions. PO: 6-To develop problem solving and analytical skills through case studies,

		Stereochemistry of molecules	research papers and hands-on-experience.
III	Bio-Organic chemistry	These topics will enable students to understand the fundamentals of organic chemistry pertinent to their importance in understanding biochemical reactions.	PO: 7-To appreciate biochemical mechanistic basis of physiological processes, metabolism under normal and pathological conditions importance and levels of metabolic regulations. PO8- To apply and effectively communicate scientific reasoning and data analysis in both written and oral forms. They will be able to communicate effectively with well-designed posters and slides in talks aimed at scientific audiences as well as the general public. PO: 9- To bridge the knowledge and skill gap between academic out and industry requirements. PO: 10- To give students experience in conducting independent, hypothesis-driven, biological research, project planning and management. PO: 10- To give students experience in conducting independent, hypothesis-driven, biological research, project planning and management PO:11-To provides kills to publish research findings,and awareness of IP rights,and
IV	Analytical chemistry	- These topics will enable the students to - Understand the concept of biological sample preparation. - Appreciate chemistry and application of analytical instruments. - Get acquainted with care and maintenance of equipment and chemicals. - Understand clinically relevant biochemical analysis of all biochemical components i.e.,proteins, electrolytes, hormones etc.	

		Have basic knowledge of clinical and forensic analytical methods and their principles.	scientific publication ethics and problems of plagiarism. PO: 12- To prepare competent human resource with better knowledge, hands-on-experience
V	BIOCHEMISTRY OF MACROMOLECULES	The course provides fundamental insights on the types of macromolecules; and unique structural features, chemical properties and biological importance of each.	
V	HUMAN PHYSIOLOGY AND ENZYMOLOGY	Describe cell structure and functions, how cells form and divide, and how they differentiate and specialize. - Students will be able to describe the cyclical events of cell division and types of cell divisions. Student's knowledge with regard to the process of cell death and cell aging will enhance to its core. - Physiology involves the study of how living	

		systems function, from the molecular and cellular level to the system level, and emphasizes an integrative approach to studying the biological functions of the human body. Enzymology topics will enable students to describe structure, functions and the mechanism of action of enzymes. Learning kinetics of enzyme catalyzed reactions and enzyme inhibitions and regulatory process, Enzyme activity, Enzyme Units, Specific activity.	
VI	BIOENERGETICS AND METABOLISM	At the end of the course the students will be able to: - Understand the concepts of metabolism, characteristics of metabolic pathways and strategies used to study these pathways. - Gain a detailed knowledge of various catabolic and anabolic	

		pathways and its regulation. • Systematically learn the breakdown and synthesis of amino acids and nucleotides in humans and recognize its relevance with respect to nutrition and human diseases • Acknowledge the role of inhibitors of nucleotide metabolism which are potentially being used as chemotherapeutic drugs • Comprehend how the amino acid and nucleotide metabolism are integrated with carbohydrate and lipid metabolism	
VI	MOLECULAR BIOLOGY AND IMMUNOLOGY	• Defines the concept of immunology, concepts of antigen and antibody • Explain immune system cells , Discuss active immunity and	

		passive immunity • Explain the cellular immune mechanism.	

BIOTECHNOLOGY (UG)

Semester	Course / Subject	Course Outcome	Program Outcome
I	Cell Biology and Genetics	CO 1. Understand concepts of Biotechnology and demonstrate knowledge acquired in interdisciplinary skills in cell biology, genetics, biochemistry, microbiology, and molecular biology CO 2. Describe the ultra-structure of cells, structure and function of organelles, cytosol and cytoskeleton CO 3. Understand phases of cell cycle, cell division, reductional division in gametes, molecular mechanisms that regulate life and death of a cell including programmed cell death or apoptosis and cell cycle regulation.	1. Acquire knowledge pertaining to biotechnology and its applications 2. Studying various aspects in each semester with practical approaches and various tools to solve the biology related problems. 3. Outcomes of biotechnology for industrial applications and novel product development protocol preparations.

		CO 4. Comprehend organization and structure of chromosomes, and Mendelian laws of inheritance, deviations and exceptions to these laws. CO 5. Describe mutations at the molecular level, types of mutations, genetic or hereditary disorders and concepts in population genetics	
II	Biochemistry and Biophysics	CO 1. Acquire knowledge about types of biomolecules, structure, and their functions CO 2. Will be able to demonstrate the skills to perform bioanalytical techniques CO 3. Apply comprehensive innovations and skills of biomolecules to biotechnology field	
III	Microbiology and Immunology	CO 1. Understand Historical prospective and scope Microbiology CO 2. Experiment with various methods of sterilization in	

		microbiological work CO3. Prepare different types of media, perform culture methods, preservation of microorganisms for isolation, characterization of microbes CO 4. Handle and use antimicrobial agents and perform anti-microbial assays CO 5. Demonstrate the Laboratory skills in basic and applied microbiology with reference to technological aspects. CO6. Demonstrate comprehension of the underlying structure and function of the immune system and related disorders. CO 7. Demonstrate an understanding of the role of cells and molecules in immune reactions and responses CO 8. Demonstrate technical skills in immunological tools and techniques CO 9. Explain the fundamental concepts of immunity, and the	

		contributions of the organs and cells in immune responses. CO 10. Realize how the MHC molecule's function and host encounters an immune insult. CO 11. Understand the antibodies and complement system CO12. Comprehend the overreaction by our immune system leading to hypersensitive conditions and its consequences.	
IV	Molecular Biology and Recombinant DNA Technology	CO 1. Study the advancements in molecular biology with latest trends. CO 2. Will acquire the knowledge of structure, functional relationship of proteins and nucleic acids. CO 3. Aware about the basic cellular processes such as transcription, translation, DNA replication and repair mechanisms. CO 4. Demonstrate a thorough understanding of the fundamental principles and techniques of genetic engineering.	

		CO 5. Apply the knowledge of genetic engineering to diverse applications in agriculture, medicine, biotechnology, and environmental science. CO 6. Perform laboratory procedures and develop practical skills in genetic engineering techniques. CO 7. Evaluate genetic engineering's ethical, social, and legal implications and propose responsible solutions. CO 8. Stay updated with recent advancements in genetic engineering, critically evaluate emerging trends, and assess their potential impact on various fields.	
V	Plant Biotechnology	CO 1. Demonstrate a comprehensive understanding of plant biology, physiology, genetics, and molecular biology. CO 2. Explore methods of introducing foreign	

		genes into plants through transformation techniques. CO 3. Gain practical skills in plant tissue culture for improvement. CO 4. Design strategies for plant genetic manipulation against biotic and abiotic stressors. CO 5. Hypothesize strategies to increase plant yield and fruit/seed quality. CO 6. Apply biotechnological tools and techniques used in plant research and agriculture, such as plant tissue culture, genetic engineering and transgenics. CO 7. Execute plant tissue culture techniques for callus induction, somatic embryogenesis, and micropropagation, and apply them in plant breeding and propagation. CO 8. Perform plant transformation methods and demonstrate the ability to introduce foreign genes into plants using different techniques.	

		CO 9. Apply knowledge about ethical considerations and regulatory frameworks associated with plant biotechnology and genetically modified crops.	
	Animal Biotechnology	CO 1. To learn the fundamental aspects of animal biotechnology. CO 2. Discuss about biotechnological tools and techniques used in animal research. CO3. Understand the biology and characterization of cultured cells, including their adhesion, proliferation, differentiation, morphology, and identification. CO 4. Gain practical skills in basic mammalian cell culture techniques, measuring growth parameters, assessing cell viability, and understanding cytotoxicity. CO 5. Learn about germplasm conservation techniques and the	

		establishment of gene banks, along with large-scale culture methods for cell lines. CO 6. Explore methods of introducing foreign genes into animals through transformation techniques. CO 7. Explore organ and histotypic culture techniques, biotransformation, 3D cultures, whole embryo culture, somatic cell cloning, and the ethical considerations surrounding stem cells and their applications CO 8. Apply knowledge to real-world challenges in veterinary medicine, conservation, and biomedical research CO 9. Understand the need for animal biotechnology for human welfare.	
VI	Bioprocess and Environment Biotechnology	CO1. Exploitation of microorganisms for industrial use and their improvement, and formulation of media for efficient growth and production of	

		microbial or cell-based products. CO 2. The design, operation, and specific applications of various bioreactors. CO 3. Demonstrate a comprehensive understanding of the fundamental concepts and principles of environmental biotechnology. CO 4. Apply knowledge of biotechnological techniques to address environmental challenges, such as pollution control and waste management. CO 5. Analyze and evaluate environmental biotechnology case studies, research findings, and real-world applications. CO 6. Design and implement biotechnological approaches for environmental remediation, utilizing microbial processes and biodegradation principles. CO 7. Evaluate the ethical and sustainable aspects	

		of environmental biotechnology practices and make informed decisions regarding their application in environmental conservation. CO 8. Communicate scientific concepts and research findings related to environmental biotechnology effectively, both in written and oral forms, to diverse audiences	
	Biostatistics and Bioinformatics	Course Outcomes: After successful completion of this Course, students will be able to: CO 1: Describe the scope and importance of biostatistics and explain types of data their presentation in easily understandable way. CO 2: Demonstrate analysis of data using different statistical methods which helps to draw inference from the data CO3: Explain the organization and working of computers and illustrate the use of computers in	

		biological science especially in automated control of fermenters CO 4: Describe the scope and importance of bioinformatics and demonstrate the use of basic bioinformatics tools for analysis of biological data CO 5: Discuss biological databases, their types and importance and discuss the applications of bioinformatics in biology	

BOTANY (UG)

SEP SYLLABUS

Semester	Course/ Subject	Course outcome	Program outcome (summary of all six semesters)
I SEMESTER	Diversity of Microbes, Algae and Fungi	1. Understand the diversity of microbes in nature. 2. Know the diversity of algae, fungi, lichens and their uses. 3. Identify and classify algae and fungi. 4. Develop practical skills in staining techniques and slide preparation.	• Students will be proficient to comprehend classification, morphology, anatomy, and physiology of various groups of plants. • Students will be able to understand the contribution of botany for human welfare with potential uses of plants

		5. Identify plant disease symptoms and management techniques.	along with their conservation and sustainable development. Students will be enriched by various skills related to Gardening and Floriculture, preparation of biofertilizers, mushroom cultivation and ethnobotanical knowledge.
II SEMESTER	Diversity of non-flowering plants and Plant anatomy	- To identify and classify non-flowering plants. - Will gain basic knowledge of GTS and plant fossils. - Observation of variations that exist in the internal structure of various parts of a plant and among different plant groups in support of the evolutionary concept. - Skill development for the proper description of internal structure using botanical terms, their identification and further classification. - Induction of the enthusiasm towards the internal structure of locally available plants.	Students will be able to understand and relate physical features of the environment to the structure of population, community, ecosystem, and sustainable conservation strategies.

NEP 2020 SYLLABUS

Semester	Course/ Subject	Course outcome	Program outcome (summary of all six semesters)

I Semester	MICROBIAL DIVERSITY AND TECHNOLOGY	1. Understand the fascinating diversity, evolution, and significance of microorganisms. 2. Comprehend the systematic position, structure, physiology and life cycles of microbes and their impact on humans and environment. 3. Gain laboratory skills such as microscopy, microbial cultures, staining, identification, preservation of microbes for their applications in research and industry.	1. Skill development for the proper description using botanical terms, identification, naming and classification of plants and microbes. 2. Acquisition of knowledge on structure, life cycle and life processes that exist among plant and microbial diversity through certain model organism studies.
II Semester	DIVERSITY OF NON-FLOWERING PLANTS	1. Understand the diversity and affinities among Algae, Bryophytes, Pteridophytes and Gymnosperms. 2. Understand the morphology, anatomy, reproduction and life cycle across Algae, Bryophytes, Pteridophytes and Gymnosperms, and their ecological and evolutionary significance. 3. Obtain laboratory skills/explore non-flowering plants for their commercial applications.	3. Understanding of various interactions that exist among plants and microbes; to develop the curiosity on the dynamicity of nature. 4. Understanding of the major elements of variation that exist in the living world through comparative morphological and anatomical study.
III Semester	PLANT ANATOMY AND DEVELOPMENT BIOLOGY	1. Observation of variations that exist in internal structure of various parts of a plant and among different plant groups in support of the evolutionary concept. 2. Skill development for the proper description of internal structure using botanical terms, their identification and further classification.	5. Ability to explain the diversity and evolution based on the empirical

		3. Induction of the enthusiasm on internal structure of locally available plants. 4. Understanding various levels of organization in a plant body with an outlook in the relationship between the structure and function through comparative studies. 5. Observation and classification of the floral variations from the premises of college and house. 6. Understanding the various reproductive methods sub-stages in the life cycle of plants 7. Observation and classification of the embryological variations in angiosperms. 8. Enthusiasm to understand evolution based on the variations in reproduction among plants	evidences in morphology, anatomy, embryology, physiology, biochemistry, molecular biology and life history. 6. Skill development for the collection, preservation and recording of information after observation and analysis- from simple illustration to molecular database development. 7. Making aware of the scientific and technological advancements- Information and Communication, Biotechnology and Molecular Biology for further learning and research in all branches of Botany. 8. Internalization of the concept of conservation and evolution through the channel of spirit of inquiry.
IV Semester	ECOLOGY AND CONSERVATION BIOLOGY	1. A basic course to understand ecosystem functioning 2. Chapters on autecology, community ecology and population ecology can be of use in higher studies 3. Chapters on global warming and pollution of various kinds are very relevant and helps to appreciate these problems 4. It gives an exhaustive idea about biodiversity at different levels and groups of plants 5. A detailed account on endemism and the various uses of biodiversity further emphasizes the importance of biodiversity	

		6. Also, there is a detailed study on the use of remote sensing in monitoring various aspects of diversity 7. With the tremendous human impact on biodiversity the course becomes very relevant	9. To enable the graduates to prepare for national as well as international level competitive examinations like UGC-CSIR, UPSC, KPSC etc.
V Semester	PAPER V - PLANT MORPHOLOGY AND TAXONOMY	1. Understand the main features in Angiosperm evolution 2. Identify, classify and describe a plant in scientific terms, thereby, Identification of plants using dichotomous keys. Skill development in identification and classification of flowering plants. 3. Interpret the rules of ICN in botanical nomenclature. 4. Classify Plant Systematic and recognize the importance of herbarium and Virtual Herbarium, Evaluate the important herbaria and botanical gardens. 5. Recognize locally available angiosperm families, economically important plants. Appreciation of human activities in conservation of useful plants from the past to the present.	10. To enable the students for practicing the best teaching pedagogy as a biology teacher including the latest digital modules. 11. The graduates should be knowledgeable and competent enough to appropriately deliver on aspects of global importance like climate change, SDGs, green technologies etc at the right opportunity.
	PAPER VI - GENETICS AND PLANT BREEDING	1. Understand the basics of genetics and plant breeding 2. Identify, calculate and describe crossing over, allelic generations and frequencies of recombination. 3. Interpret the results of mating and pollinations.	12. The graduate should be able to demonstrate sufficient proficiency in the hands-on experimental techniques for their area of specialization

		4. Classify Plant pollination methods 5. Recognise modes of inheritance of traits/phenotypes and Phenotype-genotype correlation.	within biology during research and in the professional career.
VI Semester	PAPER VII - CELL BIOLOGY	1. Understand of Cell metabolism, chemical composition, physiochemical and functional organization of organelle 2. Learn the contemporary approaches in modern cell and molecular biology. 3. Study the organization of cell, cell organelles and biomolecules (i.e protein, carbohydrate, lipid, and nucleic acid) 4. Gain knowledge on the activities in which the diverse macro molecules and microscopic structures inhabiting the cellular world of life are engaged. 5. Understand the various metabolic processes such as respiration, photosynthesis etc. which are important for life.	
	PAPER VIII - PLANT PHYSIOLOGY AND PLANT BIOCHEMISTRY	1. Ascertain the Importance of water and the mechanism of transport. 2. Explain the biosynthesis and breakdown of biomolecules. 3. Interpret the role of plant hormones in plant development and about secondary metabolites.	

		4. Perceive the basic functions and metabolism in a plant body. 5. Understand the importance of nutrients in plant metabolism and crop yield.	

BSc Animation and Visual Effects

Scheme: SEP

Semester	Course/ Subject	Course outcome	Program outcome (summary of all six semesters)
I	Fundamentals of Drawing	☐ To develop a foundational understanding of the core principles of visual art, including elements and principles of design. ☐ To enhance observational and analytical skills through the exploration of various artistic techniques. ☐ To foster creativity and critical thinking by applying design principles to generate original visual expressions	Foundational Knowledge and Skills: Graduates will possess a deep understanding of the fundamental principles and techniques of computer graphics, animation, and visual effects. This includes: Mastery of industry-standard software (e.g., Maya, 3ds Max, Blender, After Effects, Nuke) Proficiency in 3D modeling, texturing, rigging, animation, lighting, rendering, and compositing. Strong understanding of color theory, composition, and visual storytelling.

			Creative and Critical Thinking: Graduates will be able to apply creative and critical thinking skills to solve complex visual problems and develop innovative solutions in CGI and animation production. This includes: Concept development and visualization. Problem-solving and troubleshooting technical challenges. Analyzing and evaluating the effectiveness of visual communication. Technical Proficiency: Graduates will demonstrate a high level of technical proficiency in the creation of 3D models, animations, and visual effects, meeting industry standards for quality and efficiency. This includes: Optimizing workflows and pipelines for efficient production. Utilizing advanced techniques and technologies in CGI and animation. Maintaining up-to-date knowledge of industry trends and advancements.

			Collaboration and Communication: Graduates will be able to effectively collaborate in a team environment and communicate their ideas and technical expertise clearly and professionally. This includes: Working effectively in diverse teams with varying roles and responsibilities. Communicating technical information to both technical and non-technical audiences. Providing and receiving constructive feedback. Professional Practice: Graduates will be prepared for successful careers in the CGI and animation industry, demonstrating professionalism, ethical conduct, and a commitment to lifelong learning. This includes: Understanding industry standards, practices, and ethics. Building a professional portfolio and demo reel. Developing career planning and job search strategies.

	Traditional and Stop Motion Animation	To gain a comprehensive understanding of the principles and techniques of traditional and stop-motion animation. ☐ To develop skills in storyboarding, character design, and animation production processes. ☐ To explore various animation styles and techniques, including cell animation, stop-motion, and experimental methods.	
	Basics of Graphic Design	To gain a comprehensive understanding of raster graphics and their applications. ☐ To develop proficiency in using Adobe Photoshop for image editing, manipulation, and creation. ☐ To explore various creative applications of Photoshop, including digital painting, photo manipulation, and animation. ☐ To develop a strong foundation in digital imaging	

		principles and techniques.	
	Storyboard and Advanced Drawing	☐ To develop a strong foundation in visual storytelling and character design through the creation of effective storyboards. ☐ To enhance observational and drawing skills through the exploration of various drawing techniques and mediums. ☐ To foster creativity and visual communication abilities by translating ideas into compelling visual narratives.	
	Advances in Graphic Design	To gain a comprehensive understanding of contemporary graphic design trends and technologies. ☐ To develop advanced skills in using industry-standard software and tools for graphic design. ☐ To explore innovative approaches to visual communication and problem-solving in a digital and	

		interactive environment. ☐ To develop a professional portfolio showcasing creative and effective graphic design solutions	
	2D Digital Animation	To gain a comprehensive understanding of 2D digital animation principles and techniques. ☐ To develop proficiency in using industry-standard software for 2D animation production. ☐ To create compelling and engaging 2D animated projects, from concept to final output. ☐ To develop a strong foundation in character animation, storytelling, and visual communication through animation. ☐ To foster creativity, problem-solving, and teamwork skills within the context of 2D animation.	
III	3D Modelling	☐ To gain a comprehensive understanding of 3D modeling principles and techniques.	

		☐ To develop proficiency in using industry-standard 3D modeling software. ☐ To create high-quality 3D models for various applications, including games, animation, and visualization. ☐ To develop a strong foundation in 3D modeling workflows, from concept to final model. ☐ To foster creativity, problem-solving, and spatial reasoning skills through 3D modeling.	
	Rigging & Animation	To gain a comprehensive understanding of 3D character rigging and animation principles and techniques. ☐ To develop proficiency in using industry-standard 3D animation software for character rigging and animation. ☐ To create believable and engaging 3D character animations, from basic poses to complex performances. ☐ To develop a strong foundation in character mechanics, weight distribution, and expressive movement.	

		☐ To foster creativity, problem-solving, and teamwork skills within the context of 3D character animation.	
	Introduction To Blender	To gain a comprehensive understanding of Blender's interface and core functionalities. ☐ To develop foundational skills in 3D modeling, sculpting, texturing, and rendering within the Blender environment. ☐ To create basic 3D models and scenes for various applications, including games, animation, and visualization. ☐ To explore the creative possibilities of Blender and develop a foundational understanding of 3D graphics principles. ☐ To foster creativity, problem-solving, and spatial reasoning skills through hands-on projects	
IV	Audio Production	☐ To gain a comprehensive understanding of audio production principles and techniques. ☐ To develop proficiency in using industry-standard audio recording,	

		editing, and mixing software. ☐ To create high-quality audio recordings and productions for various applications, including music, film, and multimedia. ☐ To develop strong listening skills, critical thinking, and problem-solving abilities within the context of audio production. ☐ To foster creativity and artistic expression through the exploration of sound design and audio manipulation.	
	Surfacing & Lighting	To gain a comprehensive understanding of 3D surfacing and lighting techniques. ☐ To develop proficiency in creating realistic and visually appealing 3D scenes. ☐ To explore various lighting and rendering techniques to achieve desired visual effects. ☐ To develop a strong foundation in materials and textures, and their impact on the overall look of a 3D scene. ☐ To foster creativity and artistic expression in 3D visualization and rendering.	

	Aesthetics of Video Editing	To develop a strong understanding of the aesthetic principles and techniques used in video editing. ☐ To cultivate a refined sense of visual storytelling and cinematic language. ☐ To gain proficiency in using professional video editing software to achieve desired aesthetic effects. ☐ To explore and experiment with various editing styles and approaches to enhance visual communication. To develop a critical eye for analyzing and evaluating the aesthetic qualities of film and video.	

BSW

Semester	Course/ Subject	Course outcome	Program outcome (summary of all six semesters)
I Semester	SW 1.1 Fundamentals of Social Work	1. To understand the fundamental concepts of Social Work, differentiate between social work and	Students are expected to Understand the concepts and needs of school social work Understanding the roles of social work and social

		2. other related concepts and brief overview on methods of social work 3. To trace the historical evolution of social work, key milestones and movements that shaped social work in Western countries and India 4. To familiarise with the concept of Social Work Profession, Values, Principles, Ethical Guidelines and professional organisations, social work practicum components, innovative approaches, current status and challenges related to social work practice	workers in enhancing educational opportunity and performance Understanding intervention approaches in school settings Locating social work in the realm of social sciences Appreciating the foundational pillars of social work Appreciating the basics and necessity for communication skills Developing a basic understanding of field work and its components Fostering an evolved understanding of the individual, family, ecology, and their problems Imparting knowledge and skills in social casework and group work
I Semester	SW 1.2 Social Science Concepts for Social Work Practice	1. To understand the core elements of Social Sciences 2. To comprehend the relationship of Sociology, Anthropology, Economics and Political 3. Science with Social Work	

I Semester	SW 1.3 Communication Skills for Social Work Practice	1. To understand the basic aspects of communication skill for social work practice 2. To acquire the knowledge about types of communication 3. To develop speaking and presentation skills needed for a social worker 4. To understand media and digital communication engagement in social work practice	
I Semester	SW 1.4 Social work Practicum-I	1. To obtain conceptual clarity of different approaches of providing help to people in need 2. To get acquainted with the professional role of social workers 3. To develop self-awareness and orientation to teamwork 4. To acquire introductory skills in the use of programme media, report writing and use of 5. Supervision	
II Semester	SW 2.1 Social Case Work	6. To understand Social Casework as a method of Social Work practice 7. To gain knowledge about the basic concepts, tools, techniques,	

		processes and skills of working 8. with individuals. 9. To develop an understanding of application of case work in diverse settings	
II Semester	SW 2.2 Social Group Work	1. To understand Social Group Work as a method of Social Work practice 2. To know the basic concepts, tools, techniques, processes and Skills of working with groups 3. To develop an understanding of the process of group development and group dynamics 4. To develop an understanding of application of group work in diverse settings	
II Semester	SW 2.3 Human Growth and Development	1. To develop an understanding of the characteristics and developmental stages of human life 2. Identify common developmental challenges and risks 3. To understand Social Work Intervention during stages of human life	

II Semester	SW 2.4 Social Work Practicum – II	1. Have an understanding of different approaches to providing help to people in need; 2. Be acquainted with the professional role of social workers; 3. Develop self-awareness and orientation to teamwork; 4. Acquire introductory skills in the use of programme media; and 5. Develop skills in report writing and use of supervision	
III Semester	BSWBWCN 301: Community Organization and Social Action	1. Able to demonstrate familiarity with community organization and social action as methods of social work profession 2. Able to develop skills of collecting and collating information to understand community, its structure and components. 3. Able to gain the experience and exposure to practice community organization and social action at micro and macro levels 4. Able to understand the relationship of community organization and social action with	

		other methods of social work	
III Semester	BSWBWCN 302 Psychology for Social Work Practice	1. Able to understand psychological concepts and its relevance to Social Work 2. Able to understand the basic concepts and processes in social psychology and its relevance to Social Work 3. Able to understand determinants and processes of personality development 4. Able to understand social attitudes and psycho-social behaviour	
III Semester	BSWBWPN 303 Field Work Practice 3	1. Able to understand Programmes and projects of governmental and non- governmental organizations and critically appraise them 2. Able to prepare work plan and its execution 3. Able to develop professional attitude conducive to deal with human problems 4. Able to develop sensitivity towards the needs and problems of different target groups 5. Able to develop understanding of the role of Social Workers in different settings.	

		6. Able to apply programme Media Skills in Social Work interventions. 7. Able to develop skills to write reports of work performed during field work and make use of supervision	
III Semester	INDIA & INDIAN CONSTITUTION (OE - AECC)	1. Able to understand the philosophy and the structure of the Constitution. 2. Measure the powers, functions and limitations of various offices under the Constitution. 3. Demonstrate the values, ideals and the role of Constitution in a democratic India.	
IV Semester	BSWBWCN 401 Social Work Research	1. Able to demonstrate ability to be able to conduct research, and to do this with an understanding of the application of different methods and tools 2. Able to develop skills of data collection, organization, presentation, analysis and report writing	
IV Semester	BSWBWCN 402 Human Rights and Social Justice Course Objectives	1. Able to understand the concept of human rights and its significance to the Social Work profession	

		2. Able to understand the application of human rights to the various practice domains of the profession 3. Able to Understand on Human Right based Social Work interventions	
IV Semester	BSWBWPN 403 Field Work Practice 4	1. Able to understand social work interventions in different areas 2. Able to prepare work plan and its execution 3. Able to form small groups with different age and gender groups 4. Able to apply programme media skills in social work interventions 5. Able to write process oriented reports and engage in meaningful discussions during supervisory conferences 6. Able to develop the ability to link theoretical learning with practical realities	
V Semester	BSWBWCN 501 Social Policy, Planning and Development	1. CO1. Develop understanding of concept of social policy and social planning; and 2. CO2. Understand Concept and nature of	

		Development and Human Development.	
V Semester	BSWBWVN 501 NGO and Project Formulation	1. CO1. Know concept and basic features of NGO and project formulation 2. CO2. Develop legal understanding about the organization 3. CO3. Understand how knowledge of project formulation is helpful for Social Workers	
V Semester	BSWBWEN 501 Environmental Social Work	1. Understand various environmental issues 2. Understand strategies of managing environmental degradation 3. Apply knowledge of Social Work to protect environment	
V Semester	BSWBWCN 502 Areas of Social Work Practice- 1	1. Gain opportunity in understanding contemporary fields of social work profession 2. Influence to practice, analyse and evaluate social work interventions	
V Semester	BSWBWCN 503 Social Work Perspectives in Health Care	1. Develop an understanding of the Holistic concept of Health 2. Develop an understanding of the health situation in India. 3. Promote healthy lifestyle	

V Semester	BSWBWPN 504 Social Work Practice -V (Practical)	1. Familiarization with agency, its objectives and Programmes. 2. Familiarization with target group and prepare its profile. 3. Explore and analyze the needs, problems and resources of individuals, groups and communities. 4. Organize activities with groups of women, children, youth and other population groups. 5. Mobilize resources and develop network with other institutions/organizations working in the neighbouring areas. 6. Understand power structure of surrounding area and of local Community leaders and stakeholders. 7. Practice Methods of social work – Social Case Work, Social Group Work, Community Based programmes	
V Semester	SEC- 5 Employability skills	1. Able to communicate effectively in writing, verbally, and non-verbally. they also learn to follow communication etiquette and active listening techniques.	

		2. Able to analyze to analyze facts, define problems, and develop creative solutions. They also learn to solve problems independently and in teams. 3. Able to understand the difference between a job and a career, and how to prepare a career development plan. 4. Learn to work collaboratively with others in a team. They also learn to build and lead teams for problem solving. 5. Learn to develop leadership qualities and practice them. 6. To develop critical thinking skills. 7. Learn to develop self-learning habits for continuous development. 8. Learn to appreciate the rights of others and moral and social values. 9. To develop skills and preparedness for aptitude tests. 10. To master presentation skills and are ready for facing interviews	
VI Semester	BSWBWCN 601 Social Welfare Administration	1. Understand concept of social welfare and social welfare administration	

		2. Understand the Structure and components of social welfare administration 3. Understand the relevance of social welfare administration for social workers	
VI Semester	BSWBWCN 602	1. Develop understanding of different areas of social work practice like correctional social work, medical, psychiatric and school social work 2. Know about the community and ecological development 3. Understand the role and functions of social workers in different settings	
VI Semester	BSWBWCN 603 Social Work with Marginalized Populations	1. Demonstrate familiarity with issues and concerns of the marginalized and a perspective towards their issues and problems 2. Understand constitutional provisions and legal framework available for the marginalized groups 3. Understand the scope of government and non-governmental efforts in welfare, developmental and empowerment of marginalized sections	

VI Semester	BSWBWPN 604 Social Work Practice -VI	1. Organize activities with groups of women, children, youth and other population groups. Mobilize resources and develop network with other institutions/organizations working in the neighboring areas. 2. Understand power structure of surrounding area and of local community stakeholders. 3. Seek client's/beneficiary's and/or people's participation in utilizing agency and or community services. 4. Continuous self-assessment of field work experiences and professional growth. 5. Prepare and submit field work records for all the process involved. 6. Integrate theoretical knowledge with field practice i.e. methods, principles, skills and techniques of social work etc. 7. Practice Methods of social work – Social Case Work, Social group Work, Community based programmes	

		8. Conduct a community survey	
VI Semester	BSWBWEN 601 Dissertation	1. Understand how to initiate and conduct research 2. Understand research skills of identifying and selecting topic for research 3. Develop skill of doing literature review and data collection and accompanying drawbacks 4. Understand different steps in conducting research and associated limitations 5. Do data analysis and report writing CO6. Understand ethics involved in Research	
	BSWBWEN 602 Corporate Social Responsibility	1. Understand the conceptual framework of CSR 2. Understand the legal framework of CSR 3. Understand the CSR practices and role of Social Workers	

Hospitality Science

Semester	Course/ Subject	Course outcome	Program outcome(summary of all six semesters)
I	Food production theory 1	1.To understand the basics of food production and the	Students can understand the basics of the subject by knowing the food

		various jargons associated with it	production terms and practical exposure in cooking.
2.	Food and beverage service -1	To know the essentials of food and beverage service and the terms related to it.	Students learn about various skills and practical sessions are being conducted to enhance student knowledge in the subject
3.	Front office Theory	To understand front office as core department in a hotel and its working	Practical sessions are conducted and students are educated with latest trend pertaining to the subject.

Bachelor of Visual Art

Semester	Course/ Subject	Course outcome	Program outcome(summary of all six semesters)

I and II Semester	Introduction to Basic drawing -1	1.Students Can Explore Creative Ideas Through the Basic lines.	Students are eligible to convey the Social and Reality Harmony on their work.
III and IV Semester	Design/Painting	1.Students can compose well Design/composition with Basic Fundamentals and Ethics.	Students are eligible to do their own commercial works.
V and VI semester	Drawing/Painting	1.Students are able to understand morality of society and they can implement that in their works..	Students can do the drawings /Paintings and logo,Designs for Reputed Companies.
VII and VIII Semester	Drawing / Design	1.Students Can implement Their own Ideas and Style in Their works.	Students Are Ready to Start Their Professional Works.

Chemistry (UG)

Semester	Course/ Subject	Course outcome	Program outcome (summary of all six semesters)
I	Chemistry paper -I USCCHC11	1.Understand the principle of chemical kinetics and different theories of reaction rate. 2.enrich the knowledge of concept of organic reaction and	1.Get the broad and balanced knowledge of chemistry. 2 . Get the knowledge and skill towards employment and higher education. 3.Develop

		techniques of writing the reaction mechanism 3. Analytical skill involved in volumetric analysis. 4. Basics of analytical methods and chromatography technique.	Practical skill which can be applied in actual practice.
II	Chemistry paper -II	1. Give information about the chemicals used in industry. 2. Understand the properties and characteristics of s and p block elements. 3. Give information about the structure and properties of solids, liquids, crystals and gas. 4. Basic concepts of electrophilic and nucleophilic reaction.	1. molecular structure of solids and their properties. 2. Different types of liquid crystal and their properties 3. general characteristics and properties of s and p block elements 4. Applications of chemicals in daily life 5. organic reaction pathway and writing the reaction mechanism
III	Analytical and Organic chemistry BSCCHPN303	1. Understand the quantitative analysis and the instrumental methods, 2. chromatographic techniques and importance of stereochemistry in predicting the structure and	1. understand the importance of fundamental law and validation parameters. 2. understand the requirement for chemical analysis by paper, thin layer and

		properties of organic molecules.	column chromatography. 3. explain mechanism for different reactions.
IV	Inorganic and physical chemistry-	1. understand the structure and bonding in different crystals 2. different laws of thermodynamics 3. principle of chemical kinetics and different theories of reaction rate. 4. Adsorption isotherm and adsorption by liquids.	1. Predict the nature of the bond formed between different elements 2. apply adsorption as a versatile method for waste water treatment. 3. Know different types of electrolytes, usefulness of conductance and ionic mobility measurements.
V	Inorganic and physical chemistry - V BSCCHCN501 Organic chemistry and spectroscopy BSCCHCN502	1. Quantum Chemistry and Chemical dynamics. 2. To know structure and bonding in diboranes. 3. Understand the concept heterocyclic compounds, vitamins and UV Visible	1. Enrich the knowledge about the different spectroscopic studies. 2. application of radiation chemistry 3. different types of bonding involved in electron deficient compounds. 4. importance and synthesis of different types of vitamins.

ECONOMICS

Semester	Course/ Subject	Course outcome	Program outcome(summary of all six semesters)
FIRST SEMESTER	Foundations of Microeconomics	CO1 Comprehend new concepts, vital to the understanding of economics of information, property rights and public policy. CO2.Adequate knowledge of production functions, production techniques and cost concepts in different time periods. CO3.Familiarization with theoretical aspects of input markets with regard to their pricing and market behaviour in order to facilitate replication in the practical field.	Upon completion of this BA Economics programme, a student will have the necessary skills to understand and analyse in a logical manner all major economic phenomena. A student will be able to analyse government policies and regulations, and demonstrate their significance. Knowing how and digital economy functions, and how decisions are made by consumers, producers, and

			regulators, the student will have the necessary skills to identify, analyse, and solve problems in a logical and efficient way. The students will understand theoretical aspects of economic Development and Growth and they can be well familiar with rural Economy. Students can work efficiently in the field of banking, finance, industry, farming, consumer rights, production, environmental issues, sustainable development, research and trade. The programme provides the basic ingredients of economic theory and the opportunity to learn how to process and analyse economic data based on sound statistical principles, in order to arrive at economically meaningful conclusions. The programme also strives to train the

			students in data collection, presentation, interpretation, and statistical techniques to test the validity of economic modelling. Students will: 1. Get an understanding of basic economic theory; 2. Learn the mathematical and statistical techniques necessary for a proper understanding of the discipline; 3. Get an introduction to real world economic issues and problems facing the country and the world; 4. Gain an understanding of proper policy responses to economic problems; 5. Get trained to collect primary data

			and learn sampling techniques; 6. Learn to use scientific empirical methods to arrive at conclusions about the validity of economic theories; 7. Get trained in the field of National Income, Business cycle and demographic features. 8. Get trained in the art of economic modelling.
SECOND SEMESTER	Foundations of Macroeconomics	CO1. A comprehensive understanding of the concept of GDP and GNP, enabling them to analyze the status of the economy, its growth over time in a compatible manner. CO2. Introduction to the basics of monetary economics which will enable them to understand the debate between the monetarists and the Keynesians at a higher level. CO3. Understanding of the theories that explain one of the conditions of market economy that comes in the	

		form of inflation. Comprehension of the significance of price stability and the socio-economic costs of its absence.	
Third Semester	Mathematics for Economics	After the successful completion of the course, the student will be able to: CO1. Perform basic operations in Sets and functions and Matrix algebra. CO2. Calculate limits, derivatives of Economic functions and identify the nature of relationship. CO3. Calculate maxima and minima of function	
Third Semester	International Economics(OE)	CO1. Familiarise the students with international economics. CO2. To develop conceptual understanding of the key concepts and practical applications of international trade. CO3. Knowledge on trade theories helps to know its practical relevance in international trade. CO4. Awareness on trade policies provides an insight on conflicting interests within an economy regarding trade liberalization. CO5. Knowledge on MNCs and international capital movements. CO6. To provide insights on the role of WTO and BRICS	

		in liberalising trade and increasing the volume of global trade	
Fourth Semester	Statistics for Economics	After the successful completion of the course, the student will be able to: CO1. Understand the nature of Data and their presentation. CO2. Calculate Descriptive statistics like measures of central tendency and dispersion. CO3. Apply statistical techniques like correlation and regression in Economic analysis	
Fifth Semester	Public Economics	After the successful completion of the course, the student will be able to: CO1. Understand introductory Public Finance concepts. CO2. Study the causes of market failure and corrective actions. CO3: Understand the impact, incidence and shifting of tax. CO4: Study the economic effects of tax on production, distribution and other effects. CO5: Enable the students to know the principles and effects of public expenditure. CO6: Understand the economic and functional classification of the budget; Balanced and unbalanced budget.	

		CO7. Understand the Burden of Public debt and know the Classical/ Ricardian views, Keynesian and post-Keynesian views CO8. To acquaint with the advantages and disadvantages of Deficit Financing.	
Fifth Semester	Development Economics	After the successful completion of the course, the student will be able to: CO1. Understand the basic concepts and measurements of Development. CO2. Learn some classical and partial theories of Development economics and identify the difference. CO3. Identify the difference between Developed and Developing Countries. CO4. Analyse and tackle the Development issues effectively.	
Fifth Semester	Indian Banking and Finance	After the successful completion of the course, the student will be able to: CO1. Understand the structure of Indian banking and the role of banks in monetary policy. CO2. Analyze the functioning of banks and different types of accounts and other services offered by banks. CO3. Evaluate recent developments in the Indian banking sector, including	

		digital banking, payment banks, and non-performing assets. CO4. Describe the overview of the Indian financial system, including financial markets, financial instruments, and financial regulation. CO5. Analyze the challenges faced by Indian banks and the implications of banking reforms for the Indian economy. CO6. Develop critical thinking and analytical skills in evaluating various financial products and services banks and capital markets offer.	
Sixth Semester	International Economics	After the successful completion of the course, the student will be able to: CO1. Understand the international trade theories and their application in international trade CO2. Explain the concept of terms of trade and demonstrate the effect of trade barriers; and display the ability to analyse the stages of economic integration. CO3. Understand the concept of BoP and assess the BoP position and examine the changes in forex rate. CO4. Analyse the role of International trade and financial institutions.	

		CO5. Demonstrate good interpersonal and communication skills through class participation and contributing to critical discussion on trade issues.	
Sixth Semester	Indian Public Finance	After the successful completion of the course, the student will be able to: CO1. Understand the structure of Indian Public Finance. CO2. Enable the students to know the Source and nature of public revenue and expenditure. CO3. Understand the Budget and different concept of deficits. CO4. Know the Public debt and its management. CO5. Understand the fiscal and monetary policy and their tools and importance. CO7.To enable the students to know the Indian federal financing system and Financial Commissions.	
Sixth Semester	Environmental Economics	After the successful completion of the course, the student will be able to: CO1. Understand how economic methods can be applied to environmental issues facing society. CO2. Examine the linkages between Environmental Degradation and Economic Development.	

		CO3. Develop an informed view regarding the potential of economics to help societies achieve their environmental goals. CO4. Demonstrate good inter-personal and communication skills through writing an essay and contributing to critical discussion. CO5. Analyze environmental problems and to assess environmental policies.	

FOOD NUTRITION AND DIETETICS (UG)

Sem ester	Course/ Subject	Course outcome	Program outcome (summary of all six semesters)
I	FOOD SCIENC E-I	1.Understand factors to be considered during selection of basic commodities, raw and processed and various aspects of their products and distribution 2.Comprehend the principles underlying changes in overall quality of food characteristic during cooking 3.Evaluate food products based on their quality characteristics 4. Assessment methods and media of cooking, nutritive value and processing, storage, preservation of both plant and animal based food	1. Scientific Knowledge: Apply the knowledge of food science, chemistry, nutrition, physiology and dietetics in a competent manner to innovate in the field of nutrition and dietetics. 2. Design and Development of Solutions: Design nutrition and dietetics strategies as per the Specified requirements of regulatory bodies related to food, health, environment, hospitals, families And communities.

			3. Problem Analysis: Identify, formulate, rationalize, and analyze nutrition-related problems in The community and hospitals so as to reach substantiated diet-based conclusions using the Principles of food nutrition and dietetics. 4. Modern Tool usage: Create, select, and apply modern nutrition and dietetics tools, techniques, And resources of relevance in nutrition and dietetics. 5. Environment and Sustainability: Evolve nutrition and dietetics approaches in the context of Food security and environmentally sustainable development goals. 6. Teamwork: Function objectively as an individual and as a member in diverse teams. 7. Communication: Effectively document and communicate nutrition and dietetics approaches And plans with individuals, patients and communities.

			8. Lifelong learning: Independently engage in continuous learning to adapt to newer concepts In nutrition and dietetics.
	HUMAN PHYSIOL OGY-I	1. Understand the homeostatic status of the human body 2. Comprehend the physiological process and functions of various vital organs as applicable to human nutrition 3. Apply the knowledge of physiological states to therapeutic diets Assess malfunctions of vital organs or systems	
	HUMAN NUTRITI ON-I	1. Comprehend the nutritional classification of food and methods of assessing nutritional status and energy requirements. 2. Understand the functions and sources of nutrients. 3. Apply the knowledge of human nutrition in maintenance of good health for the individual and the community. 4. Assess the factors affecting availability and requirements of nutrients.	
II	HUMAN NUTRIT ION-II	1. Understand the functions and sources of nutrients 2. Apply the knowledge in maintenance of good health for individual and the community. 3. Evaluate factors affecting availability and requirements of minerals and vitamins 4. Assess the role of water and fibre in nutrition	
	HUMAN PHYSIOL OGY-II	1. Understand the role played by hormones in metabolism and associated	

		disorders. 2. Comprehend the structure and function of neuromuscular systems and Disorders 3. Understand excretory physiology and its importance in nutrient retention	
	FOOD SCIENCE-II	. Understand methods used in processing Of milk and milk products 2. Assess the nutritional qualities of egg and changes in characteristics during cooking. 3. Evaluate composition of meat, processing and storage 4. Enumerate the nutritive value of eggs, fish and the use of major spices in processing	
III	LIFESPAN NUTRITION-I	1. Comprehend the concept of a balanced diet 2. Understand the role of nutrition in growth and development processes from birth till adolescence 3. Formulate nutritional needs of people at different stages of growth 4. Formulate diets for various nutrition-related health conditions	
	DIETETICS-I	1. Know the principles of diet therapy 2. Understand the modifications of normal diet for therapeutic purposes 3. Learn the role of a registered dietician 4. Identify the roles of others who collaborate in delivery of food and nutrition services	

	FOOD MICROBI OLOGY-I	Understand the nature of microorganisms involved in food-spoilage, food infections and intoxication 3. Comprehend the significance of microorganisms and methods used in food industry to sterilize . Discuss the relevance of bacteria in food and understand lifecycle of viruses 4.Appreciate the importance of yeast and the problem of molds in food. 5.Understandthe important pathogens and spoilage microorganisms in foods, and the most likely sources of these organisms. 6.Evaluatewaterqualitybasedon microbiologicalcontentandappl ytreatmentprocedures. Apply preventive measures based on an understanding of the factors affecting growth of microorganisms in food 8. Describe food contaminants, food poisoning and foodborne infections caused by microorganism	
IV	DIETETI CS-II	1. Understand the principles of diet therapy for various ailments and diseases 2.Workoutthemodificationsofno rmal dietfortherapeuticpurposes 3. Assess food allergies, intolerance and nutrient-drug interactions For appropriate dietetics approaches 4. Evaluate nutritional requirements for deficiencies	

		and develop suitable dietary treatments	
	LIFESPAN NUTRITION-II	Understand the process of growth and development and the concept of growth promotion 2. Comprehend nutritional needs at different stages of growth. 3. Evaluate nutritional needs during pregnancy and lactation 4. Apply nutritional requirements for the aged taking their physiology into account	
	QUALITY CONTROL-I	1. Understand international and national food laws, regulations and standards governing the safety of the food from field to fork 2. Able to locate and interpret government regulations regarding the manufacture and sale of food products. 3. Describe the use of adulterants added to foods 4. Discuss the application of biotechnological techniques and evaluate packaging requirements of diverse foods	

HINDI

Semester	Course/ Subject	Course outcome	Program outcome(summary of all six semesters)
I	HINDI BA/BSW/ BHRD/BVA UASHDL11	1. Understanding society and life through story reading. 2. The ability to write a story will arise. 3. The language skill will be improved by grammar. 4. Students will develop creativity.	1. Students will become sensitive, valuable by understanding the expressions of poetry.
II	HINDI	1. To generate interest in reading poetry.	

	BA/BSW/ BHRD/BVA UASHDL21	2.Increase in imagination ability. 3.Knowledge of Rasa, Chand and Alankar. 4.Development of translation skills. 5.Knowledge of various languages.	2. Will be familiar with the rich history of Hindi literature. 3. Students will be able to acquire literary words.
I	HINDI BCOM UCMHDL11	1.Language accuracy through reading. 2.To develop the skill of One act play writing ability. 3.Understanding of society through One act plays. 4.Helpfull in getting government job. 5.Learning office correspondence.	4.We can define program outcomes as the skills/knowledge gained from a program and course learning objectives as skills/knowledge gained from a course.
II	HINDI BCOM UCMHDL21	1.Building linguistic capacity. 2.Building self-confidence through story reading. 3.Mutual identity in society and commerce.	5.We can continue with module, unit, or weekly learning objectives as skills/knowledge gained from that module/unit/week.
I	HINDI BSC(ALL) USCHDL11	1.To awaken communication skills towards literature. 2.Expansion of moral values. 3.Interest in poetry and linguistics. 4.Different language usage.	6. Learning Hindi opens doors to effective communication with millions of people. It allows you to interact with native Hindi speakers in India or diaspora communities worldwide. This can enhance travel experiences, foster friendships, and facilitate cultural exchanges.
II	HINDI BSC(ALL) USCHDL21	1.To generate interest in literature. 2.Preparing for government jobs. 3.To encourage story writing.	7.
I	HINDI BCA UCAHDL11	1.Understanding the intersection of language and technology 2.Relation of moral values with science. 3. Understanding the uniqueness of human life.	Learning outcomes describe the measurable skills, abilities, knowledge or values that students
II	HINDI BCA UCAHDL21	1.To develop moral values through poetry 2.To motivate for media writing	

I	HINDI BBA UBBHDL11	1.Knowledge of Hindi story literature 2.Development of life values 3.Motivated towards language fluency.	should be able to demonstrate as a result of a completing a course. They are student-centered rather than teacher-centered, in that they describe what the students will do, not what the instructor will teach. 8. A Degree Communication along with academic qualification in Hindi is an added advantage for job seekers. One can serve the mediums of Radio / TV / Cinema as a Script Writer / Dialogue Writer / Lyricist. This field necessitates a natural and artistic mastery of creative writing. 9. Meeting people to broaden your professional network. 10.Cognitive development, creativity, and critical thinking. 11.Career opportunities such as, employment by international businesses, Intercultural business opportunities, Personal and professional advancement.
II	HINDI BBA UBBHDL21	1.To generate interest towards literature 2.Preparing for government job. 3.Tends to be self dependence	
III	HINDI BA/BSW/ BHRD/BVA BASHDLN301/ BSWHDLN301/ HRDHDLN301/ BVAHDLN301	1.To generate interest in reading prose 2.To generate awareness 3.Development of language skills	
IV	HINDI BA/BSW/ BHRD/BVA BASHDLN401/ BSWHDLN401/ HRDHDLN401/ BVAHDLN401	1.Learning the art of poetry reading 2.Office tact skills 3.Awareness of social norms	
III	HINDI BCOM BCMHDNLN301	1.To generate interest in reading the story 2.Identification of the real and ideal of the life through prose 3.Building language skills through prose	
IV	HINDI BCOM BCMHDNLN401	1.Dialogue writing and dialogue skills 2.The ability to conduct a conversation 3.To build self confidence 4. Employment opportunities in Hindi	
III	HINDI BSC(General) BSCHDLN301	1.To develop self confidence in students 2.To develop interest in creativity 3.To increase understanding of dialogue writing	

		4.To inspire towards play writing	
IV	HINDI BSC(General) BSCHDLN401	1.Awareness of social norms 2.Knowing the importance of language 3.Correct use of language	
III	HINDI BSC(Prof) FNDHDLN302/ BFDHDLN302/ BSHDLN302/ BSAHDNLN302	1.To develop self confidence in students 2.To develop interest in creativity 3.To increase understanding dialogue writing 4.To inspire towards play writing	
IV	HINDI BSC(Prof) FNDHDLN402/ BFDHDLN402/ BSHDLN402/ BSAHDNLN402	1.Awareness of social norms 2.Knowing the importance of language 3.Correct use of language	
III	HINDI BCA BCAHDNLN301	1.To gain the ability to compose poetry 2.To develop the habit of reading poetry 3. Improvement in reading and writing skills	
IV	HINDI BCA BCAHDNLN401	1.Employment of opportunities in Hindi language 2.Application of Hindi 3.Awareness towards social problems	
III	HINDI BBA BBAHDNLN301	1.To gain the ability to compose poetry 2.To develop the habit of reading poetry 3. Improvement in reading and writing skills	
IV	HINDI BBA BBAHDNLN401	1.Bringing social awareness 2.Anti-corruption 3. Learning office correspondence 4.Proficiency in using language	

HISTORY

Semester	Course/ Subject	Course outcome	Program outcome (summary of all six semesters)
I semester	India in the early Historical Period (up to 300 AD)	• Understand the historical writing on ancient India, contribution to historical writing began in India, truth established, views and different approaches on writings. • Able to understand the indigenous and foreign source materials available for writing history • Understand how a man lived in Palaeolithic, Mesolithic and Neolithic periods and important sites and tools of these ages in India • Understand the salient features of Indus civilization • Evaluate the feature of Buddhism and Jainism	we can say that History has surrounded us and waits for the right time to explode. It never lets one to forget past easily. Present has its own need and facilities. Some try to forget History where as some we History as per their necessity. All the sage and saints through their saying portray history is very good. It means that everyone is utilizing history according to their perspective only thing is we don't realize it as it is past and parcel of our life. When it becomes violent and aggressive, then we realize that past is still alive and exists. None of the countries can history of its own and make a new beginning. In

		• Visualize the administration of Maurya's and art and architecture	this way, History always is alive giving a direction to presents hence history cannot be considered as only a syllabus to study. Countries may be ruled or became independent anytime but the feeling of patriotism remains in the hearts of the people. History provers people about going independence whenever they are ruled by. One historical truth is past condition creating present and it can give new birth to future and so it is important to remind it. Students can avail good opportunities to work in the field of archaeology, education and research.
II Semester	Indian in the early Medieval Period (A.D 300- 1300)	• Identify the administration of Guptas and their contribution to Nalanda University. • Understand reason for the emergence of feudalism in India • Understand the contribution of the Chalukyas, Rashtrakutas, Pallavas and Cholas to the field of literature, culture, religion, art and architecture	

		• Examine the conquest of Sind and its effects on India • Understand the nature of Invasion of Ghazni and Ghor and their impact in terms of politics, culture and religion.	
III Semester	MEDIEVAL INDIA (A.D. 1206-1556)	• Understand the foundation of the Delhi Sultanate and their administration • Recognize the socio, economic and religious conditions under Vijayanagar • Identify the condition of India under the Mughal Empire • Explain the administration, art and architecture of Mughals • Understand the rise of the Marathas and the contribution of Shivaji	
IV SEMESTER	EARLY MODERN INDIA (A.D. 1556-1856)	• Understand how Mughals consolidated their relations with Gujarat, Rajputana, Deccan and Bengal • Evaluate the religious policy of Akbar • Estimate Mughals contribution to the field of art and architecture	

		• Analyse Mughal nobility- Mansabdari and jaghirdar systems-Army-Revenue system • understand the advent of Europeans and their administration • Understand the establishment of British paramountcy	
V SEMESTER	COLONIAL AND NATIONALIST INDIA (A.D. 1857–1905)	• To Understand the discontent of Indians which got expressed during the middle of the 19th century • Examine how nationalism developed among Indians during the British rule • To study the colonial system that dominated social life of Indians • Understand the evolution of governmental system and control over princely states – police, civil service, judiciary and economic measures- inter-state and foreign policy • Understanding the service of viceroys to India	
V SMESTER	HISTORY OF MODERN EUROPE (1789-1990)	• Realize the causes and results of French Revolution and the achievements of Napoleon Bonaparte	

		• Visualise the importance of revolt of 1830 and 1848 in France and the efforts of Bismarck for the unification of Germany • Understand the causes and results of the first world war • Examining the Nazism and Fascism in Germany and Italy • Understand the causes and results of second world war and the establishment of UNO • Analyse the genesis of cold war between USA and USSR • Understanding the factors leading to the end of cold war	
VI SEMESTER	FREEDOM MOVEMENT IN INDIA AND ITS LEGACY (A.D. 1905 – 2000)	• Understanding how nationalism in India led to independence • Able to understand the main factors that led to the independence of India from British • Understanding of some outbursts of discontent of Indians during the freedom struggle • Understand the role of moderates	

		and extremist in the freedom movement • Evaluate the integration of Indian states and Sardar Vallabai Patel's effort for this • Able to understand the internal and external policy of Jawaharlal Nehru, Lal Bahadur Shastri and Indira Gandhi • Understand the internal and external policies of Rajiv Gandhi, V.P.Singh and Narasimha Rao • Identify the contemporary challenges like terrorism, liberalization, privatization and globalization	
VI SEMESTER	MODERN KARNATAKA (A.D. 1565-1956)	• Understand about the Nayakas of Keladi that emerged as one of the important splinter states during and after fall of Vijayanagar empire in the south western part of Karnataka and their contribution to Karnataka • Understand the most powerful and famous state political structure that came into existence is the	

		Woodyear of Mysore. • Analyse the rise and fall of Hider Ali and Tippu Sultan and their struggle against British • Understand the echoes of 1857 movements and different stages of freedom struggle in Karnataka • Understand the colonial rule and anti-British struggle in Karnataka. • Identify the political division of Karnataka before independence • Examine the role of press, writers, organization and political leaders in the unification of Karnataka	

JOURNALISM - UG

Semester	Course/ Subject	Course outcome	Program outcome (summary of all six semesters)
I	Journalism - (Introduction to mass communication)	1. Understand and appreciate various dimensions of mass communication 2. Develop an understanding of the fundamental concepts of Journalism 3. Analyse the scope and various dimensions in Journalism 4. Discuss the recent trends in Mass Medi	1. The programme aims to churn out responsible media professionals who would contribute positively to the society. 2. The programme aims to facilitate better career opportunities for all those students of this course and get them ready to tackle challenges in the professional setup. 3. The programme aims to strike a balance between the dynamic working environment and professional ethics in the field of Journalism
II	Journalism - (Media Practices)	1. Students will be able to 2. Understand the basic concepts of computer 3. Develop an understanding of the applications of computers in print and electronic journalism 4. Get acquainted with internet applications 5. Apply information technology skills in print and broadcast projects 6. Demonstrate web-based broadcasting skills	
III	Journalism (News reporting and analysis)	1. Organize and articulate new stories understanding the concepts, structure, and types of news. 2. Evaluate and analyse the importance of sources and types of information that provide the basis for news stories. 3. Formulate skills for news selection, processing, prioritizing and finally, designing the end product, identify the basic ethical issues confronting editors and can practice fair play	

IV	Journalism (News processing and editing)	1. Understand the role of editors. Edit copy precisely and consistently, using correct grammar and eliminating libellous passages and items in poor taste. 2. Be able to write clear and accurate headlines, decks, and captions. 3. Be able to design basic news pages. Understand the basic ethical issues confronting editors	
V	Journalism (Introduction to Communication)	1. Demonstrate knowledge and understanding of the major communication theories and key concepts Relevant to the field of communication. 2. Demonstrate awareness of the diversity of approaches to understanding communication, media and culture in both historical and contemporary contexts, and of the uses and significance of those approaches. 3. Demonstrate understanding of the dynamics of media discourses in the shaping of culture and Social attitudes. 4. Select and apply arguments and positions related to media theory to examine a contemporary issue Or phenomenon in concerning the mass media 5. Demonstrate knowledge of the regulatory frameworks that affect media and cultural	

		production and consumption	
V	Journalism (Fundamentals of Radio & TV)	1. To introduce the concepts, technology and skills behind audio and video production 2. To introduce the students TV as a medium 3. To highlight the techniques of program production in Radio 4. To highlight the techniques of program production in TV 5. To discuss the past and present status of these two media	
VI	Journalism (Introduction to digital media)	1. The student will discuss the influence of target audience on digital media production with identify deployment strategies for various types of digital media formats. 2. The student will be able to know about the basics of photography and videography The student Will explore a variety of programs used to create digital media along with team teamwork in digital media production. The student will create a simple multimedia presentation.	
VI	Journalism (Advertising and corporate communication)	1. To introduce students to basic concept of advertising 2. To familiarize the students with the concept of copywriting as selling through writing 3. To learn the process of create in original, strategic, compelling copy for various media	

		4. To train students to generate, develop and express ideas effectively. 5. Understand the basics of advertising and script writing.	

KANNADA

Seme ster	Course/ Subject	Course outcome	Program outcome(summary of all six semesters)
I	B.A Kalagangothri UASKNL11	1.Moral values , truthfulness of Dharmaraya 2. Simple way of Devotion 3.Patriotism 4. Noble values of Duryodhana	after completion of the Course , students will be able to; • Speak fluently and write effectively in Kannada. Gain cultural knowledge • Gain specific knowledge on poetry, prose and grammar of the language and literature.
I	B.com Vanijyagangot hri 1 UCMKN111	1.Creating Interest of Kannada Language and literature to the Student 2.Opportinitis of study Halegannada, Nadugannada and Hosagannada Prose 3.Introduction Of Scientific essays and merits and demerits of onlone market.	
I	B.Sc Vijhana Gangothri USCKNL11	literature tudent ls, Drama etc.	
I	B.C.A Ganaka Gangothri UCAKNL11	1. Introduction of the History of Kannada literature.	
		2. Consequence of tWar	

		3. Creating awareness of the Natur	
I	B.B.A Nirvahana Gangothri UBBKNL11	1 creating human love, harmonious thinking 2. Discernment of the nature of devotion 3. Equality Value Proposition	
II	B.A kalagangothri 2	1. Students came to know noble values of Duryodhana 2. Importance of Ragale Literature 3. Beauty and culture of the village	
II	B.com Vanijya Gangothri 2	1. Introduction of Halegannada, 2. Introduction of Poornachandra Tejaswi's kiragurina gayyali 3. Introduction of 'lalitha Prabandha'	
II	B.Sc Vijhana Gangothri 2	1. Introduction of every step of prose 2. Giving knowledge about literature and science, so that create rational thinking 3. Explaining the different types of Dalit thought	
II	B.C.A Ganaka Gangothri 2	1. Introduction to the ancient poets Ranna and Pamma 2. K 3. Students getting the knowledge of 'Hosagannada Kavya'	
II	B.B.A Nirvahana Gangothri -2	1. Awareness of women's sensitivity 2. Awareness of folk heritage 3. Awareness about the Nature	

		4. Importance of love between male and female.	
III	B.A Kala Mangala -3	1. Literature values of Kuvempu 2. Knowledge about Independent Movement 3. Possibilities of job opportunities to Kannada Language	
III	B.com Vanijaya Mangala-3	1.knowledge about gender equality 2. Introduction of stories, Novels. And Drama 3.Introduction of Market and Media world	
III	B.Sc- Vijhana Mangala-3	1. Creating the knowledge related to skill, rationality, field visit, humanity, etc. 2. preparing the students sociable through poem, prose, story etc 3. To instill a critical attitude and make them grow socially oriented	

III	B.C.A Ganaka Mangala	1. A curriculum that explores the development of Kannada literature. 2. An introduction to governance, rebellion, and feminist poets, 3. Awareness of freedom of expression	
III	B.B.A Nirvahana Gangothri-3	1. Impliments of crative nature to Students 2. Awareness of agricultural culture 3. Awareness of Enviornment 4. Developing Native thought	

IV	B.A Kala Mangala-4	1. Importance of Mother as well as we should consider Nature also our Mother and it is our duty to protect her. 2. Introducing the values of Keerthana Sahitya 3. Noble thinking of Bheeshamcharya 4. Difficulties of the middle class people	
IV	B.com Vanijya Mangala-4	1. The importance of coexistence 2. Introduction of the famous poets like Bendre, Kuvempu, etc 3. Intoduction of Pampa	

Iv	B.Sc Vijhyana Mangala-4	1. Introduction to the lifestyle of a new generation 2. Providing value-based education to students and giving them the opportunity to make a living 3. Inroducing various type of literature to Students.	
IV	B.C.A Ganaka Mangala-4	1. Intoduction of the local art Yakshagana 2. Intoduction of the various type of poem 3. The need to develop Kannada as a technical language	

Iv	B.B.A Nirvahana Gangothri-4	1. On an anti-war basis 2. Love of Mother land 3. Applying negotiation skills	

MANIPURI

Semester	Course/ Subject	Course outcome	Program outcome (summary of all six semesters)
I	MANIPURI UASMNL11	1. To understand the trends of Manipuri short story and its growth and development. 2. To understand the basic Manipuri language including phonology. 3. To develop the skill of writing skill.	1. To produce graduates who can demonstrate comprehensive knowledge of Manipuri Language and literature, effectively communicate both orally and in writing. 2. To apply their knowledge to the society, including interpreting texts, translating between Manipuri and other languages.
II	MANIPURI UASMNL21	1. To comprehend literary knowledge of Manipuri poems with regard to the analysis of rhythm expression and presentation. 2. To familiarize themselves with Manipuri Phonology.	

		3. To enhance writing skill.	
III	MANIPURI BASMPLN301 BSWMPLN301 BSCMPLN301 BCAMPLN301 FNDMPLN301 BVAMPLN301 HRDMPLN301 BIDMPLN301 BFDMPLN301 BHSMPLN301	1. To enable to understand analysis and critically analyst about different types of prose. 2. To elevate the learners' ability to use able to rectify themselves in the common errors in the day-to-day conversation among themselves. 3. to develop creative writing skill.	1. To produce graduates who can demonstrate comprehensive knowledge of Manipuri Language and literature, effectively communicate both orally and in writing. 2. To apply their knowledge to the society, including interpreting texts, translating between Manipuri and other languages.
III	MANIPURI BBAMPLN301 BCMMPLN301	1. To enable to understand analysis and critically analyst about different types of prose. 2. To elevate the learners' ability to use able to rectify themselves in the common errors in the day-to-day conversation among themselves. 3. to develop creative writing skill.	
IV	MANIPURI BASMPLN401 BSWMPLN401 BSCMPLN401 BCAMPLN401 FNDMPLN401	1. To understand the trends of Manipuri Novel, its growth and development. 2. To understand the changes of Manipuri society by studying Manipuri Dramatic Literature.	1. To produce graduates who can demonstrate comprehensive knowledge of Manipuri Language and literature, effectively communicate both orally and in writing. 2. To apply their knowledge to the society,

	BVAMPLN401 HRDMPLN401 BIDMPLN401 BFDMPLN401 BHSMPLN401	3. To develop the skill of writing skill.	including interpreting texts, translating between Manipuri and other languages.
IV	MANIPURI BBAMPLN401 BCMMLN401	1. To understand the trends of Manipuri Novel, its growth and development. 2. To understand the changes of Manipuri society by studying Manipuri Dramatic Literature. 3. To develop the skill of writing skill.	

MATHEMATICS (UG)

Semester	Course/ Subject	Course outcome	Program outcome (summary of all six semesters)
I	CALCULUS	❖ Students will be able to understand and apply properties of differentiation, and solve problems involving local extrema and concavity. ❖ Students will be able to understand and apply key theorems such as Rolle's Theorem, Mean Value Theorem, and Cauchy's Mean Value Theorem in various contexts. ❖ Students will develop the ability to solve applied optimization problems, sketch curves, and use	On successful completion of the program, the student will be able to understand the concepts • Verbally communicate mathematical ideas, write logically sound proof, accurately work

		asymptotes effectively in analysis. ❖ Students will be able to evaluate definite and indefinite integrals using techniques such as reduction formulae, partial fractions, etc. ❖ Students will gain a solid understanding of the behavior of functions of several variables, and get ability to compute and interpret directional derivatives and gradients. ❖ Students will be able to find and classify extreme values and saddle points for functions of two variables, using second derivative tests and other techniques.	with formulae and numerical information. • Apply solving techniques of differential equations in Mathematics, Physics, Chemistry and Biology. • Understand the actual theories behind solving techniques of problems in Algebra.
II	ADVANCED CALCULUS AND DIFFERENTIAL EQUATIONS	❖ Students will be able to convert between polar and Cartesian coordinates, graph equations in polar coordinates, and calculate areas and lengths. ❖ Students will classify and analyze conic sections by eccentricity, and work with their polar equations to sketch and identify various conics. ❖ Students will evaluate line integrals over plane and space curves, understanding their	• Connect theoretical and practical aspects of Mathematics. • To solve problems in the post graduate

		applications and computations. ❖ Students will master double and triple integrals, including changing between Cartesian and polar coordinates, and apply these techniques to calculate volumes, areas, and averages. ❖ Students will understand and solve first-order differential equations using various methods, including separation of variables and integrating factors. ❖ Students will apply differential equations to model and solve real-world problems in physics, chemistry, and other fields.	entrance exams with ease. • Aspire and prepare for Master's in Computer application.
III	MATHEMATICS ORDINARY DIFFERENTIAL EQUATIONS AND REAL ANALYSIS – I	❖ Understand the fundamental properties of the real numbers that lead to define sequence and ❖ Apply these techniques to solve and analyze various mathematical models. ❖ Formulate differential equations for various mathematical models ❖ To model problems in nature using Ordinary Differential Equations. ❖ Solve first-order non-linear differential equations and linear differential equations.	• Acquire mathematical skill set to clear various aptitude tests conducted by multi-national companies. Program specific outcomes:

		❖ Course Learning Outcomes: This course will enable the students to: Able to handle and understand limits and their use in sequences, series, differentiation, and ❖ Learn the concept of Convergence and Divergence of a sequence. ❖ series, the formal development of real analysis. Apply the ratio, root, alternating series, and limit comparison tests for convergence and integration. ❖ absolute convergence of an infinite series.	• The syllabus imparts about 30 of technical skills. • Student will be acquiring knowledge to compete at national and international level. • Employability will be improved with the knowledge of Mathematical software's.
IV	Partial Differential Equations and Integral Transforms	❖ Solve the Partial Differential Equations of the first order and second order ❖ Formulate, classify and transform partial differential equations into canonical form. ❖ Solve linear and non-linear partial differential equations using various methods; and apply these methods to solving some physical problems. ❖ Able to take more courses on wave equation, heat equation, and Laplace equation.	• Domain knowledge will be upgraded with the knowledge of applications.

		❖ Solve PDE by Laplace Transforms and Fourier Transforms	• Student will be able to handle the challenges due to upgradation of software's.
V	Mathematics Real Analysis-II and Complex Analysis	❖ Carry out computations of upper and lower Riemann sums as well definite integrals. ❖ Describe various criteria for Integrability of functions. ❖ Evaluate some improper integrals and evaluate double integrals by using Beta, Gamma functions. ❖ Exhibit certain properties of mathematical objects such as integrable functions, analytic functions, harmonic functions and so on. ❖ Prove some statements related to Riemann integration as well as in complex analysis. ❖ Carry out the existing algorithms to construct mathematical structures such as analytic functions. ❖ Evaluate complex line integrals using definition and some well-known theorems. ❖ Apply the gained knowledge to solve various other problems.	

VI	Numerical Analysis	❖ Compute approximate roots of algebraic and transcendental equations using iterations. ❖ Describe various operators arising in numerical analysis such as difference operators, shift operators and so on. ❖ Articulate the rationale behind various techniques of numerical analysis such as in finding roots, integrals and derivatives. ❖ Reproduce the existing algorithms for various tasks as mentioned previously in numerical analysis. ❖ Apply the rules of calculus and other areas of mathematics in justifying the techniques of numerical analysis. ❖ Solve problems using suitable numerical technique. ❖ Obtain approximate solutions to initial value problems using various numerical techniques. ❖ Appreciate the profound applicability of techniques of numerical analysis in solving real life problems and also appreciate the way the techniques are	

		modified to improve the accuracy	

MICROBIOLOGY

Semester	Course/ Subject	Course outcome	Program outcome(summary of all six semesters)
I	Microbiology- Fundamental Microbiology USCMBC11	- Understand the origin and development of microbiology. - Understand the major difference and characteristics of prokaryotes and eukaryotes. - Students will be able to handle the Microscope. Students will be able to practice sterilization techniques and also staining of microbes.	- Understand the concepts of microbiology and its application in pharma, food, agriculture, beverages, nutraceutical industries. - Understand the distribution, morphology and physiology of microorganisms and demonstrate the skills in aseptic handling of microbes including isolation, identification and maintenance.
II	Microbial Taxonomy and Culture techniques USCMBC21	- Students will gain knowledge about microbes and their diversity - Study the characteristics, classification and economic importance of Prokaryotic and Eukaryotic microorganisms. - Gain knowledge about viruses and their diversity and utilization of energy by various pathways	- Competent to apply the knowledge gained for conserving the environment and resolving the environment related issues. - Learning and practicing professional

		in the cell, also the by-products Students will gain the knowledge of different culture media and culture techniques.	skills in handling microbes and contaminants in laboratories and production sectors.
III	Microbial Diversity BSCMBCN301	- Students will gain knowledge about microbes and their diversity - Study the characteristics, classification and economic importance of Prokaryotic and Eukaryotic microorganisms. - Gain knowledge about viruses and their diversity and utilization of energy by various pathways in the cell, also the by-products.	5. Exploring the microbial world and analysing the specific benefits and challenges. 6. Applying the knowledge acquired to undertake studies and identify specific remedial measures for the challenges in health, agriculture, and food sectors. 7. Gain good knowledge and application of good laboratory and good manufacturing practices in microbial quality control.
III	Microbial Entrepreneurship BSCMBEN301	- Will be able to demonstrate entrepreneurial skills - Gain knowledge on Industrial entrepreneurship - Acquire knowledge on Healthcare Entrepreneurship	8. Understand the biochemical and physiological aspects of microbes and developing broader perspective to identify innovative solutions for present and future challenges posed by microbes.
IV	Microbial Enzymology and Metabolism BSCMBCN401	- Will learn the concepts of chemoheterotrophic metabolism and chemo lithotrophic metabolism. - Describing the enzyme kinetics,	

		enzyme activity and regulation. Differentiating concepts of aerobic and anaerobic respiration and how these are manifested in the form of different metabolic pathways in microorganisms.	9. Understand the application of microbial principles in forensic and working knowledge about clinical microbiology. 10. Will acquire the knowledge of recombinant DNA technology, GMOs, intellectual property rights, biosafety and biohazards. 11. Demonstrate the ability to identify key questions in microbiological research, optimize research methods, and analyse outcomes by adopting scientific methods, thereby improving the employability. 12. Enhance and demonstrate analytical skills and apply basic computational and statistical techniques in the field of microbiology
IV	Human Microbiome BSCMBEN401	- Articulate a deeper understanding on biological complexities of human micro biome. - Understand broader goals of biological anthropology. - Compare and contrast the micro biome of different human body sites and impact human health promotion	
V	Molecular biology. BSCMBCN 501	- Understand concepts involved in replication, transcription, translation, regulation of gene expression in bacteria and Eukaryotes. - Differentiate the process of replication, transcription, translation, regulation of gene expression in bacteria and Eukaryotes.	

		• Understand the genetic switch in bacteriophages. • Outline regulatory mechanisms in bacteria to control cellular process. •	
V	Food microbiology BSCMBCN502	• Understand the association of microbes in food and the quality testing of food • Understand the preservation and food safety protocols • Understand the methods of spoilage of food and the diseases associated with it • Learn the properties of milk and the types of preservation of milk. • Learn the types of fermented food and dairy products and its significance	
VI	Immunology and Medical microbiology BSCMBCN601	• Gain a preliminary understanding about various immune mechanisms. • Students will be familiar with Immunological techniques and serodiagnosis of infectious diseases • To understand pathogenic bacterial infections, symptoms, diagnosis	

		and treatment process	
VI	Industrial Microbiology BSCMBCN602	• Learn the overview of scope and importance of industrially important microbes • Learn the different types of fermentation processes and equipment. • Gain knowledge of the production of value-added products • Acquire the knowledge of purification of value-added products	

PHYSICS(UG)

NSP Syllabus

Semester	Course/ Subject	Course outcome	Program outcome (summary of all six semesters)
I	PHYSICS BSCPHCN101	1: Will learn fixing units, tabulation of observations, analysis of data (graphical/analytical) 2: Will learn about accuracy of measurement and sources of errors, importance of significant figures. 3: Will know how g can be determined experimentally and	PO-1: Discipline Knowledge: Knowledge of science and ability to apply to relevant areas. PO-2: Problem solving: Execute a solution process using first principles of science to solve problems related to respective discipline.

		derive satisfaction. x 4: Will see the difference between simple and torsional pendulum and their use in the determination of various physical parameters. 5: Will come to know how various elastic moduli can be determined. 6: Will measure surface tension and viscosity and appreciate the methods adopted. 7: Will get hands on experience of different equipment.	PO-3: Modern tool usage: Use a modern scientific, engineering and IT tool or technique for solving problems in the areas of their discipline. PO-4: Ethics: Apply the professional ethics and norms in respective discipline. PO-5: Individual and teamwork: Work effectively as an individual as a team member in a multidisciplinary team.
II	PHYSICS BSCPHCN201	1. Will demonstrate Gauss law, Coulomb's law for the electric field, and apply it to systems of point charges as well as line, surface, and volume distributions of charges. 2. Will explain and differentiate the vector (electric fields, Coulomb's law) and scalar (electric potential, electric	PO-6: Communication: Communicate effectively with the stake holders, and give and receive clear instructions.

		potential energy) formalisms of electrostatics. 3. Will be able to apply Gauss's law of electrostatics to solve a variety of problems. 4. Will describe the magnetic field produced by magnetic dipoles and electric currents. 5. Will be able to explain Faraday- Lenz and Maxwell laws to articulate the relationship between electric and magnetic fields. 6. Will be in position to describe how magnetism is produced and list examples where its effects are observed. 7. Will be able to apply Kirchhoff's rules to analyze AC circuits consisting of parallel and/or series combinations of voltage sources and resistors and to describe the graphical relationship of	

		resistance, capacitor and inductor. 8. Will understand and able to apply various network theorems such as Superposition, Thevenin, Norton, Maximum Power Transfer, etc. and their applications in electronics, electrical circuit analysis, and electrical machines.	
III	PHYSICS BSCPHCN301	1. Identify different types of waves by looking into their characteristics. 2. Formulate a wave equation and obtain the expression for different parameters associated with waves. 3. Explain and give a mathematical treatment of the superposition of waves under different conditions, such as, when they overlap linearly and perpendicularly with equal or different frequencies and equal or different phases. 4. Describe the formation of standing waves and	

		how the energy is transferred along the standing wave in different applications, and mathematically model in the case of stretched string and vibration of a rod. 5. Give an analytical treatment of resonance in the case of open and closed pipes in general and Helmholtz resonators in particular. 6. Describe the different parameters that affect the acoustics in a building, measure it and control it. 7. Give the different models of light propagation and phenomenon associated and measure the parameters like the wavelength of light using experiments like Michelson interferometer, interference and thin films. 8. Explain diffraction due to different objects like singles slit, two slits, diffraction of	

		grating, oblique incidence, circular aperture and give the theory and experimental setup for the same. 9. Explain the polarization of light and obtain how the polarization occurs due to quarter wave plates, half wave plates, and through the optical activity of a medium.	
IV	PHYSICS BSCPHCN401	1. Apply the laws of thermodynamics and analyze the thermal system. 2. Apply the laws of kinetic theory and radiation laws to the ideal and practical thermodynamics systems through derived thermodynamic relations. 3. Use the concepts of semiconductors to describe different Semiconductor devices such as diode transistors, BJT, FET etc. and explain their functioning. 4. Explain the functioning of OP-AMPS and use them as the building blocks of logic gates. 5. Give the use of logic gates using	

		different theorems of Boolean Algebra followed by logic circuits.	
V	PHYSICS BSCPHCN501	1.Identity the failure of the classical physics at the microscopic level 2.find the relationship between the normalization of a wave function and correctly calculate expectation values 3.Explaining the minimum uncertainty of measuring both observable on any quantum state 4.Describe the time dependent and independent Schrodinger's wave equation for one dimensional well and simple harmonic oscillator 4.Apply Hamiltonian operators, their eigen values and eigen vectors to find various commutators and uncertainty relations	
	PHYSICS BSCPHCN502	1.Describe atomic properties using basic atomic models 2.Interpret atomic spectra of elements using vector atom model	

		3. Interpret molecular spectra of compounds using basics of molecular physics 4. Explain Laser system and their applications in various fields	
VI	PHYSICS BSCPHCN601	1. To Study about X-ray, characteristics of X-ray and X-ray crystallography 2. Interpret free electron theory of metals 3. Understand the concept magnetic properties of matter, dielectrics and superconductivity. 4. Explain the basic properties of nucleus and their inner information 5. Understand the concept of binding energy and binding energy per nucleon versus mass number graph 6. Describe the process of alpha, beta, gamma decay on the basis of well-established theory 4. Explain the basic concept of scintillation detector, photomultiplier tube and semiconductor detector	

	PHYSICS BSCPHCN602	1. Identify different types of tests and measuring instruments used in practice and understand their basic working principles 2. Have an understanding of the basic electronic instruments like resistor, inductor, capacitors, IC 's and their uses 3. Understanding of the measurements of voltage, current, resistor , transistors and IC 4. Identify and understand the different types of Transducers and sensors 5. Understand and give a mathematical treatment of working rectifier, filter, data converter and transducers 6. Develop basic hands-on skills in the usage of oscilloscope, rectifier, multiplier, generators, oscillators 6. Servicing of simple fault in domestic appliances	

Semester	Course/ Subject	Course outcome	Program outcome (summary of all six semesters)
1	Physics USCPHC11	1. Estimate the possible error in measurement of a physical quantity, using its dimensional equation, the least counts of instruments used and by actual measurements in the appropriate system of units. 2. Knowledge of newton's motion of bodies and gravitation and satellite motion 3. Apply laws of conservation of momentum and associated energy along with laws to motion to the systems of linear/rotational motion to determine different parameters associated with physically rigid bodies. 4. Explain bending of beams and use of torsion pendulum in the determination of various physical parameters. 5. Measure surface tension and factors affecting surface	PO-1: Discipline Knowledge: Knowledge of science and ability to apply to relevant areas. PO-2: Problem solving: Execute a solution process using first principles of science to solve problems related to respective discipline. PO-3: Modern tool usage: Use a modern scientific, engineering and IT tool or technique for solving problems in the areas of their discipline. PO-4: Ethics: Apply the professional ethics and norms in respective discipline. PO-5: Individual and teamwork: Work effectively as an individual as a team member in a multidisciplinary team. PO-6: Communication: Communicate effectively with the stake holders, and give and receive clear instructions.

		tension of liquids and hence measurement of viscosity liquids.	
2	Physics	1 :Apply the concept of the relative motion of frame of reference with appropriate postulates of the theory of relative motion to the measurement of length, time, mass, energy and velocity. 2: Apply the laws of thermodynamics and concept of heat engine to various observations. 3: Explain fundamental laws of black body spectrum. 4: Explain free, damped and forced oscillations, progressive waves & Fourier analysis of square wave.	

POLITICAL SCIENCE

Semester	Course/ Subject	Course outcome	Program outcome (summary of all six semesters)
First	Key concepts in Political Science	1. Students will have an understanding of the basic concepts and aspects related to Political Science. 2. Students have an internalisation of the values of responsible and active citizenry. 3. Students will be prepared for constructive involvement with the political system with an awareness of the core values. 4. Students have an understanding of the dimensions of politics - linkages, and the priorities in the society.	Political Science department enables the students to understand the need for Political education and Constitution. It also explains the role of Constitution in a Democratic society. Students can also understand and demonstrate the ideas, themes of political philosophy and ideologies which they examined. Students will be able to compare the policies and political systems of various governments around the Globe. It inculcates knowledge of various concepts of International Relations. Students can analyse the significance of the negotiations, agreements and the maintenance of International Peace and Security. Department enables the students to explain the government mechanisms from Gram Panchayath to Central and can suggest solutions over various issues in its functioning and implementation. Students can work as administrator, Political Scientist, Lawyers, Political party advisors, researcher scholar or can freelance political thinker and writer. It

			trains about the politics and Government at local, State, National and Global levels. The subject Knowledge can be utilized for the preparation of competitive examinations
Second	Western Political Thought	1. Students have an understanding of the distinct features, diverse intellectual and Philosophical traditions of the west 2 Students develop a critical perspective on the western political thought on governance and political order.	
Third	Indian Government and Politics	1. Students have an understanding of the functioning and Philosophy of the Indian Government and Politics. 2 .Students grasp the performance& challenges of both the Union and state governments. 3 Students inculcate the knowledge of the various power structures, response of the political parties and the effects of judicial decisions on policy making and social development in India.	

	Parliamentary Procedures in India	1. Students have a basic understanding of parliamentary system of governments and the constitutional provisions relating to the Parliamentary procedures in India. 2. Students will become familiar with the legislative procedures and practices as well as the working of Parliamentary Committees, budgetary aspects and deliberative mechanism in India. 3. Students have an understanding of the institutional mechanism for working of democracy, learn about the privileges of people's representatives and will be able to assess their performance	
Fourth	Ancient Indian Political Ideas and Institutions	1. Students have an understanding of the social and political philosophy of ancient India. 2. Students will be able to assess modern notions on socio-political arrangements with an understanding of ancient India and its concepts like Dharma, Rajadharma, Dandannethi, Nyaya etc. 3. Students have a critical reflection on the ideas and institutions of ancient India and appreciate the texts and stories that reflect upon our own experience. 4. Students will be able to revisit our own socio-political structures through understanding of the textual	

	Modern Political Analysis	and non-textual sources related to early India. 1. Students will have an understanding of the functioning of political institutions. 2. Students understand the political process and various influences operating thereupon. 3. Students will be able to assess the functioning of the governments and its output.	
Fifth	International Relations- Basic Concepts Comparative Government and Politics	1. Students will be in a position to describe National interest, National power. 2. The students will get the basic knowledge of the practical political world and operating institutions. 3. The students will be in a position to describe the concept of balance of power, collective security and diplomacy and its relevance. 4. Students will be in a position to understand the sources of employment in and around the foreign affairs of specific countries. 1. Grasp and understand the working of constitutional systems of these countries. 2. Understand and explain different forms of executive and their functioning	

	Karnataka Government and Politics	3. Understand and utilize the knowledge for facing the competitive examinations. 1. Enables the students to understand the state politics as well as federal relationships in India. 2. Understand the social and political conditions of Mysore under colonial rule. 3. Develop perspectives on the important persons and organizations involved in the process of unification. 4. Analyze the issues related to regionalism, polarization, identity politics, water, language, and border issues.	
Sixth	International Relations-theoretical Aspects Political Economy of India	1. Get exposed to theories and identify them with examples by relating them to contemporary events across the globe. 2. Interpret world affairs in the light of theories which will serve as a key intellectual tool. 1. Students learn about the political dimension of economics and provides them the skills to manage the economy. 2. Be exposed to interdisciplinary thinking and helps them to assess the relationship between policy and its impact on various areas like food & agriculture, Industry & labour Infrastructure,	

	Modern Indian Political Thinkers	1. Know the political ideas contributed in making of modern Indian Political System.. 2. Learn about the role of political thinking in resolving socio-political problems of the country.	

PSYCHOLOGY (UG)

Semester	Course/ Subject	Course outcome	Program outcome (summary of all six semesters)
Semester I	Dynamics of behaviour. I	1. Have sound knowledge of the roots of Psychology 2. Understand dynamics of human behaviour. 3. Comprehend biological foundation of human behaviour 4. Comprehend the process of sensation ,perception and attention	➤ Understand the value of psychology in personal and professional domains. □ ➤ Increased recognition and acceptance of the complexity of human behaviour. □ ➤ Understand the application of statistics and related skills in psychological research. □ ➤ Able to collaborate effectively to complete tasks within
Semester II	Foundations of behaviour II	1. Have sound knowledge of the roots of Psychology	

		2. Understand dynamics of human behaviour. 3. Comprehend biological foundation of human behaviour 4. Comprehend the process of sensation ,perception and attention	reasonable time frames. □ ➤ Administer and interpret standardized tools for psychological assessment of diverse dimensions of human behavior. □ ➤ Display competence in sensitive oral communication skills and analytical skills.
Semester III	Child development III	1. Understand various domains of development 2. Use different research methods in different situations. 3. Understand the stages of development in different areas of development 4. Gain knowledge about the problems of each developmental area and the effect on personality	
Semester IV	Life span development IV	1. Understand the relationship between physical growth and psychological development. 2. Understand the issues in each stage of development and	

		4. Understand different types of mental disorders, causes and treatment plans	
Semester VI	Health Psychology VII	1. Understand the Fundamentals of Health Psychology and need for the field of health psychology. 2. Understand and analyze Health Behaviours: 3. Evaluate Health-Enhancing and Compromising Behaviors with respect to mental and physical health. 4. Understand the lifestyle diseases and apply required coping strategies 1. Understand the concept of organizational behavior. 2. Understand qualities of effective leadership 3. Understand the uses of psychology at workplace. 4. Understand the psychology of buying	

	Organizational Behaviour VIII		

SANSKRIT

SEP Syllabus

Semester	Course/ Subject	Course outcome	Program outcome(summary of all two semesters)
I	BA/BSW/BVA/BH RD – UASSKL11	1. This course aims to get the students acquainted with classical Sanskrit Prose Literature along with modern Sanskrit Literature. 2. It intends to give an understanding of literature, through which students will be able to understand and interpret the Sanskrit texts. 3. Texts from Ramayana, Mahabharata, Upanishad, Panchatantra, Harshacharita etc, to enrich the imaginative and creative abilities of the students. 4. The study of Ancient Indian Literature would enable students gain moral values and life values which can be incorporated into their daily lives. 5. The course also seeks to help the students negotiate the text independently with the help of proficiency and Sanskrit Language and Grammar. 6. Grammar is an integral part of a language class, where in students are trained to speak and write in Sanskrit without errors.	1. Students can learn about the structure and rules of Sanskrit, including verb conjugations, noun declensions, and sentence construction. 2. Students can learn to appreciate ancient Indian literature and culture, and gain a deeper understanding of the time's history, philosophy, and religious beliefs. 3. Sanskrit has had a major impact on other Indian languages, such as Hindi, Kannada, and Malayalam. It

		7. This semester focuses on Namapada, sarvanama, Kriyapada and Change of Voice.	has also influenced Sino-Tibetan languages. 4. Students can learn to write Devnagari scripts, which can help them read modern languages like Hindi and Marathi. 5. Students can be inspired to undertake a research project that delves deeper into a specific aspect of the literature studied.
II	BA/BSW/BVA/BH RD – UASSKL21	1. This course aims to get the students acquainted with classical Sanskrit Poetry. 2. It intends to give an understanding of literature, through which students will be able to understand the poetic nuances. They develop the ability to use language in a descriptive way. 3. This course helps students to know about Subhashitas, Itihaasa Kavya, Mahakavya etc and the various Chandas used in Sanskrit Poetry. 4. The study of Ancient Indian Literature would enable students gain moral values and life values which can be incorporated into their daily lives. 5. The course also seeks to help the students negotiate the text	1. Students can learn about the structure and rules of Sanskrit, including verb conjugations, noun declensions, and sentence construction. 2. Students can learn to appreciate ancient Indian literature and culture, and gain a deeper understanding of the time's history, philosophy, and religious beliefs.

		independently with the help of proficiency in Sanskrit Language and Grammar. 6. Grammar is an integral part of a language class, where in students are trained to speak and write in Sanskrit without errors. 7. This semester focuses on Krudanta, Karaka, Taddhita and Samasa.	3. Sanskrit has had a major impact on other Indian languages, such as Hindi, Kannada, and Malayalam. It has also influenced Sino-Tibetan languages. 4. Students can learn to write Devnagari scripts, which can help them read modern languages like Hindi and Marathi. 5. Students can be inspired to undertake a research project that delves deeper into a specific aspect of the literature studied.
I	BCOM – UCMSKL11	1. This course aims to get the students acquainted with classical Sanskrit Prose Literature along with modern Sanskrit Literature. 2. It intends to give an understanding of literature, through which students will be able to understand and interpret the Sanskrit texts. 3. Texts from Ramayana, Mahabharata, Upanishad, Panchatantra, Harshacharita etc, to enrich the imaginative and creative abilities of the students.	1. Students can learn about the structure and rules of Sanskrit, including verb conjugations, noun declensions, and sentence construction. 2. Students can learn to appreciate ancient Indian literature and

		4. The study of Ancient Indian Literature would enable students gain moral values and life values which can be incorporated into their daily lives. 5. The course also seeks to help the students negotiate the text independently with the help of proficiency in Sanskrit Language and Grammar. 6. Grammar is an integral part of a language class, where in students are trained to speak and write in Sanskrit without errors. 7. This semester focuses on Shabdaparichaya, Namapada, sarvanama, Kriyapada and Change of Voice.	culture, and gain a deeper understanding of the time's history, philosophy, and religious beliefs. 3. Sanskrit has had a major impact on other Indian languages, such as Hindi, Kannada, and Malayalam. It has also influenced Sino-Tibetan languages. 4. Students can learn to write Devnagari scripts, which can help them read modern languages like Hindi and Marathi. 5. Students can be inspired to undertake a research project that delves deeper into a specific aspect of the literature studied.
II	BCOM – UCMSKL21	1. This course aims to get the students acquainted with classical Sanskrit Poetry. 2. It intends to give an understanding of literature, through which students will be able to understand the poetic nuances. They develop the	1. Students can learn about the structure and rules of Sanskrit, including verb conjugations, noun

		ability to use language in a descriptive way. 3. This course helps students to know about Subhashitas, Itihaasa Kavya, Mahakavya etc and the various Chandas used in Sanskrit Poetry. 4. The study of Ancient Indian Literature would enable students gain moral values and life values which can be incorporated into their daily lives. 5. The course also seeks to help the students negotiate the text independently with the help of proficiency in Sanskrit Language and Grammar. 6. Grammar is an integral part of a language class, where in students are trained to speak and write in Sanskrit without errors. 7. This semester focuses on Krudanta, Karaka, Taddhita and Samasa.	declensions, and sentence construction. 2. Students can learn to appreciate ancient Indian literature and culture, and gain a deeper understanding of the time's history, philosophy, and religious beliefs. 3. Sanskrit has had a major impact on other Indian languages, such as Hindi, Kannada, and Malayalam. It has also influenced Sino-Tibetan languages. 4. Students can learn to write Devnagari scripts, which can help them read modern languages like Hindi and Marathi. 5. Students can be inspired to undertake a research project that delves deeper into a specific aspect of the literature studied.

I	BSc/FND/BHS/BF D/BID/BHM/BSA/ BFT/BCS – USCSKL11	1. This course aims to get the students acquainted with classical Sanskrit Prose Literature along with modern Sanskrit Literature. 2. It intends to give an understanding of literature, through which students will be able to understand and interpret the Sanskrit texts. 3. Texts from Ramayana, Mahabharata, Upanishad, Panchatantra, Harshacharita etc, to enrich the imaginative and creative abilities of the students. 4. The study of Ancient Indian Literature would enable students gain moral values and life values which can be incorporated into their daily lives. 5. The course also seeks to help the students negotiate the text independently with the help of proficiency and Sanskrit Language and Grammar. 6. Grammar is an integral part of a language class, where in students are trained to speak and write in Sanskrit without errors. 7. This semester focuses on Namapada, sarvanama, Kriyapada and Change of Voice.	1. Students can learn about the structure and rules of Sanskrit, including verb conjugations, noun declensions, and sentence construction. 2. Students can learn to appreciate ancient Indian literature and culture, and gain a deeper understanding of the time's history, philosophy, and religious beliefs. 3. Sanskrit has had a major impact on other Indian languages, such as Hindi, Kannada, and Malayalam. It has also influenced Sino-Tibetan languages. 4. Students can learn to write Devnagari scripts, which can help them read modern languages like Hindi and Marathi. 5. Students can be inspired to

			undertake a research project that delves deeper into a specific aspect of the literature studied.
II	BSc/FND/BHS/BFD/BID/BHM/BSA/BFT/BCS – USCSKL21	1. This course aims to get the students acquainted with classical Sanskrit Poetry. 2. It intends to give an understanding of literature, through which students will be able to understand the poetic nuances. They develop the ability to use language in a descriptive way. 3. This course helps students to know about Subhashitas, Itihaasa Kavya, Mahakavya etc and the various Chandas used in Sanskrit Poetry. 4. The study of Ancient Indian Literature would enable students gain moral values and life values which can be incorporated into their daily lives. 5. The course also seeks to help the students negotiate the text independently with the help of proficiency in Sanskrit Language and Grammar. 6. Grammar is an integral part of a language class, where in students are trained to speak and write in Sanskrit without errors. 7. This semester focuses on Krudanta, Karaka, Taddhita and Samasa.	1. Students can learn about the structure and rules of Sanskrit, including verb conjugations, noun declensions, and sentence construction. 2. Students can learn to appreciate ancient Indian literature and culture, and gain a deeper understanding of the time's history, philosophy, and religious beliefs. 3. Sanskrit has had a major impact on other Indian languages, such as Hindi, Kannada, and Malayalam. It has also influenced Sino-Tibetan languages. 4. Students can learn to write Devnagari

			scripts, which can help them read modern languages like Hindi and Marathi. 5. Students can be inspired to undertake a research project that delves deeper into a specific aspect of the literature studied.
I	BBA – UBASKL11	1. This course aims to get the students acquainted with classical Sanskrit Prose Literature along with modern Sanskrit Literature. 2. It intends to give an understanding of literature, through which students will be able to understand and interpret the Sanskrit texts. 3. Texts from Ramayana, Mahabharata, Upanishad, Panchatantra, Mahakavyam etc., to enrich the imaginative and creative abilities of the students. 4. The study of Ancient Indian Literature would enable students gain moral values and life values which can be incorporated into their daily lives. 5. The course also seeks to help the students negotiate the text independently with the help of proficiency and Sanskrit Language and Grammar. 6. Grammar is an integral part of a language class, where in	1. Students can learn about the structure and rules of Sanskrit, including verb conjugations, noun declensions, and sentence construction. 2. Students can learn to appreciate ancient Indian literature and culture, and gain a deeper understanding of the time's history, philosophy, and religious beliefs. 3. Sanskrit has had a major impact on other Indian languages, such as Hindi, Kannada, and

		students are trained to speak and write in Sanskrit without errors. 7. This semester focuses on Shabdaparichaya, Namapada, sarvanama, Lakaaraas, Shabda Parichaya and Change of Voice.	Malayalam. It has also influenced Sino-Tibetan languages. 4. Students can learn to write Devnagari scripts, which can help them read modern languages like Hindi and Marathi. 5. Students can be inspired to undertake a research project that delves deeper into a specific aspect of the literature studied.
II	BBA – UBASKL21	1. This course aims to get the students acquainted with classical Sanskrit Poetry. 2. It intends to give an understanding of literature, through which students will be able to understand the poetic nuances. They develop the ability to use language in a descriptive way. 3. This course helps students to know about Subhashitas, Itihaasa Kavya, Mahakavya etc and the various Chandas used in Sanskrit Poetry. 4. The study of Ancient Indian Literature would enable students gain moral values and life values which can be incorporated into their daily lives.	1. Students can learn about the structure and rules of Sanskrit, including verb conjugations, noun declensions, and sentence construction. 2. Students can learn to appreciate ancient Indian literature and culture, and gain a deeper understanding of the time's history, philosophy,

		5. The course also seeks to help the students negotiate the text independently with the help of proficiency in Sanskrit Language and Grammar. 6. Grammar is an integral part of a language class, where in students are trained to speak and write in Sanskrit without errors. 7. This semester focuses on Krudanta, Karaka, Taddhita and Samasa.	and religious beliefs. 3. Sanskrit has had a major impact on other Indian languages, such as Hindi, Kannada, and Malayalam. It has also influenced Sino-Tibetan languages. 4. Students can learn to write Devnagari scripts, which can help them read modern languages like Hindi and Marathi. 5. Students can be inspired to undertake a research project that delves deeper into a specific aspect of the literature studied.
I	BCA – UCASKL11	1. This course aims to get the students acquainted with classical Sanskrit Prose Literature along with modern Sanskrit Literature. 2. It intends to give an understanding of literature, through which students will be able to understand and interpret the Sanskrit texts. 3. Texts from Ramayana, Mahabharata, Upanishad, Panchatantra, kadambari,	1. Students can learn about the structure and rules of Sanskrit, including verb conjugations, noun declensions, and sentence construction. 2. Students can learn to appreciate

		NeethiShatakam etc, to enrich the imaginative and creative abilities of the students. 4. The study of Ancient Indian Literature would enable students gain moral values and life values which can be incorporated into their daily lives. 5. The course also seeks to help the students negotiate the text independently with the help of proficiency and Sanskrit Language and Grammar. 6. Grammar is an integral part of a language class, where in students are trained to speak and write in Sanskrit without errors. 7. This semester focuses on Shabdaparichaya, Namapada, sarvanama, Lakaraas and Change of Voice.	ancient Indian literature and culture, and gain a deeper understanding of the time's history, philosophy, and religious beliefs. 3. Sanskrit has had a major impact on other Indian languages, such as Hindi, Kannada, and Malayalam. It has also influenced Sino-Tibetan languages. 4. Students can learn to write Devnagari scripts, which can help them read modern languages like Hindi and Marathi. 5. Students can be inspired to undertake a research project that delves deeper into a specific aspect of the literature studied.
II	BCA – UCASKL21	1. This course aims to get the students acquainted with classical Sanskrit Poetry. 2. It intends to give an understanding of literature, through which students will be	1. Students can learn about the structure and rules of Sanskrit, including verb

		able to understand the poetic nuances. They develop the ability to use language in a descriptive way. 3. This course helps students to know about Subhashitas, Itihaasa Kavya, Mahakavya etc and the various Chandas used in Sanskrit Poetry. 4. The study of Ancient Indian Literature would enable students gain moral values and life values which can be incorporated into their daily lives. 5. The course also seeks to help the students negotiate the text independently with the help of proficiency in Sanskrit Language and Grammar. 6. Grammar is an integral part of a language class, where in students are trained to speak and write in Sanskrit without errors. 7. This semester focuses on Krudanta, Karaka, Taddhita and Samasa.	conjugations, noun declensions, and sentence construction. 2. Students can learn to appreciate ancient Indian literature and culture, and gain a deeper understanding of the time's history, philosophy, and religious beliefs. 3. Sanskrit has had a major impact on other Indian languages, such as Hindi, Kannada, and Malayalam. It has also influenced Sino-Tibetan languages. 4. Students can learn to write Devnagari scripts, which can help them read modern languages like Hindi and Marathi. 5. Students can be inspired to undertake a research project that delves deeper into a specific aspect of the

			literature studied.

NEP Syllabus -

Semester	Course/ Subject	Course outcome	Program outcome(summary of all two semesters)
III	BA- BASSKLN301 BSW – BSWSKLN301 BVA – BVASKLN301 BHRD – HRDSKLN301	1. This course aims to acquaint the students with Champu Kavyas. 2. Champu Kavyas are the beautiful blend of prose and poetry in Sanskrit Literature which not only reflect poetic excellence but also depicts contemporary society and highlights human values, which would help students in their daily lives. 3. The students in this semester are also introduced to specific texts in keeping with their course of study. 4. The students of arts study portions of Bharata's Natyashastra, Nirvahanashatra as depicted in Mahabharata, Ashtangayoga in Yogashastra, Indriyavijaya, Manonigraha from Koutilyas Arthashastra, which would not only help in their course of study but also allows them imbibe	• At the graduation level in Sanskrit, students develop a comprehensive understanding of the Sanskrit language, its grammar, literature, and cultural heritage. • They acquire proficiency in reading, writing, speaking, and understanding Sanskrit texts, including classical works, scriptures, and philosophical treatises. • Graduates gain knowledge of major Sanskrit texts, authors, and literary traditions, enabling them to critically analyze and interpret ancient Indian literature. They also develop an appreciation for the rich cultural and philosophical traditions associated with Sanskrit. • Students enhance their research skills, enabling them to delve into original Sanskrit sources and contribute to the field of Sanskrit studies. • Graduates of Sanskrit possess valuable skills for careers in academia, research, translation, archaeology, heritage preservation, cultural studies, and various fields that require expertise in

		moral values and life skills. 5. Students are introduced to the concepts of Alankarashastra, such as Rasa, Reeti, Guna etc. 6. The semester also focuses on Nyayas which enables students learn certain proverbs which have hidden in depth meaning and explanation. Understanding this would improve the writing and public speaking skills of students.	Sanskrit language, literature, and ancient Indian wisdom
IV	BA- BASSKLN401 BSW – BSWSKLN401 BVA – BVASKLN401 BHRD – HRDSKLN401	1. This course aims to acquaint the students with popular Classical Dramas in Sanskrit literature. 2. The course also teaches in detail the origin, development and lakshanas of Sanskrit Drama, which gives in depth knowledge on Sanskrit literature. 3. Sanskrit Dramas not only reflect prose and poetic excellence but also depicts contemporary society and highlights human values, which helps the students.	• At the graduation level in Sanskrit, students develop a comprehensive understanding of the Sanskrit language, its grammar, literature, and cultural heritage. • They acquire proficiency in reading, writing, speaking, and understanding Sanskrit texts, including classical works, scriptures, and philosophical treatises. • Graduates gain knowledge of major Sanskrit texts, authors, and literary traditions, enabling them to critically analyze and interpret ancient Indian literature. They also develop an appreciation for the rich cultural and philosophical traditions associated with Sanskrit.

		4. The students also learn the theoretical aspects related to the production of the play. The concepts like Rasa, Bhava, Abhinaya are blended into the teaching learning of the play. 5. The semester also focuses on Chandassu and Alankara, which enables students learn to compose Shlokas and recite them.	- Students enhance their research skills, enabling them to delve into original Sanskrit sources and contribute to the field of Sanskrit studies. - Graduates of Sanskrit possess valuable skills for careers in academia, research, translation, archaeology, heritage preservation, cultural studies, and various fields that require expertise in Sanskrit language, literature, and ancient Indian wisdom
III	BCOM – BCMSKLN301	1. This course aims to acquaint the students with Champu Kavyas. 2. Champu Kavyas are the beautiful blend of prose and poetry in Sanskrit Literature which not only reflect poetic excellence but also depicts contemporary society and highlights human values, which would help students in their daily lives. 3. The students in this semester are also introduced to specific texts in keeping with their course of study. 4. The students of Commerce will study Arthaneeti, Rajaneeti from Kautilyas Arthashastram, Manu	- At the graduation level in Sanskrit, students develop a comprehensive understanding of the Sanskrit language, its grammar, literature, and cultural heritage. - They acquire proficiency in reading, writing, speaking, and understanding Sanskrit texts, including classical works, scriptures, and philosophical treatises. - Graduates gain knowledge of major Sanskrit texts, authors, and literary traditions, enabling them to critically analyze and interpret ancient Indian literature. They also develop an appreciation for the rich cultural and philosophical traditions associated with Sanskrit. - Students enhance their research skills, enabling them to delve into original Sanskrit sources and

		agement and administration Skills, Manonigraha from Bhagavadgeeta, Taxation , Rajaneeti, Adhikara Vikendrikarana from Mahabharata, Agriculture from Krishiparasharawhi ch would not only help in their course of study but also allows them imbibe moral valus and life skills. 5. Students are also introduced to the art of Letter Writing and Resume Writing in Sanskrit. 6. The semester also focuses on Nyayas , which enables students learn certain proverbs which have hidden in depth meaning and explanation. Understanding this would improve the writing and public speaking skills of students.	contribute to the field of Sanskrit studies. • Graduates of Sanskrit possess valuable skills for careers in academia, research, translation, archaeology, heritage preservation, cultural studies, and various fields that require expertise in Sanskrit language, literature, and ancient Indian wisdom
IV	BCOM – BCMSKLN401	1 This course aims to acquaint the students with popular Classical Dramas in Sanskrit literature. 2 The course also teaches in detail the origin, development and lakshanas of Sanskrit Drama, which gives	• At the graduation level in Sanskrit, students develop a comprehensive understanding of the Sanskrit language, its grammar, literature, and cultural heritage. • They acquire proficiency in reading, writing, speaking, and understanding Sanskrit texts, including classical

		in depth knowledge on Sanskrit literature. 3 Sanskrit Dramas not only reflect prose and poetic excellence but also depicts contemporary society and highlights human values, which helps the students. 4 The students also learn the theoretical aspects related to the production of the play. The concepts like Rasa, Bhava, Abhinaya are blended into the teaching learning of the play. 5 The semester also focuses on Chandassu and Alankara, which enables students learn to compose Shlokas and recite them.	works, scriptures, and philosophical treatises. • Graduates gain knowledge of major Sanskrit texts, authors, and literary traditions, enabling them to critically analyze and interpret ancient Indian literature. They also develop an appreciation for the rich cultural and philosophical traditions associated with Sanskrit. • Students enhance their research skills, enabling them to delve into original Sanskrit sources and contribute to the field of Sanskrit studies. • Graduates of Sanskrit possess valuable skills for careers in academia, research, translation, archaeology, heritage preservation, cultural studies, and various fields that require expertise in Sanskrit language, literature, and ancient Indian wisdom
III	BSC – BSCSKLN301 FND – FNDSKLN301 BHS – BHSSKLN301 BFD – BFDSKLN301 BID – BIDSKLN301 BHM – BHMSKLN301	1 This course aims to acquaint the students with Champu Kavyas. 2 Champu Kavyas are the beautiful blend of prose and poetry in Sanskrit Literature which not only reflect poetic excellence but also depicts contemporary society and highlights human values, which	• At the graduation level in Sanskrit, students develop a comprehensive understanding of the Sanskrit language, its grammar, literature, and cultural heritage. • They acquire proficiency in reading, writing, speaking, and understanding Sanskrit texts, including classical works, scriptures, and philosophical treatises. • Graduates gain knowledge of major Sanskrit texts,

	BSA – BSASKLN301 BFT – BFTSKLN301 BCS – BCSSKLN301	would help students in their daily lives. 3 The students in this semester are also introduced to specific texts in keeping with their course of study. 4 The students of Science study Sasyajeevavaividya m (Plant diversity) from Bhagavatha, Personal and Societal Health from Ashtanghrudayam , Ayurveda from ancient Sanskrit literature, Chemisrty from Mahabharata, Yoga from Patanjala Yogadarshanam which would not only help in their course of study but also allows them imbibe moral values and life skills. 5 The semester also focuses on Nyayas , which enables students learn certain proverbs which have hidden in depth meaning and explanation. Understanding this would improve the writing and public speaking skills of students.	authors, and literary traditions, enabling them to critically analyze and interpret ancient Indian literature. They also develop an appreciation for the rich cultural and philosophical traditions associated with Sanskrit. • Students enhance their research skills, enabling them to delve into original Sanskrit sources and contribute to the field of Sanskrit studies. • Graduates of Sanskrit possess valuable skills for careers in academia, research, translation, archaeology, heritage preservation, cultural studies, and various fields that require expertise in Sanskrit language, literature, and ancient Indian wisdom

IV	BSC – BSCSKLN401 FND – FNDSKLN401 BHS – BHSSKLN401 BFD – BFDSKLN401 BID – BIDSKLN401 BHM – BHMSKLN401 BSA – BSASKLN401 BFT – BFTSKLN401 BCS – BCSSKLN401	1. This course aims to acquaint the students with popular Classical Dramas in Sanskrit literature. 2. The course also teaches in detail the origin, development and lakshanas of Sanskrit Drama, which gives in depth knowledge on Sanskrit literature. 3. Sanskrit Dramas not only reflect prose and poetic excellence but also depicts contemporary society and highlights human values, which helps the students. 4. The students also learn the theoretical aspects related to the production of the play. The concepts like Rasa, Bhava, Abhinaya are blended into the teaching learning of the play. 5. The semester also focuses on Chandassu and Alankara, which enables students learn to compose Shlokas and recite them.	• At the graduation level in Sanskrit, students develop a comprehensive understanding of the Sanskrit language, its grammar, literature, and cultural heritage. • They acquire proficiency in reading, writing, speaking, and understanding Sanskrit texts, including classical works, scriptures, and philosophical treatises. • Graduates gain knowledge of major Sanskrit texts, authors, and literary traditions, enabling them to critically analyze and interpret ancient Indian literature. They also develop an appreciation for the rich cultural and philosophical traditions associated with Sanskrit. • Students enhance their research skills, enabling them to delve into original Sanskrit sources and contribute to the field of Sanskrit studies. • Graduates of Sanskrit possess valuable skills for careers in academia, research, translation, archaeology, heritage preservation, cultural studies, and various fields that require expertise in Sanskrit language, literature, and ancient Indian wisdom

III	BBA – BBASKLN301	1. This course aims to acquaint the students with Champu Kavyas. 2. Champu Kavyas are the beautiful blend of prose and poetry in Sanskrit Literature which not only reflect poetic excellence but also depicts contemporary society and highlights human values, which would help students in their daily lives. 3. The students in this semester are also introduced to specific texts in keeping with their course of study. 4. The students of Commerce and Management will study the history of Management (Vaniyashastra) according to Sanskrit literature , Arthaneeti, Rajaneeti from Chanakya neeti, Taxation , Rajaneeti, Adhikara Vikendrikarana from Mahabharata, would not only help in their course of study but also allows them imbibe moral values and life skills. 5. Students are also introduced to the art of Letter Writing	• At the graduation level in Sanskrit, students develop a comprehensive understanding of the Sanskrit language, its grammar, literature, and cultural heritage. • They acquire proficiency in reading, writing, speaking, and understanding Sanskrit texts, including classical works, scriptures, and philosophical treatises. • Graduates gain knowledge of major Sanskrit texts, authors, and literary traditions, enabling them to critically analyze and interpret ancient Indian literature. They also develop an appreciation for the rich cultural and philosophical traditions associated with Sanskrit. • Students enhance their research skills, enabling them to delve into original Sanskrit sources and contribute to the field of Sanskrit studies. • Graduates of Sanskrit possess valuable skills for careers in academia, research, translation, archaeology, heritage preservation, cultural studies, and various fields that require expertise in Sanskrit language, literature, and ancient Indian wisdom

		and Resume Writing in Sanskrit. 6. The semester also focuses on Nyayas , which enables students learn certain proverbs which have hidden in depth meaning and explanation. Understanding this would improve the writing and public speaking skills of students.	
IV	BBA – BBASKLN401	1. This course aims to acquaint the students with popular Classical Dramas in Sanskrit literature. 2. The course also teaches in detail the origin, development and lakshanas of Sanskrit Drama, which gives in depth knowledge on Sanskrit literature. 3. Sanskrit Dramas not only reflect prose and poetic excellence but also depicts contemporary society and highlights human values, which helps the students. 4. The students also learn the theoretical aspects related to the production of the play. The concepts like Rasa, Bhava, Abhina	• At the graduation level in Sanskrit, students develop a comprehensive understanding of the Sanskrit language, its grammar, literature, and cultural heritage. • They acquire proficiency in reading, writing, speaking, and understanding Sanskrit texts, including classical works, scriptures, and philosophical treatises. • Graduates gain knowledge of major Sanskrit texts, authors, and literary traditions, enabling them to critically analyze and interpret ancient Indian literature. They also develop an appreciation for the rich cultural and philosophical traditions associated with Sanskrit. • Students enhance their research skills, enabling them to delve into original Sanskrit sources and contribute to the field of Sanskrit studies.

		ya are blended into the teaching learning of the play. 5. The semester also focuses on Chandassu and Alankara, which enables students learn to compose Shlokas and recite them.	• Graduates of Sanskrit possess valuable skills for careers in academia, research, translation, archaeology, heritage preservation, cultural studies, and various fields that require expertise in Sanskrit language, literature, and ancient Indian wisdom
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		from Patanjala Yogadarshanam, Personal and Societal Health from Ashtangahrudaya m, Karmayoga from Bhagavadgeeta, which would not only help in their course of study but also allows them imbibe moral values and life skills. 5. The semester also focuses on Nyayas , which enables students learn certain proverbs which have hidden in depth meaning and explanation. Understanding this would improve the writing and public speaking skills of students.	archaeology, heritage preservation, cultural studies, and various fields that require expertise in Sanskrit language, literature, and ancient Indian wisdom
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STATISTICS

Semester	Course/ Subject	Course outcome	Program outcome (summary of all six semesters)
I	Descriptive Statistics	- Acquire knowledge of introductory statistics, its scope and importance in various areas such as Medical, Engineering, Agricultural and Social Sciences etc - Learn various types of data, their organization and	- Develop and demonstrate an ability to understand major concepts in various disciplines of statistics. - Solve analytical problems independently and

		descriptive statistics such as presentations in tabular form graphs and summary measures such as measures of central tendency and dispersion etc. • Learn correlation, curve fitting, regression analysis, regression diagnostics, partial and multiple correlations.	draw logical conclusions. • Analyze, interpret the data and hence help policy makers to take a proper decision. • Have a knowledge regarding use of data analytics tools like excel R programming. • Use modern statistical techniques and statistical software to understand the concepts of statistics. • Think, acquire knowledge and skills through logical reasoning and inculcate the culture of self-learning • Create an awareness about the impact of statistics in real life and development outside the scientific community.
II	Probability and Distributions-I	• Conceptualize the probabilities of events including frequentist and axiomatic approach. • Learn concept of discrete and continuous random variables and their probability distributions including expectation and moments. • Learn Standard univariate discrete and continuous distributions and their applications disciplines of science.	
III	Calculus and Probability Distributions	• Judge continuity of a function, find integrations and solve problems of differentiability • Solve problems of various analytical environments using different	

		distributions and their properties. Find sampling distributions of functions of random variables and explore their applications	
IV	Statistical Inference-I	- Carryout statistical analysis by identifying families of distributions and the use of order statistics - To find estimators using different methods of estimation and compare estimators. - To carryout statistical inference using different tests of hypotheses under different scenarios. - Generate random variables and use these generated random variables for illustration of concepts studied in this course.	
V	Design and Analysis of Experiments	- Identity fixed and random effect models and one-way and two-way classified data. - Choose appropriate designs (CRD, RBD, LSD) and missing plot techniques for a real-life problem. - Identity appropriate factorial	

		experiments for the real-life problem. • Develop complete and partial confounding for factorial experiments.	
V	Matrix algebra and regression analysis	• Demonstrate and understanding of basic concepts of matrix algebra, including determinants, inverse and properties of various types of matrices. • Apply matrix algebra and linear algebra techniques to solve systems of linear equations, determine the rank of matrix, understanding quadratic forms and their applications in statistics, characteristic roots and vectors. • Understand the various aspects in simple and multiple linear regression models and their interpretation. • Apply regression analysis techniques to real world data sets.	
VI	Statistical Inference-II	• Basic aspects of decision theory and apply decision principles and	

		Bayes and minimax decision rule. • Apply and interpret UMP test, MLR property and Likelihood • Explore about sequential inference. • Apply one sample and two sample nonparametric tests.	
VI	Sampling techniques and Statistics for national development	• Understand the difference between probability and nonprobability sampling. • Understand different sampling techniques. • Understand official statistical system in India and their functions. • Understand the role statistics in national development.	

ZOOLOGY (UG)

Semester	Course/ Subject	Course outcome	Program outcome (summary of all six semesters)

I Sem (SEP)	Animal Diversity -I (Non chordates)	1. To identify the Invertebrates 2. to study the morphology of invertebrates 3. To study the Life cycle and pathogenicity of endoparasites	Analyze complex interaction among various animals of different phyla, their distribution and relationship with Environment
II Sem (SEP)	Animal Diversity -II (Chordates)	To identify the Chordates 2. to study the morphology of vertebrates 3. Classify Phylum Protochordates to Mammalia.	Student gain knowledge and skill in Fundamentals of animal sciences, understand the complex interactions among various living organisms
I Sem (NEP)	Cytology, Genetics and Infectious Diseases	1. The structure and function of the cell organelles. 2. The chromatin structure and its location. 3. The basic principle of life, how a cell divides leading to the growth of an 4. Organism and also reproduces to form a new organism. 5. How a cell communicates with its neighbouring cells.	Students gain knowledge and skill in the fundamentals of animal sciences, understands the complex interactions among various living organisms. Analyze complex interactions among the various animals of different phyla, their distribution and their relationship with the environment. Correlates the physiological processes of

		6. The principles of inheritance, Mendel 's laws and the deviations. 7. How environment plays an important role by interacting with genetic factors. 8. Detect chromosomal aberrations in humans and study of pedigree analysis.	animals and relationship of organ systems. Understands the complex evolutionary processes and behavior of animals. Gain knowledge of small-scale industries like sericulture, fish farming, bee keeping, aquaculture, animal husbandry, poultry farm. Apply the knowledge of internal structure of cell, its functions in control of various metabolic functions of organisms. Understands about various concepts of genetics and its importance in human health. Understanding of environmental conservation processes and its importance, pollution control and biodiversity and protection of endangered species. Apply ethical principles and commit to professional ethics and responsibilities in delivering his duties. Apply the knowledge and understanding of Zoology to one's own life and work. Develops empathy and love towards the animals.
II Sem (NEP)	Biochemistry and Physiology	1.To develop a deep understanding of structure of biomolecules like proteins, lipids and carbohydrates. 2. How simple molecules together form complex macromolecules. 3. To understand the thermodynamics of enzyme catalysed reactions. 4. Mechanisms of energy production at cellular and molecular levels. 5. To understand various functional components of an organism. 6. To explore the complex network of these functional components. 7. To comprehend the regulatory mechanisms for maintenance of function in the body.	

III Sem (NEP)	Molecular Biology, Bioinstrumentation & Techniques in Biology	1. After successful accomplishment of the course, the learners will be able to acquire better understanding and comprehensive knowledge regarding most of the essential aspects of Molecular Biology subject which in turn will provide a fantastic opportunity to develop professional skill related to the field of molecular biology. 2. The course will mainly focus on the study of principal molecular events of cell incorporating DNA Replication, Transcription and Translation in prokaryotic as well as eukaryotic organisms. 3. Acquiring knowledge on instrumentation and techniques in biology	
IV Sem (NEP)	Gene Technology, Immunology and Computational Biology	1. Acquaint knowledge on versatile tools and techniques employed in genetic engineering and recombinant DNA technology. 2. An understanding on application of genetic engineering techniques in basic and applied experimental biology. 3. To acquire a fundamental working knowledge of the basic principles of immunology.	

		4. To understand how these principles, apply to the process of immune function. 5. Use, and interpret results of, the principal methods of statistical inference and design; helps to communicate the results of statistical analyses accurately and effectively; helps in usage of appropriate tool of statistical software.	
V Sem (NEP)	NON-CHORDATES AND ECONOMIC ZOOLOGY	• Group the animals on the basis of their morphological characteristics/ structures. • Demonstrate comprehensive identification abilities of Non-Chordate diversity. • Explain structural and functional diversity of Non-Chordates. • Develop understanding on the diversity of life with regard to protists, no chordates and chordates. • Examine the diversity and evolutionary history of a taxon through the construction of a basic phylogenetic/ cladistics tree	

V Sem (NEP)	CHORDATES AND COMPARATIVE ANATOMY	• Demonstrate comprehensive identification abilities of chordate diversity • Explain structural and functional diversity of chordate diversity • Understand evolutionary relationship amongst chordates • Take up research in biological sciences. • Realize that very similar physiological mechanisms are used in very diverse organisms. • Get a flavour of research by working on project besides improving their writing skills. It will further enable the students to think and interpret individually	
VI Sem (NEP)	EVOLUTIONARY & DEVELOPMENTAL BIOLOGY	• Understand that by biological evolution we mean that many of the organisms that inhabit the earth today are different from those that inhabited it in the past. • Understand that natural selection is one of several processes that can bring about evolution although it can also promote stability rather than change. • Understand how the single cell formed at fertilization forms an embryo and then a full adult organism.	

		• Integrate genetics, molecular biology, biochemistry, cell biology, anatomy and physiology during embryonic development. • Understand a variety of interacting processes, which generate an organism's heterogeneous shapes, size, and structural features. • Understand how a cell behaves in response to an autonomous determinant or an external signal, and the scientific reasoning exhibited in experimental Life sciences	
VI Sem (NEP)	ENVIRONMENTAL BIOLOGY, WILDLIFE MANAGEMENT & CONSERVATIONS	• Develop an understanding of how animals interact with each other and their natural environment. • Develop the ability to use the fundamental principles of wildlife ecology to solve local, regional and national conservation and management issues. • Develop the ability to work collaborative team-based projects. • Gain an appreciation for the modern scope of scientific inquiry in the field of Wildlife conservation and management • Develop an ability to analyse, present and interpret Wildlife	

		conservation and management practices.	

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B.SC FASHION DESIGN

Semester	Course/ Subject	Course outcome	Program outcome(summary of all six semesters)

1 st semester	B.Sc Fashion Design	1.communication improved 2.Skills of practical's increased 3. Designing Ability Increased 4. Creativity increased	All first semester students creativity and working skills developed
3 rd semester	B.Sc Fashion Design	1. Communication Improved 2. Skills of Sewing practical Knowledge and ability increased 3. Designing skills increased	All third semester students creativity and working skills developed practically
5 th semester	B.Sc Fashion Design	1.Designing ability creating a new collections new designs Creating new designing ability skills 2. Skills of creating new trendy jewelries	All 5 th semester studentas has ability to skills of creating own business
2 nd sem ester	B.Sc Fashion Design	Improving skills of communication Coloring of Fabrics Skills of developing drawing rendering	All 6 th semester students has ability to skills of creating own designs and developing

4 th semester	B.Sc Fashion Design	Skills of developed the Sewing and designing with apparel production Skills of testing of fabrics	All the 4 th semester students has ability to create own business and also ability of working under industry designer , merchandiser
6 th semester	B.Sc Fashion Design	1. Trained under garment industry as a merchandiser 2. Improved communication in Their field in trainin	All students of six semester are able to work under garment industry as quality controller , Designer , Merchandiser, Visual merchandiser , Jewelries designer Own business like Boutique owner Garment industry

SOCIOLOGY

Sem ester	Course/ Subject	Course outcome	Program outcome(summary of all six semesters)
I	Sociology Fundamental USSOCBC11	• Student will able Understand the linkage between the social change and \factors. • To know the theoretical foundations of Sociology on which edifice of traditional Sociological theories are built. • Able to develop critical thinking, analytical • To. learn the historical, socio-economic and intellectual forces in the rise of sociological theory. • Able to understand the sociological theories of founding fathers	1. Understand the emergence of Sociology. 2. Know the foundations of Sociology. 3. Understand the contributions of early sociologists. 4. Impart critical thinking 5. Inculcate analytical ability to interpret the social scenario. 6. Understand the forces in the rise of sociological theory. 7. Understand the concepts of early sociologists 8. Student will able to understand the nature of inequalities in the society
II	Social Change, Stratification and Social Mobility	• Student will able to understand Nature of inequalities in the society • Dynamics of social groupings and discrimination. • Theories behind the social stratification and mobility. • The modes of social improvement people use. • Reservation policy and implications. • Welfare activities for the OBC Nature of social mobility	9. The forms of social stratification in India and their dynamics 10. The dynamics of social groupings and discrimination 11. The modes of social improvement people use in their life time. 12. The theories behind the social stratification and mobility 13. To understanding of the prevailing social issues and problems 14. Focus on the structural linkages and interrelationships.
III	Indian Society: Continuity and Change	• To Understand social issues and problems of contemporary India.	

		- To know change agents - governmental and non-governmental organizations.. - To know Emerging social issues and problems of contemporary India,. - To know Sociological understanding of issues and problems - To Empower to deal with issues and problems. - Better understanding of their own situation and region..	15. To Sensitize to the emerging social issues of contemporary India. 16. Acquire sociological understanding of social issues and problems 5. Gain a better understanding of their own situation and region. 17 Analyze the nature and direction of change in Indian society 18 Know the theoretical foundations of Sociology on which edifice of modern Sociological
III	Foundations of Sociological Theory	- To Understand the emergence of Sociology. - To Understand the contributions of early sociologists. - To Impart critical thinking - To Inculcate analytical ability to interpret the social scenario. - To Understand the forces in the rise of sociological theory. - To Understand the concepts of early sociologists	theories are built. . 19 to Develop critical thinking, analytical ability to interpret the social scenario around. 20 Learn the historical, socio-economic and intellectual forces in the rise of sociological theory. 21 To Understand the sociological theories of early sociologists as Auguste Comte, Herbert Spencer, Karl Marx, Max Weber and Emile Durkheim 22 The nature of inequalities in the society
III	Social Stratification and Mobility	- Understand the nature and role of social stratification nature of social mobility and its type - To Critically understand and analyse different theories of social stratification	23. The forms of social stratification in India and their dynamics 2425 24. The dynamics of social groupings and discrimination

		• Nature of inequalities in the society • Theories behind the social stratification and mobility • Reservation policy and implications • Welfare activities for the OBC	25. The modes of social improvement people use in their life time 26 to understand The theories behind the social stratification and mobility. 27 Able to understand sociological understanding of rural and urban society in India 28 To acquaint students with basic concepts in rural and urban studies 29 To analyse rural and urban problems in India 30 To provide knowledge of rural and urban governance. 31 To impart sociological skills to reconstruct rural institutions and rural development programmes to plan, monitor and evaluate rural development programmes. 32 To develop the understanding of students regarding the linkages between urban and rural
	Sociology of Urban Life in India	• To Define the basic concepts of Urban Sociology and types of city • To Analytically understand theoretical issues related to urban society • To Critically evaluate urban policies and rural problems • To Knowle rural and urban governance and rural reconstruct and development • To know Development programmes to plan, monitor and evaluate. • Understanding of the linkages between urban and rural reality	
IV	Sociology of Marginalised Groups	• To Know marginalization and marginalized groups in India • To Understand the impact of powerlessness in social life • To Focus on the neglected segments of the population.	

		• To Understand tribal communities and nomadic tribes. • To Focus communities in extreme poverty, deprivation and discrimination. • To know Nature of social exclusion in India. •	To focus on the segments of population lived on the margins of society. To Analyze the social situation of groups that have not received adequate attention. To sensitize students to the significance of the sociological study on Dalits.. To study the tribal communities and nomadic castes and tribes.
IV	Population and Society	• To Define the basic concepts of population studies • To Understand the dynamics of population from sociological perspectives • To Understand problems around India's population • To Critically analyze population policies of India	To focus on groups and communities which have suffered extreme poverty, deprivation and discrimination over a long period of time. To provide sociological understanding of population and society
V	Social Entrepreneurship	• To provide knowledge about social entrepreneurship • To help to develop social entrepreneurship imagination • To help them to start their own social enterprise or not for profit start-up as well as act innovative in the already working organization	To acquaint students with basic concepts in demographic studies To analyze population problems in India and trends To impart sociological skills to conduct population studies. To develop the understanding regarding the linkages between population and development Understand the theories on population and its policies
V	Tribal Society	• To provide basic knowledge about social	

		organization among tribal • To Critically understand the implications of changes occurring • To undertake micro research work and communicate effectively	• Understand the scope and need for social entrepreneurship • Plan and implement socially innovative ideas • Equipped to start their own social enterprise or non for profit organization.
			• To provide basic knowledge about social organization among tribal • To. Critically understand the implications of changes occurring • To Undertake micro research work and communicate effectively
V	Statistics in Social Research	To introduce statistical techniques for analyzing social science data To compute these basic statistics as appropriate for the data at hand • To Learn techniques for summarizing data, examining relationships among variables, generalizing from samples to populations, and testing statistical hypotheses	• To Introduction to sociological research and methods • To familiarize the students with the process of research • To introduce statistical techniques for analyzing social science data

VI	Sociological Perspectives	• To introduce major Sociological theoretical approaches • . To introduce and use fundamental categories of theory • . Compare and contrast the ways different theorists use the same or similar concepts to build or present their ideas	• Able to introduce major Sociological theoretical approaches • To introduce and use fundamental categories of theory • Compare and contrast the ways different theorists use the same or similar • concepts to build or present their ideas
VI	Sociology of Health	• To Understand the concept of health, illness and social conditions To Analyze the relationship between social factors and health status • To Understand the role of medical doctors, paramedics, pharmaceutical industry and social institutions in maintaining and promoting health	• Able to Understand the concept of health, illness and social conditions • To Analyse the relationship between social factors and health status • To Understand the role of medical doctors, paramedics, pharmaceutical industry and social institutions in maintaining and promoting health
VI	Society in Karnataka	• Enhance Sociological knowledge about the Local and Regional context of Karnataka • To Acquaint students with the changing trends in Karnataka with special reference to • To Development processes and politics • To Learn about the unique cultures in Karnataka	• To Enhance Sociological knowledge about the Local and Regional context of Karnataka • To Acquaint students with the changing trends in Karnataka with special reference to • Development processes and politics • To Learn about the unique cultures in Karnataka
VI	Project Dissertation	• To Able to conceptualize, formulate and conduct research projects.	To develop the ability to conceptualize, formulate and conduct simple research projects. Able to learn to

		• To Assess the research studies and findings. • Acquaint skills for library work and documentation. • To develop logical thinking and critical analysis. • To learn Field-work skills and experience. • To develop Writing skills, reference skills • To learn Techniques of data collections. Methodologies in social analysis	assess the research studies and findings. To Develop the skills for library work and documentation for research. To develop favourable attitudes for the integration of research and theory. To Develop logical thinking and critical analysis.

ENGLISH

Semester	Course/ Subject	Course outcome	Program outcome(summary of all six semesters)
II,IV,V and VI (NEP)	English	1. Be able to demonstrate a broad knowledge of major and minor writers, texts and contexts defining issues of canonical and non-canonical literature 2. Be enriched by familiarity with other literatures and more importantly with Indian writers, their ethos and tradition of writing and discourse 3. Have honed their skills of remembering, understanding, applying, analyzing, and evaluating literature	PO-01: Be able to demonstrate a broad knowledge of major and minor writers, texts and contexts, defining issues of canonical and non-canonical literature PO-02: Have honed their skills of understanding, applying, analyzing, and evaluating literature PO-03: Be able to write with clarity, creativity and persuasiveness.

		4. Be able to write with clarity, creativity and persuasiveness 5. Develop and demonstrate an awareness of the significance of literature and literary forms 6. Be equipped with advanced literary and linguistic skills 7. Have competency in the use of English from /for a variety of domains 8. Have a spirit of inquiry and critical thinking 9. Be able to articulate thoughts and generate /understand multiple interpretations 10. Locate and contextualize texts across theoretical orientations and cultural spaces 11. Possess reading and writing skills catering to academic and other professional disciplines viz. print and electronic media, advertising, content writing etc. 12. Imbibe a multi-disciplinary approach in higher education and research 13. Be skilled in multiple domains and careers 14. Become adept at the use of English in the current technological climate 15. Have hands-on work experience.	PO-04: Develop and demonstrate an awareness of the significance of literature and literary forms. PO-05: Be equipped with advanced literary and linguistic skills. PO-06: Have competency in the use of English from /for a variety of domains. PO-07: Have a spirit of inquiry and develop critical thinking. PO-08: Be able to articulate thoughts and generate /understand multiple interpretations of texts PO-09: Locate and contextualize texts across theoretical orientations and cultural spaces PO-10: Possess reading and writing skills catering to academic and other professional requirements, viz. print and electronic media, advertising, content writing etc. PO-11: Imbibe a multi-disciplinary approach in higher education and research PO-12: Be skilled in multiple domains of knowledge and prepared for multiple careers PO-13: Become adept in the use of English in the current technological climate

I and II SEMISTER (SEP)	ENGLISH	At the end of the course on Reading Literature, the students would: CO-01: Be familiar with terms and concepts in Literature CO-02: Be familiar with the generic construction of texts and the effects they produce in readers. CO-03: Be able to decipher the ways in which texts orient reader expectations. CO-04: Become alert to the ways in which texts reaffirm or critique the prevailing historical commonsense of the text as well as the reader. CO-05: Prepare the student as teachers of language and Literature	PO-01: Be able to demonstrate a broad knowledge of major and minor writers, texts and contexts, defining issues of canonical and non-canonical literature PO-02: Have honed their skills of understanding, applying, analyzing, and evaluating literature PO-03: Be able to write with clarity, creativity and persuasiveness. PO-04: Develop and demonstrate an awareness of the significance of literature and literary forms. PO-05: Be equipped with advanced literary and linguistic skills. PO-06: Have competency in the use of English from /for a variety of domains. PO-07: Have a spirit of inquiry and develop critical thinking. PO-08: Be able to articulate thoughts and generate /understand multiple interpretations of texts PO-09: Locate and contextualize texts across theoretical orientations and cultural spaces PO-10: Possess reading and writing skills catering to academic and other professional requirements, viz. print and electronic media, advertising, content writing etc.

			PO-11: Imbibe a multi-disciplinary approach in higher education and research PO-12: Be skilled in multiple domains of knowledge and prepared for multiple careers PO-13: Become adept in the use of English in the current technological climate
I and II SEMESTER (SEP)	Optional English	At the end of the course on Indian Writing in English, the students would: CO-01: Be familiar with the history of Indian writing in English and the politics of its colonial origins. CO-02: Be familiar with Indian English writers, and the spectrum of Indian English writings ranging from the eighteenth century to the present. CO-03: Learn about the many ways in which, and the many reasons for which, Indians have appropriated a foreign language and made it their own. CO-04: Have a nuanced understanding of how Indian English writing translated indigenous cultures and life patterns into the English language and the structures of power within which this took place. CO-05: Be professionally equipped to teach a paper in Indian Writing in English, to become editors in publishing houses and to review the proliferating number of Indian	PO-01: Be able to demonstrate a broad knowledge of major and minor writers, texts and contexts, defining issues of canonical and non-canonical literature PO-02: Have honed their skills of understanding, applying, analyzing, and evaluating literature PO-03: Be able to write with clarity, creativity and persuasiveness. PO-04: Develop and demonstrate an awareness of the significance of literature and literary forms. PO-05: Be equipped with advanced literary and linguistic skills. PO-06: Have competency in the use of English from /for a variety of domains. PO-07: Have a spirit of inquiry and develop critical thinking. PO-08: Be able to articulate thoughts and generate /understand multiple interpretations of texts

		English writings that are being published at present.	PO-09: Locate and contextualize texts across theoretical orientations and cultural spaces PO-10: Possess reading and writing skills catering to academic and other professional requirements, viz. print and electronic media, advertising, content writing etc. PO-11: Imbibe a multi-disciplinary approach in higher education and research PO-12: Be skilled in multiple domains of knowledge and prepared for multiple careers PO-13: Become adept in the use of English in the current technological climate

MALAYALAM

Semester	Course/ Subject	Course outcome	Program outcome(summary of all six semesters)
I	B.A/B.Sc/B.com/B.C.A UASMLL11/USCMLL11 UCMMLL11/UCAMLL11	1.Make awareness language proficiency 2. Giving knowledge about ancient Malayali literature 3. Giving awareness of Kerala culture and tradition	Acquire the ability to apply the basic tenants of logic and science to thoughts, actions and interventions 2 Develop the ability to chart out a progressive direction for actions and interventions by learning to recognize the presence of hegemonic ideology

			within certain dominant notions 3 Develop self- critical abilities and also the ability to view positions, problems and social issues from plural perspectives PO 2 Effective Citizenship 1 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. 2 Develop and practice gender sensitive attitudes, environmental awareness, the ability to understand and resist various kinds of discriminations and empathetic social awareness about various kinds of marginalisation. 3 Internalise certain highlights of the nations and region's history. Especially of the freedom movement, the renaissance within native societies and the project of modernisation of the post-colonial society
II	B.A/B.Sc/B.com/B.C.A UASMLL21/USCMLL21 UCMMLL21/UCAMLL1	1. Make awareness about Sanskrit drama 2. Make awareness	

		about kathakali 3. Malayalam grammar and composition	
III	BBA BBAMLLN301	1. Awareness about modern literature 2. Awareness about romanticism 3. Poems of mahakavi vallathol	
iv	BBA BBAMLLN401	1. Make awareness about post modern poem 2. Awareness about the novels of uroob 3. Awareness about modern drama	

PG COURSES

M.Sc. Biotechnology

Semester	Core subjects	Course outcome	Program outcome (summary of all semesters)
I	Biochemistry and biophysics	CO 1. Understand chemical bonds, thermodynamic principles and their applications in biological systems, and importance of pH and buffers in the cells.	PO 1 To engage and to involve the student in a challenging curriculum of the state-of-the-art in Biotechnology through a systematic study of the basics that support excellence in competitive examinations and lend competence to its

		CO 2. Elucidate diversity and function of major groups of biomolecules- carbohydrates, proteins, and lipids along with nucleic acids. CO 3. Differentiate catabolic and anabolic pathways of carbohydrates, amino acids, nucleic acids and lipids. CO 4. Analyze diverse structures seen in proteins including its secondary, tertiary and quaternary structure.	application in the medical, agriculture, industrial, pharmaceutical, environmental sectors through value-based education towards sustainable development. PO 2 The student is equipped with the required soft, transferable and technical skills through adequate practical sessions, test your learning through periodic tests, self-study by means of assignments and presentation skills through seminars, all essential for careers in the industry, academia or entrepreneurship.
	Molecular cell biology	CO 1. Have a primer on cell membrane structure and function, prokaryotic and eukaryotic cells, membrane structure, transport, electrical properties and composition. CO 2. Learn principles of techniques used to study cellular ultrastructure such as advanced microscopic techniques CO 3. Understand sub-cellular organization CO 4. Unravel chromatin and chromosomes CO 5. Comprehend the fascinating world of cell division, mitosis, meiosis, cell	

		cycle, molecular mechanisms that regulate life and death of a cell.	
	Microbiology	CO 1. Develop theoretical knowledge about origin and evolution of microorganisms, CO 2. Learn comparative morphology, structure and reproduction in bacteria, Cyanobacteria, yeast, fungi and viruses CO 3. Acquire knowledge on interactions of microorganisms with plants and animals, various diseases caused by microorganisms in humans and the role of antibiotics in controlling the diseases CO 4. Learn about the role of microorganisms in spoilage of food and various methods of food preservation.	
	Molecular Genetics	CO 1. Understand Mendelian laws of inheritance, deviations and exceptions to these laws. CO 2. Elucidate various types of recombination in Bacteria including transformation, transduction and conjugation	

		CO 3. Comprehend various types of mutations at the molecular level and types of DNA repair to fix the mutations upon DNA damage. CO 4. Learn about mobile genetic elements-transposable elements, mechanism of translocation and their distribution from prokaryotes to higher organism. CO 5. Understand population genetics, and about genotype and allelotype frequency calculation. CO 6. Differentiate between forward and reverse genetics along with gene silencing techniques and gene knockout	
	Enzymology	CO 1. Acquire hands-on training in enzymology practicals CO 2. Understand enzyme kinetics using suitable examples CO 3. Apply enzymes in industry CO 4. Learn advantages of immobilization of enzymes	
II	Molecular Biology	CO 1. Understand the processes involved in the central dogma of molecular biology i.e. replication, transcription and	

		translation in both prokaryotic and eukaryotic systems. CO 2. Comprehend translational modifications, transport and inhibition. CO 3. Learn about control and regulation of gene expressions and operon models are discussed. CO 4. Elucidate mechanisms and agents of cancer. CO 5. Acquire knowledge in developmental biology and cell signalling.	
	rDNA Technology	CO 1. Use the various tools and strategies utilized in the construction and production of recombinant DNA molecules <i>in vitro</i> and <i>in vivo</i>. CO 2. Learn the various techniques utilized for the introduction of recombinant DNA molecules in bacteria, yeast and mammalian cells. CO 3. Elucidate the steps involved in the genetic engineering from amplification of DNA molecules to cloning of molecules, and screening strategies for clone identification. CO 4. Understand the importance of high	

		capacity vectors, plasmids and the various steps involved in genomic library preparation to understand complex genomes. CO 5. Differentiate between different gene mapping methods, analysis of gene expression by	
	Immunotechnology	CO 1. Understand the structure, components and functioning of the immune system, including toxins and toxin resistance CO 2. Understand the molecules related to immune system such as immunoglobulins, antigens and the genes associated with diversity and specificity, tissue histocompatibility CO 3. Differentiate reactions and concepts and various techniques associated with immunoglobulins such as in diagnostics and research, vaccine development etc. CO 4. Use the knowledge regarding advances in the field for application in therapeutics	
	Bioanalytical Techniques	CO 1. Apply the principle, instrumentation of bio analytical techniques such as chromatography and electrophoresis for the separation of	

		different biomolecules CO 2. Learn the principle and application of different spectroscopic methods for the structural analysis of biomolecules. CO 3. Demonstrate the application of radioisotope techniques for the quantification of biomolecules based on isotope labelling. CO 4. Understand the types and properties of different nanostructures and nanoparticles for the future application of nanotechnology in different fields of science.	
	Radiation Biotechnology	CO 1. Understand the types, sources and measures of radiation CO 2. Acquire training in laboratory practices in radiobiology laboratory CO 3. Understand use of radioisotopes and radiotechniques CO 4. Link living cells/tissues with radiation including radiation-related damage and use in therapeutics CO 5. Know about research tools and techniques using radiation and radioactive isotopes	
	Biotechnology in Daily Life (OE)	CO 1. Understand microbial diversity	

		and microflora associated with humans and animals, interaction between microbes, plants and animals and design procedures for the production of various industrially important compounds. CO 2. Comprehend genetic manipulation of plants for the production of elite plants with superior traits such as insect resistance, improved nutrient content etc. and apply plant tissue culture methods for the propagation of plants CO 3. Compare the interaction of microbes with plants based on benefits and harmful effects, and application of microflora in the improvement of environment. CO 4. Differentiate the techniques involved in the animal biotechnology for production of superior livestock, uses of assisted reproductive techniques for preservation and propagation of superior germplasm, genetically modified organisms, uses in therapy, cloning etc.	
	Food Security (OE)	CO 1. Understand the composition of food and its applications in the body	

		CO 2. Learn about food spoilage and application of biotechnology in food processing. CO 3. Learn about food preservation by various methods CO 4. Understand food processing for preparation of various products, food safety standards, laws and regulations	
III	Industrial Biotechnology	CO 1. Understand basic principles of bioprocess technology and advantages of bioprocess over chemical process. CO 2. Learn various aspects of up- and down-streaming processes in pilot scale study and application to larger scale in industry and its regulation CO 3. Have firm knowledge about industrial application of various fermenters and regulation of the fermentation process. CO 4. Gain knowledge on recovery of products, techniques used for separation of cells, physical and chemical methods of cell lysis, filtration, centrifugation and large-scale separation techniques. CO 5. Understand basic principles of	

		primary and secondary metabolite production by the microorganisms, and acquire knowledge of their production CO 6. Know uses of microorganisms as probiotics and the role of nutraceuticals in human health, waste utilization to generate biofuels and biogas.	
	Agribiotechnology	CO 1. Compare the plant genome with chloroplast and mitochondrial genomes, to demonstrate the application of plant breeding methods, to differentiate the mechanism involved in different biological process. CO 2. Demonstrate different techniques involved in the plant tissue culture for the propagation of plants and germplasm preservation. CO 3. Utilise plant tissue culture methods for the production of commercially important secondary metabolites. CO 4. Demonstrate the genetic manipulation of plants for the production of elite plants with superior traits such as insect resistance, improved nutrient content etc.	

		CO 5. Learn protection and registration of new plant varieties and plant germplasm conservation, General agreement on trade and tariff, use of traditional knowledge digital library i.e.ayurvedic and unani medicinal plants, Farmers rights and plant breeder's right	
	Research methodology and bioinformatics	CO 1. Acquire knowledge about basic concepts of research, scientific writing and paper publications CO 2. Use statistical measures such as dispersion, normal, binominal and poisson distribution, student's t-test, ANOVA, chi-square test etc. CO 3. Use databases, sequence alignment programs, BLAST and FASTA along with algorithms and applications. CO 4. Construct a phylogenetic tree and carry out protein structure analysis, protein prediction tools CO 5. Perform Computer Aided Drug Design (CADD) and apply it to design new drugs	

	Nanobiotechnology	CO 1. Compare the types and properties of different nanostructures CO 2. Understand structure and use of nanoparticles CO 2. Demonstrate the synthesis of nanoparticles. CO 3. Apply nanotechnology in different fields of science.	
	Environmental Management (OE)	CO 1. Know about transfer of nutrients through biogeochemical cycles, toxicity induced by pollutants and their mobility in trophic levels. CO 2. Acquire knowledge on microbial diversity, pollution indicator organisms, bioremediation, bioconversion, biomagnification etc. CO 3. Understand <i>in-situ</i> and <i>ex-situ</i> bioremediation processes, industrial pollution and waste management CO 4. Understand sustainable development	
	Advances in Medicine {OE)	CO 1. Have an overview of the immune system with particular reference to malfunctioning in disease CO 2. Understand the genetics behind genetic diseases and syndromes and	

		understand cell division and assisted reproductive techniques CO 3. Know about cancer biology with particular reference to carcinogenic agents, basis of cancer, treatment strategies and approaches, stem cells and applications CO 4. Comprehend altered disease states and its physiological implications	
IV	Biomedical Engineering	CO 1. Understand basics and dynamics of animal cell culture, organ culture, stem cells and tissue engineering, techniques used in counting of cells, cell viability/toxicity assays CO 2. Differentiate methods for gene transfer in animal cells, tissue-specific promoters, gene therapy CO 3. Comprehend transgenic technology and use of animals as bioreactors CO 4. Elucidate assisted reproductive techniques including cloning	
	Environmental Biotechnology	CO 1. Understand transfer of nutrients through biogeochemical cycles CO 2. Comprehend the toxicity induced	

		by pollutants and their mobility in trophic levels. CO 3. Acquired knowledge on microbial diversity, pollution indicator organisms, bioremediation, bioconversion, biomagnification etc. CO 4. Differentiate <i>in-situ</i> and <i>ex-situ</i> bioremediation processes, industrial pollution and waste management	

MSc Botany

The syllabus covers all aspects of the subject. Syllabus is a good blend of classical topics and recent topics which are applied in nature. This helps the students to know how the subject has developed. The early topics mainly relate to the diversity of different groups of plants and helps in understanding their life cycle and uses. This forms the base of the subject and helps in largely understanding the diversity of plants. The remaining topics deal with the functional aspects and also in manipulating these organisms to our benefit.

Program specific outcome:

- The course includes detailed study on the major groups of life forms from algae to angiosperms
- Paper on morphology and taxonomy is spread over two semesters to give comprehensive coverage particularly of angiosperm families.
- Even in practical's on taxonomy students are trained in the proper identification of plants using relevant Literature.

This is done for other plant groups also to the extent possible.

- The course has a special emphasis on biodiversity and conservation.
- Students have an advantage of a unique Medicinal garden (Shobhavana) of rare medicinal species of the Western Ghats in our education foundation.
- Other courses like seed technology, molecular biology & cytogenetics, plant breeding, biotechnology, Microbiology can help them in getting employed and choosing avenues for higher studies.

- Special emphasis on hands on training will be given in research/ academic institutions.
- A study tour will be conducted to various research institutions and also for Botanical gardens to know the habitat diversity.

M.Sc. Chemistry

Program Outcomes (POs)

PO1: Core Knowledge: Develop advanced knowledge in organic, inorganic, and physical chemistry, enabling critical understanding and problem-solving skills applicable in both academic and industrial domains.

PO2: Research Competence: Acquire expertise in modern analytical techniques, experimental design, and data interpretation to conduct innovative research and pursue higher studies.

PO3: Technical Proficiency: Enhance proficiency in handling laboratory instruments and computational tools for chemical analysis, synthesis, and modelling.

PO4: Professional Readiness: Prepare for competitive exams such as NET, GATE, SET, and Civil Services, as well as careers in research, teaching, and industries.

PO5: Interdisciplinary Approach: Cultivate the ability to integrate concepts from chemistry with related fields like biology, physics, materials science, and environmental studies.

PO6: Ethical and Environmental Awareness: Promote sustainable practices and ethical responsibility in scientific research and industrial applications.

PO7: Communication and Teamwork: Foster effective communication, teamwork, and leadership skills necessary for collaborative research and industrial roles.

Sem	Course	COs
I	PCHICH11:	CO1: Explain ionic and covalent bonding, lattice and hydration energy.

	Inorganic Chemistry	CO2: Apply VSEPR and MOT theory for molecular structure prediction CO3: Analyze HSAB principles, non-aqueous solvents, and ionic liquids. CO4: Discuss the chemistry of alkali/alkaline earth metals, boron, carbon, and silicon compounds. CO5: Utilize organic precipitants, masking/demasking techniques, and error analysis methods.
I	PCHOCH11: Organic Chemistry	CO1: Describe bonding, aromaticity, electronic effects, acidity, and basicity CO2: Analyze reaction mechanisms and identify intermediates in reactions CO3: Evaluate optical and geometrical isomerism in organic compounds.
I	PCHPCH11: Physical Chemistry	CO1: Explain catalysis, corrosion, and photochemical processes. CO2: Apply theoretical concepts to practical scenarios involving complex reactions CO3: Investigate enzyme-mediated reactions and spectroscopy techniques.
I	PCHMDS11: Molecular Spectroscopy and Diffraction Techniques	CO1: Explain principles of electromagnetic interaction in microwave, infrared, and X-ray regions. CO2: Utilize characterization techniques for chemical and physical analysis CO3: Integrate applications across chemistry, physics, biology, and materials science.
I	PCHICP11: Inorganic Chemistry Practicals-I	CO1: Perform qualitative and quantitative analysis of ores and alloys. CO2: Apply complexometric, gravimetric, and colorimetric techniques

		CO3: Analyze statistical data and interpret experimental errors.
I	PCHOCP11: Organic Chemistry Practicals–I	CO1: Perform organic synthesis using various methods CO2: Purify and isolate organic compounds through advanced techniques. CO3: Evaluate reaction mechanisms and principles of organic reactions.
I	PCHPCP11: Physical Chemistry Practicals - I	CO1: Conduct experiments based on electrochemistry, thermodynamics, and surface chemistry. CO2: Analyze data using computational tools and instruments CO3: Validate theoretical concepts through practical observations.

Sem	Course	COs
II	PCHAIH21: Advanced Inorganic Chemistry	CO1: Predict spectral and structural properties using symmetry operations. CO2: Explain halogen and noble gas chemistry. CO3: Discuss metallurgical and ceramic applications CO4: Analyze reactions in non-aqueous media
II	PCHAOH21: Advanced Organic Chemistry	CO1: Understand aromatic substitution and elimination reactions CO2: Analyze ester hydrolysis and addition reactions CO3: Apply reaction mechanisms and synthetic uses of named reactions
II	PCHAPH21: Advanced Physical Chemistry	CO1: Apply thermodynamics concepts for industrial process design CO2: Relate statistical thermodynamics to material properties. CO3: Use quantum chemistry in spectroscopy and bonding studies

		CO4: Analyze reaction kinetics and dynamics
II	PCHOSS21: Organic Spectroscopic Techniques	CO1: Understand principles and applications of UV, IR, NMR, and Mass spectroscopy. CO2: Interpret spectral data for structural determination of organic compounds CO3: Apply spectroscopic techniques for problem-solving in organic analysis CO4: Develop proficiency in solving complex structural problems using combined spectroscopic methods
II	PCHICP21: Inorganic Chemistry Practicals-II	CO1: Perform qualitative analysis of inorganic mixtures containing multiple cations and anions. CO2: Develop systematic separation techniques for complex samples
II	PCHOCP21: Organic Chemistry Practicals-II	CO1: Separate and analyze binary mixtures of organic compounds. CO2: Purify and characterize compounds using boiling/melting points and Derivatives CO3: Demonstrate advanced synthetic skills for organic preparation.
II	PCHPCP21: Physical Chemistry Practicals-II	CO1: Conduct experiments in thermodynamics, kinetics, and surface chemistry CO2: Solve real-world problems related to metallurgy, wastewater treatment, and industrial applications

M.Sc. in Organic Chemistry

Program Outcomes (POs)

PO1: Core Knowledge: Develop advanced knowledge in organic, inorganic, and physical chemistry, enabling critical understanding and problem-solving skills essential for academic research and industrial applications, particularly in the pharmaceutical sector.

PO2: Research and Analytical Skills: Acquire expertise in modern analytical techniques such as NMR, Mass

Spectrometry, IR, and UV-Vis spectroscopy for structure elucidation and compound characterization, enabling innovative research and problem-solving.

PO3: Synthetic and Practical Proficiency: Gain hands-on experience in organic synthesis, purification, and separation techniques to prepare complex organic molecules relevant to drug development and material science.

PO4: Pharmaceutical Relevance: Build competence in methodologies applicable to pharmaceutical chemistry, including drug design, formulation, and process optimization, aligning with industry standards.

PO5: Professional Preparedness: Prepare for competitive exams like NET, GATE, and SET and establish readiness for roles in pharmaceutical industries, research laboratories, and academic institutions.

PO6: Interdisciplinary Integration: Cultivate the ability to link organic chemistry concepts with fields such as biochemistry, pharmacology, and polymer science for broader applications.

PO7: Ethics and Sustainability: Promote ethical practices and sustainable approaches in chemical research, emphasizing green chemistry principles and minimizing environmental impact.

PO8: Communication and Collaboration: Develop effective communication skills, teamwork abilities, and leadership qualities essential for collaborative research and professional engagements.

Sem	Course	COs
I	POCICH11: Inorganic Chemistry	CO1: Explain ionic and covalent bonding, lattice and hydration energy CO2: Apply VSEPR and MOT theory for molecular structure prediction CO3: Analyze HSAB principles, non-aqueous solvents, and ionic liquids CO4: Discuss the chemistry of alkali/alkaline earth metals, boron, carbon, and silicon compounds CO5: Utilize organic precipitants, masking/demasking techniques, and error analysis methods.
I	POCOCH11:	CO1: Describe bonding, aromaticity, electronic effects, acidity, and basicity.

	Organic Chemistry	CO2: Analyze reaction mechanisms and identify intermediates in reactions. CO3: Evaluate optical and geometrical isomerism in organic compounds
I	POCPCH11: Physical Chemistry	CO1: Explain catalysis, corrosion, and photochemical processes CO2: Apply theoretical concepts to practical scenarios involving complex reactions CO3: Investigate enzyme-mediated reactions and spectroscopy techniques
I	POCMDS11: Molecular Spectroscopy and Diffraction Techniques	CO1: Explain principles of electromagnetic interaction in microwave, infrared, and X-ray regions. CO2: Utilize characterization techniques for chemical and physical analysis CO3: Integrate applications across chemistry, physics, biology, and materials science.
I	POCICP11: Inorganic Chemistry Practicals-I	CO1: Perform qualitative and quantitative analysis of ores and alloys CO2: Apply complexometric, gravimetric, and colorimetric techniques CO3: Analyze statistical data and interpret experimental errors
I	POCOC11: Organic Chemistry Practicals-I	CO1: Perform organic synthesis using various methods CO2: Purify and isolate organic compounds through advanced techniques CO3: Evaluate reaction mechanisms and principles of organic reactions
I	POPCP11: Physical Chemistry Practicals - I	CO1: Conduct experiments based on electrochemistry, thermodynamics, and surface chemistry. CO2: Analyze data using computational tools and instruments

		CO3: Validate theoretical concepts through practical observations
2	PCHAIH21: Advanced Inorganic Chemistry	CO1: Predict spectral and structural properties using symmetry operations. CO2: Explain halogen and noble gas chemistry CO3: Discuss metallurgical and ceramic applications. CO4: Analyze reactions in non-aqueous media
2	PCHAOH21: Advanced Organic Chemistry	CO1: Understand aromatic substitution and elimination reactions. CO2: Analyze ester hydrolysis and addition reactions CO3: Apply reaction mechanisms and synthetic uses of named reactions
2	PCHAPH21: Advanced Physical Chemistry	CO1: Apply thermodynamics concepts for industrial process design CO2: Relate statistical thermodynamics to material properties CO3: Use quantum chemistry in spectroscopy and bonding studies CO4: Analyze reaction kinetics and dynamics
2	PCHOSS21: Organic Spectroscopic Techniques	CO1: Understand principles and applications of UV, IR, NMR, and Mass spectroscopy CO2: Interpret spectral data for structural determination of organic compounds CO3: Apply spectroscopic techniques for problem-solving in organic analysis CO4: Develop proficiency in solving complex structural problems using combined spectroscopic methods
2	PCHICP21: Inorganic Chemistry Practicals-II	CO1: Perform qualitative analysis of inorganic mixtures containing multiple cations and anions. CO2: Develop systematic separation techniques for complex samples
2	PCHOCP21: Organic Chemistry Practicals-II	CO1: Separate and analyze binary mixtures of organic compounds CO2: Purify and characterize compounds using boiling/melting points and derivatives. CO3: Demonstrate advanced synthetic skills for organic preparation
2	PCHPCP21: Physical Chemistry Practicals-II	CO1: Conduct experiments in thermodynamics, kinetics, and surface chemistry CO2: Solve real-world problems related to metallurgy, wastewater treatment, and industrial applications

M.Sc. Course in Analytical Chemistry

Program Outcomes (POs)

- PO1: Core Knowledge:** Develop advanced knowledge in analytical, organic, inorganic, and physical chemistry, enabling critical understanding and problem-solving skills applicable in both academic and industrial domains.
- PO2: Instrumental Proficiency:** Gain hands-on experience in handling analytical instruments such as HPLC, GC, AAS, and UV-Vis spectrophotometers used in research and industrial laboratories.
- PO3: Quality Assurance and Quality Control (QA/QC):** Build competencies in quality management practices, method validation, and regulatory compliance required for industrial and pharmaceutical quality assurance and quality control.
- PO4: Problem-Solving and Data Analysis:** Apply statistical and chemometric tools for data processing, interpretation, and validation, ensuring accuracy and reliability in analytical results.
- PO5: Research and Innovation:** Cultivate analytical thinking and problem-solving skills for designing experiments, developing new methodologies, and troubleshooting analytical processes.
- PO6: Industrial and Pharmaceutical Applications:** Understand the role of analytical chemistry in drug development, formulation analysis, process optimization, and environmental monitoring.
- PO7: Professional Growth:** Prepare for careers in research and development, industrial testing, regulatory laboratories, and pharmaceutical industries, ensuring adaptability to technological advancements.
- PO8: Ethical and Sustainable Practices:** Promote ethical standards, safety protocols, and sustainable methods in chemical analysis and laboratory practices.
- PO9: Communication and Collaboration:** Enhance report-writing, documentation, and presentation skills for effective communication of analytical data and findings, facilitating teamwork and professional collaborations.

Sem	Course	COs

I	PACICH11: Inorganic Chemi	CO1: Explain ionic and covalent bonding, lattice and hydration energy CO2: Apply VSEPR and MOT theory for molecular structure prediction CO3: Analyze HSAB principles, non-aqueous solvents, and ionic liquids. CO4: Discuss the chemistry of alkali/alkaline earth metals, boron, carbon, and silicon compounds CO5: Utilize organic precipitants, masking/demasking techniques, and error analysis methods.
I	PACOCH11: Organic Chemistry	CO1: Describe bonding, aromaticity, electronic effects, acidity, and basicity CO2: Analyze reaction mechanisms and identify intermediates in reactions CO3: Evaluate optical and geometrical isomerism in organic compounds.
I	PACPCH11: Physical Chemistry	CO1: Explain catalysis, corrosion, and photochemical processes CO2: Apply theoretical concepts to practical scenarios involving complex reactions CO3: Investigate enzyme-mediated reactions and spectroscopy techniques
I	PACMDS11: Molecular Spectroscopy and Diffraction Techniques	CO1: Explain principles of electromagnetic interaction in microwave, infrared, and X-ray regions. CO2: Utilize characterization techniques for chemical and physical analysis CO3: Integrate applications across chemistry, physics, biology, and materials Science
I	PACISS11: Inorganic Spectroscopy and Analytical	CO1: Explain principles and applications of ESR and Mossbauer spectroscopy CO2: Interpret data using NQR and Photoelectron spectroscopy

	Techniques	CO3: Analyze Atomic Absorption, Emission, Molecular Luminescence, and Light-Scattering techniques for metal and particle detection
I	PACICP11: Inorganic Chemistry Practicals-I	CO4: Solve analytical problems related to these techniques. CO1: Perform qualitative and quantitative analysis of ores and alloys CO2: Apply complexometric, gravimetric, and colorimetric techniques CO3: Analyze statistical data and interpret experimental errors
I	PACOCP11: Organic Chemistry Practicals-I	CO1: Perform organic synthesis using various methods. CO2: Purify and isolate organic compounds through advanced techniques CO3: Evaluate reaction mechanisms and principles of organic reactions
2	PACAIH21: Advanced Inorganic Chemistry	CO1: Predict spectral and structural properties using symmetry operations CO2: Explain halogen and noble gas chemistry CO3: Discuss metallurgical and ceramic applications CO4: Analyze reactions in non-aqueous media
2	PACAOH21: Advanced Organic Chemistry	CO1: Understand aromatic substitution and elimination reactions CO2: Analyze ester hydrolysis and addition reactions CO3: Apply reaction mechanisms and synthetic uses of named reactions
2	PACAPH21: Advanced Physical Chemistry	CO1: Apply thermodynamics concepts for industrial process design

		CO2: Relate statistical thermodynamics to material properties CO3: Use quantum chemistry in spectroscopy and bonding studies CO4: Analyze reaction kinetics and dynamics
2	PACOSS21: Organic Spectroscopic Techniques	CO1: Understand principles and applications of UV, IR, NMR, and Mass spectroscopy CO2: Interpret spectral data for structural determination of organic compounds CO3: Apply spectroscopic techniques for problem-solving in organic analysis
2	PACOCP21: Organic Chemistry Practicals-II	CO1: Separate and analyze binary mixtures of organic compounds CO2: Purify and characterize compounds using boiling/melting points and derivatives. CO3: Demonstrate advanced synthetic skills for organic preparation
2	PACPCP21: Physical Chemistry Practicals-II	CO1: Conduct experiments in thermodynamics, kinetics, and surface chemistry CO2: Solve real-world problems related to metallurgy, wastewater treatment, and industrial applications.

MA ENGLISH LITERATURE

Semester	Course/ Subject	Course outcome	Program outcome (summary of all four semesters)
I	The Romantic Poetry	1. The concept and ideologies of Romanticism	1. Critical Engagement with Cultural Discourses:

		- An in-depth understanding of different phases of Romanticism - An intimate understanding of Blake, Coleridge, Wordsworth, Shelly and Keats - Exposure to the forms of poetry such as lyric, ode and sonnet - Issues relating to the language usage in literature - The skill of understanding lyric, ode and sonnets by close reading.	Focus on literature, drama, and films across historical and cultural contexts. - Core Focus on British Literature: Study of texts from Chaucer to the Modern period (Elizabethan, Victorian, Romantic, etc.). - Global Literary Exploration: Includes American, European, African-American, Canadian, and Indian literature from classical to contemporary periods. - Theoretical Frameworks: Courses on literary criticism, gender studies, postcolonialism, Marxism, modernism, postmodernism, structuralism, and post-structuralism. - Specialized Courses: Includes Dalit
	The Nineteenth-century Novels	- The major novels of the Nineteenth Century through a study of selected texts. - The development in form and content in the novels of this period. - The interconnection between the novel form and the major social experience of the period and how a novelist creatively responds to these. - A comparative sense of literary value in terms of the texts studied.	
		The student will be able to read the texts	

	Indian writing in English	closely and within the tradition - The student will develop the resources to critically assess the canon - The student will be able to critique the nationalist ideologies of writers	literature, women's writing, and film studies. - Teacher Preparation: Courses on language teaching, English language structure, phonetics, and grammar, supported by a language lab. - Research Opportunities: Focus on doctoral research in areas like literary criticism, translation studies, gender studies, and comparative literature. - Goal: Develop critical thinkers, scholars, and future educators with a global literary perspective and expertise in cultural analysis.
	Reading Women Writing	- Familiarity with gender concepts and its reflection in literature - Acquaintance with some important Indian women writers - Ability to analyse women's texts with a critical and gendered perspective.	
	Shakespeare	- A knowledge of the problems regarding the Shakespearean canon. - The ability to read Shakespeare against the grain of gender and race. - A familiarity with the adaptations of Shakespearean plays into different times, cultures and mediums. - An insight into the institutional sites within which and for which Shakespeare wrote his plays and sonnets.	

		5. A knowledge of the literary and theatrical antecedents of Shakespeare's plays 6. The ability to read Elizabethan English in its cultural context	
Semester	Course/ Subject	Course outcome	Program outcome (summary of all four semesters)
III	Twentieth Century Poetry	1. The concept and ideologies of modernity and modernism 2. The transition from the Victorian to the modern (W. B. Yeats and T. S. Eliot) 3. Phases and varieties of modernity such as represented by Yeats, Eliot and Auden 4. An intimate understanding of poetry of Yeats, Eliot and Auden 5. Change in the poetic language in changed cultural contexts 6. The skill of understanding a modern poem by analytical means 7. Familiarisation with modern style of writing poetry especially the use of images, symbols etc.	1. Critical Engagement with Cultural Discourses: Focus on literature, drama, and films across historical and cultural contexts. 2. Core Focus on British Literature: Study of texts from Chaucer to the Modern period (Elizabethan, Victorian, Romantic, etc.). 3. Global Literary Exploration: Includes American, European, African-American, Canadian, and Indian literature from classical to contemporary periods.

	Literary Criticism – Part I	1. Students will learn to recognize the various periods, movements, thinkers and schools from Plato down to T.S. Eliot. 2. Students will identify each school with its concepts and major debates and its linkages to the previous and subsequent schools 3. Students will learn to apply some of these concepts to the texts they have already studied. 4. Students will learn to analyse texts in accordance to the arguments of the major schools of thought they have studied. 5. Students will learn to formulate critical statements on new texts based on what they have done in 1-4. 6. Students will learn to make a comparative valuation of the critical statements that can be made on a text based on two or more critical schools.	4. Theoretical Frameworks: Courses on literary criticism, gender studies, postcolonialism, Marxism, modernism, postmodernism, structuralism, and post-structuralism. 5. Specialized Courses: Includes Dalit literature, women's writing, and film studies. 6. Teacher Preparation: Courses on language teaching, English language structure, phonetics, and grammar, supported by a language lab. 7. Research Opportunities: Focus on doctoral research in areas like literary criticism, translation studies, gender studies, and comparative literature.
	Gender Studies	1. The ability to interrogate common sensical and oppressive	

		constructions and practices of gender. 2. The capacity to decouple sex from gender and look at the performance of gender in a self-reflexive manner. 3. Have a critical insight into the intersections of gender, religion, region and caste. 4. Have a knowledge of the evolving terms and concepts within gender studies which try to articulate the nuances and complexities of gender as a lived experience. 5. Have the capacity to intelligently participate in and respond to contemporary debates and legislations on gender. 6. Be critically sensitive to social practices of gender discrimination.	8. Goal: Develop critical thinkers, scholars, and future educators with a global literary perspective and expertise in cultural analysis.
	Twentieth century American Literature	1. comprehend the complexities that determined twentieth century American life 2. interpret the prescribed texts in keeping with the cultural and	

		ideological issues of the time 3. Draw parallels between the American and the Indian contexts from the points of view from the margins	
	Introduction to Indian Cinema	1. Appreciate the ground of Indian cinema 2. Understand Indian cinema as a pan-Indian phenomenon. 3. Shoot videos at an amateur level and apply these learnings to the appreciation of cinema. 4. Become familiar with the essential glossary of cinema	

M.Sc. Food Science and Nutrition

Program Outcomes (PO):

PO 1. Interdisciplinary Knowledge Base:

The program imparts a comprehensive understanding of interdisciplinary subjects, including food science, nutrition, dietetics, food microbiology, food biochemistry, food preservation and processing, human physiology, and their interconnections to health and wellness.

PO 2. Advanced Understanding of Food and Health Correlation:

Students gain an in-depth understanding of the relationship between food and health, exploring how nutrition impacts specific disease conditions. The program also addresses the application of food science in food processing industries, enhancing knowledge of the practical aspects of food science in health contexts.

PO 3. Practical and Communication Skills Development:

Through hands-on laboratory training, students acquire essential practical skills in food science and nutrition. Additionally, they are trained to effectively communicate technical information through presentations to professionals in the food science and nutrition fields, as well as to the general public.

Program Specific Outcomes (PSO):**PSO 1. Analytical Application in Diet Formulation:**

Students will be able to apply analytical principles of food science and nutrition to formulate balanced and effective diets, considering nutritional requirements and food composition.

PSO 2. Development of Industry-Relevant Skills:

Graduates will develop advanced analytical and technical skills, preparing them to work as highly skilled professionals in food industries, health sectors, and related domains.

PSO 3. Public Health Nutrition Expertise:

The program prepares students for roles in public health nutrition, equipping them to serve as food safety officers, as well as professionals in governmental bodies such as FCI, FSSAI, and others.

PSO 4. Specialized Knowledge in Personalized Nutrition:

Students will acquire specialized knowledge in the emerging fields of nutrigenetics and nutrigenomics, applying this knowledge to create personalized nutrition plans and interventions.

PSO 5. Nutritional Assessment and Diet Planning Competency:

Graduates will gain expertise in assessing human nutritional requirements and conducting nutritional assessments to plan appropriate diets tailored to individual or group needs.

PSO 6. Clinical Nutrition and Health Promotion Applications:

Students will understand the practical applications of nutritional science in clinical interventions, focusing on effective communication strategies for health promotion and disease prevention.

PSO 7. Research Skills in Food Science and Nutrition:

The program will equip students with research skills to work in R&D units within food processing, food product development, and nutraceutical industries, fostering innovation in the food science field.

PSO 8. Community Health Promotion and Empowerment:

Students will develop strategies for conducting research and implementing initiatives that promote healthy living and community health, aiming to empower individuals toward better nutritional choices and overall well-being.

PSO 9. Entrepreneurial and Innovation Skills in Food Science:

Graduates will acquire entrepreneurial skills in the areas of food science, processed foods, and nutrition, enabling them to explore opportunities for business ventures and innovations in the food and nutrition sectors.

This redefined version aligns with the autonomous status and the updated goals of the program, reflecting both the academic depth and practical application in the field.

I SEMESTER**Hard Core Courses**

FOOD SCIENCE

Course Outcomes (CO):

By the end of the course, students will have acquired knowledge and skills in the following areas:

1. Nutritional Classification of Food:

Students will gain an understanding of various food classification systems based on nutritional content, enabling them to categorize foods and assess their nutritional value.

2. Cereal Grains: Structure, Nutrition, and Processing:

Students will learn about the structure of cereal grains, their nutritional significance, and the technologies used in their processing and baking, with a focus on their role in human nutrition.

3. Fruits and Vegetables: Classification, Nutritional Value, and Preservation:

Students will be able to classify fruits and vegetables, understand their nutritional importance, and explore methods of preservation. They will also study the effects of cooking on the nutritional composition of these foods.

4. Milk Processing and Quality Assessment:

Students will gain an understanding of milk processing techniques, its chemical composition, and the methods used to assess the quality parameters of milk.

5. Meat and Egg Composition, Processing, and Quality Evaluation:

Students will explore the composition of meat and eggs, the regulations surrounding meat processing in slaughtering operations, and methods for evaluating the quality of eggs.

PRINCIPLES OF NUTRITION

Course Outcomes (CO):

By the end of the course, students will have gained the following knowledge and skills:

1. Energy Requirements and Balance:

Students will acquire knowledge about total energy requirements and energy balance, with a focus on how these concepts vary based on individual needs and specific life stages.

2. Body Composition and Measurement Techniques:

Students will understand body composition and its changes throughout the human life cycle, along with various techniques used to measure body composition accurately.

3. Carbohydrate Chemistry and Energy Metabolism:

Students will gain an in-depth understanding of carbohydrate chemistry and its essential role in energy metabolism, including how carbohydrates contribute to overall metabolic functions.

4. Protein Metabolism and Physiological Importance:

Students will learn about the metabolism of proteins and their crucial role in maintaining normal physiological functions within the body.

5. Lipid Requirements, Metabolism, and Deficiencies:

Students will develop a basic understanding of the requirements, metabolism, and functions of lipids, as well as the potential deficiencies and their impact on health.

HUMAN PHYSIOLOGY

Course Outcomes (CO):

By the end of the course, students will be able to:

1. Deepen their understanding of human physiology.
2. Comprehend the functions of key physiological systems, including the cardiovascular, excretory, reproductive, and digestive systems.
3. Identify the mechanisms of movement and coordination within the human body, the structure and function of various muscle systems, and the role of hormones in regulation.
4. Understand the interconnections between various physiological and metabolic processes.

Soft Core Courses

NUTRITIONAL BIOCHEMISTRY

Course Outcomes (CO):

By the end of this course, students will be able to:

1. Describe the role of macronutrients, energy metabolism, their utilization, and overall functions in the body.
2. Understand the structure and properties of nucleotides.
3. Identify biological oxidation processes and the functioning of the electron transport chain in organisms.
4. Explain the classification, nomenclature, and fundamental concepts related to enzymes and hormones.

PRACTICALS

FOOD SCIENCE

Course Outcomes (CO):

By the end of this course, students will be skilled in:

1. Applying cereal and pulse cookery techniques in food science.
2. Detecting chemical reactions in fruits and vegetables and utilizing various preservation methods.
3. Assessing milk quality using various parameters.
4. Evaluating eggs and egg cookery techniques.

PRINCIPLES OF NUTRITION

Course Outcomes (CO):

1. Mastering laboratory techniques commonly used in basic food chemistry.
2. Understanding analytical techniques for evaluating food products.

3. Evaluating chemical properties and estimating carbohydrates and proteins both quantitatively and qualitatively.
4. Estimating lipid quantities in various food samples using different methods.

HUMAN PHYSIOLOGY

Course Outcomes (CO):

1. Identify various blood groups.
2. Handle a hemocytometer and perform blood cell counting.
3. Estimate hemoglobin content in blood.
4. Identify other key hematological parameters.

NUTRITIONAL BIOCHEMISTRY

Course Outcomes (CO):

1. Utilize techniques and instruments for biochemical analysis of different biological samples.
2. Employ colorimetric techniques.
3. Analyze blood parameters.
4. Analyze urine samples using both qualitative and quantitative methods.

II SEMESTER

Hard Core Courses

Vitamins in Human Nutrition

Course Outcomes:

By the end of this course, students will be able to:

1. Describe the role and importance of vitamins in human metabolism.
2. Classify vitamins based on their solubility in food and their effects on the human system.
3. Elucidate the chemical properties of both fat-soluble and water-soluble vitamins.
4. Understand the sources, digestion, absorption, and functions of both fat- and water-soluble vitamins.
5. Describe the effects of dietary deficiencies and complications associated with each vitamin.
6. Explain how certain vitamins interact with specific drugs.

Minerals in Human Nutrition

Course Outcomes:

By the end of this course, students will acquire knowledge of:

1. The role and significance of minerals in human metabolism.
2. The classification of minerals based on their required amounts in the human body.
3. The chemical properties of major minerals.
4. The sources, digestion, absorption, and functions of major, minor, and trace minerals.
5. The effects of dietary deficiencies and associated complications of each mineral.
6. The impact of mineral toxicity and their interaction with specific drugs.

Soft Core Courses

Life Span Nutrition

Course Outcomes:

By the end of this course, students will be able to:

1. Describe the principles and methods involved in menu planning using food group systems and food exchange lists.
2. Understand the nutritional requirements and challenges of different age groups throughout the life cycle.
3. Explain the role of nutrition during pregnancy and lactation.
4. Describe the physiological changes that occur throughout the life cycle.

Food Microbiology

Course Outcomes:

By the end of this course, students will be able to:

1. Identify microorganisms associated with food.
2. Describe the different types of microbes and their beneficial and harmful effects on food.
3. Understand foodborne pathogens, food spoilage, and the toxins they produce, along with their health effects.
4. Assess the importance of microorganisms in the food industry, including their roles in baking, fermentation, and the production of various traditional foods.

Practicals

Vitamins in Human Nutrition

Course Outcomes:

By the end of this course, students will acquire the skills to:

1. Use various techniques to estimate different vitamins from their natural sources.
2. Study the effects of processing on vitamin losses during food preparation.
3. Understand the importance of food fortification.
4. Prepare vitamin-rich foods based on nutritional demands.

Minerals in Human Nutrition

Course Outcomes:

By the end of this course, students will be able to:

1. Describe techniques for estimating different minerals from their natural sources.
2. Identify qualitative changes when analyzing various minerals.
3. Raise awareness of recent advances in food fortification and its significance.
4. Prepare mineral-rich foods based on nutritional demands.
 - Conduct qualitative analysis of minerals.

- Estimate iron, phosphorus, and calcium content using three different foodstuffs.
- Prepare foods rich in iron, calcium, and phosphorus.
- Fortify mineral-rich foods and test food samples for fortificants.

Life Span Nutrition

Course Outcomes:

By the end of this course, students will be able to:

1. Prepare meals using food exchange lists.
2. Plan and prepare weaning foods.
3. Promote awareness of low-cost, nutritionally rich foods for children.
4. Prepare balanced diets for individuals across different age groups.

Food Microbiology

Course Outcomes:

By the end of this course, students will be able to:

1. Practice basic microbiological laboratory techniques, including culturing and handling of microbes.
2. Isolate microorganisms from water and food samples.
3. Identify microorganisms using various staining techniques.
4. Estimate total microbial counts in various food samples.

Open Elective Paper: Food Preservation

Course Outcomes:

By the end of this course, students will be able to:

1. Explain various processing and food preservation techniques tailored to different food materials.
2. Understand the principles of food processing, the methods used for food preservation, and the factors that affect the shelf-life of food products.
3. Identify different packaging techniques used in food packaging.
4. Describe the impact of different processing techniques on the palatability and nutritional value of food.

III Semester Hard Core Courses

Clinical Nutrition and Dietetics – I

Course Outcomes:

By the end of this course, students will have a comprehensive understanding of:

1. The basic concepts and interrelationships between food, health, and nutrition, including the significance of special therapeutic diets.
2. Pre- and postoperative diets and the role of a team approach in patient care.
3. Special feeding methods, the role of the dietitian in hospitals, and the objectives of diet therapy.
4. The etiology and pathophysiology of common digestive and respiratory diseases, as well as conditions such as obesity and diabetes.
5. The concept of principle diets and dietary management for various diseases.

Community Nutrition and Statistics

Course Outcomes:

By the end of this course, students will be able to:

1. Describe the public health implications of malnutrition.
2. Identify the causes of malnutrition and effective preventive measures.
3. Understand the healthcare services provided by the government and various health programs in India.
4. Grasp the role of international and national organizations in public health and the management of diseases.
5. Apply various statistical methods and interpret results effectively.

Soft Core Courses**Principles of Food Processing****Course Outcomes:**

By the end of this course, students will gain knowledge about:

1. The basic operations involved in food processing.
2. The principles behind cold processing of foods and irradiation.
3. The basic principles of thermal food processing.
4. The concept of controlled atmosphere packaging.
5. The interactions between packaging materials and food products.

Functional Foods**Course Outcomes:**

By the end of this course, students will understand:

1. The composition of nutraceuticals.
2. Regulatory issues related to nutraceuticals.
3. The role and impact of functional foods on health.
4. The benefits and contributions of nutraceuticals in treating various diseases.

Practicals**Clinical Nutrition and Dietetics – I****Course Outcomes:**

By the end of this course, students will acquire skills in:

1. Estimating the constituents of urine through quantitative and qualitative analysis.
2. Calculating the nutritional requirements for various diseases and abnormalities.
3. Planning and preparing therapeutic diets for different conditions.

Community Nutrition and Statistics**Course Outcomes:**

By the end of this course, students will be able to:

1. Outline the different methods for assessing nutritional status.
2. Plan and conduct diet surveys in communities.
3. Organize nutrition education programs for the community.

4. Plan and prepare low-cost, nutritious menus for community groups.
5. Apply statistical methods to interpret survey results effectively.

Principles of Food Processing

Course Outcomes:

By the end of this course, students will be skilled in:

1. Understanding various food processing techniques and the physical, chemical, and nutritional changes during freezing.
2. Knowing the processes of freezing and thawing, along with the associated changes.
3. Comprehending the effects of physical and chemical changes during processing and the resulting nutritional losses.
4. Identifying losses that occur during food processing and learning techniques to minimize them.

Functional Foods

Course Outcomes:

By the end of this course, students will be able to:

1. Describe functional foods and their role in treating diseases.
2. Estimate the secondary metabolites produced by plant sources using laboratory techniques.
3. Understand the process of developing probiotic and prebiotic food products.
4. Identify naturally occurring phytochemicals and quantify them in foods.

Open Elective: Nutrition for Health

Course Outcomes:

By the end of this course, students will be able to:

1. Explain the importance of macronutrients and micronutrients and their role in the human body.
2. Understand the nutritional requirements and challenges faced by different age groups throughout the life cycle.
3. Describe the role of nutrition during pregnancy and lactation.
4. Outline the physiological changes that occur throughout the life cycle.

IV Semester

Hard Core Courses

Clinical Nutrition and Dietetics – II

Course Outcomes:

By the end of this course, students will acquire knowledge about:

1. The basic concepts and the interrelationship between food and liver health.
2. Various types of renal diseases and their dietary treatments.
3. The process of dialysis and its role in managing renal disease.
4. The etiology and pathophysiology of cardiovascular diseases.
5. The concept of dietary management in cancer and inborn errors of metabolism.

Food Preservation

Course Outcomes:

By the end of this course, students will be able to:

1. Describe various food processing and preservation techniques, including low-temperature processing, high-temperature processing, irradiation, chemical preservation, and high concentration methods.
2. List different food processing techniques, preservation methods, and the factors that influence the shelf life of food products.
3. Understand different packaging techniques for food and their effects on the palatability and nutritional value of food.
4. Grasp the basic principles behind various food preservation methods.
5. Identify chemicals used in food preservation and understand their limitations.

Soft Core Courses

Sports Nutrition

Course Outcomes:

By the end of this course, students will be able to:

1. Describe the interrelationship between nutrition, exercise, and physical fitness.
2. Understand the importance of nutrition and diet for different sports.
3. Explain the role of macro- and micronutrients in pre- and post-exercise nutrition.
4. Discuss the nutrition requirements for exercise, ideal body composition for various sports, and the role of dietary supplements and ergogenic aids.

Practicals

Clinical Nutrition and Dietetics – II

Course Outcomes:

By the end of this course, students will acquire the skills to:

1. Explain dietary management for various chronic disorders based on biochemical parameters and activity levels (mild, moderate, and sedentary).
2. Plan diets for various diseases while considering biochemical parameters.
3. Prepare planned diets and evaluate them sensorially.
4. Provide patient counseling based on disease conditions.

Food Preservation

Course Outcomes:

By the end of this course, students will acquire:

1. The skills to use various food preservation techniques, including product formulation and quality analysis to assess shelf-life.
2. A fundamental understanding of food preservation and shelf-life studies.

3. Practical knowledge to solve problems and work effectively in the food industry.
4. Skills to prepare different food products (e.g., jams, jellies, pickles, tomato ketchup) using various preservation techniques like drying, sugar, salt, oil, and chemical preservation.

Project Work/Internship

Course Outcomes:

After successful completion of the course, students will be able to:

1. Conduct research or data-based studies, including problem selection, framing objectives, literature review, tabulation, and interpretation of results.
2. Collect samples or data and carry out questionnaire-based surveys in clinics, hospitals, or communities.
3. Apply research methodologies, techniques, and tools to conduct lab or industry-based work.
4. Write a dissertation, present, and scientifically interpret data.
5. Demonstrate the capacity to carry out an independent research project.
6. Acquire skills for potential employment based on the research or work carried

Mass Communication & Journalism

Semester	Course/ Subject	Course outcome	Program Outcome
1	Communication Theory	1. Comprehend the basics of communication process 2. Built capacity to analyze the formulation of different narratives and its aftermath 3. Analytical capability to understand the constructive and destructive narratives	Effective Communication: Practice various aspects of communication in terms of expressions, levels, and models resulting in demonstrating the process of communication in general, human communication in particular. Critical Thinking: Demonstrate analytical skills with thorough understating of communication process, function, and scope. Develop knowledge, skills, and judgment around human communication that facilitate their ability to work collaboratively with others. Social Interaction: Know the importance of effective communication in

			the society which helps in building and maintaining healthy and effective relationships. The understanding of contexts such as interpersonal, intrapersonal, group, public, mass communication is applicable in their day-to-day life. Communication skills which include competencies such as managing conflict, understanding small group processes, active listening, appropriate self-disclosure, etc helps in social interaction.
1	News reporting and writing	1. Defining News and understanding its elements, news sources and different types of news. 2. Identifying the role of a reporter and his/her duties and responsibilities. 3. Analyzing crime and legal reporting, science and financial reporting.	Effective Citizenship: Exhibit various dimensions of communication for national development, political communication, development communication, environment communication, corporate communication, business communication. Ethics: Discern the Indian Constitution in detail. Understand Indian Constitution and other laws pertaining to mass media and journalism. Understand defamation, copyright, Official secret Act, Law of sedition and the Freedom of Information Act. Environment and Sustainability: Understand the issues of
1	Editing Practice	1. Demonstrate basic knowledge of the history of publishing, including print, digital, and other media 2. Assess the quality and fit of submissions in a range of genres for publication in a variety of media. 3. Employ editing skills—developmental, line, and copy—to improve submissions at the levels of both form and content. 3. Collaborate with teams of editors and designers to create a quality publication	

		that aligns with a discrete aesthetic mission.	environmental consciousness, environmental movements around the world and the debate of environment and development sustainable development.
1	Development of Media	1.A thorough understanding of global development of media & media ecology 2. A thorough understanding of media legacy in India 3. Well informed about the veteran journalists of yester years	
1	Advertising	1. Analyze the expanding environment of media and communication techniques. 2. Assess the strengths, weaknesses, opportunities and threats (SWOT) of different kinds of promotional campaigns. 3. Examine the importance of market segmentation, position and action objectives to the development of an advertising and promotion program.	
2	Media Law and Ethics	1. Media Laws and Privileges within the	

		Constitution of India and other derived Sources 2. Recognize best contemporary ethical and professional practices both in conventional and in the digital space. 3. Awareness about the schism between the defamation and invasion of privacy.	
2	Feature Writing	1. Demonstrate the skills required to conceive of, research, write, edit and critically analyze their own high quality news reports. 2. Understand the process of successful journalistic interviewing. 3. Understand how to pursue a career as a freelance journalist and to understand the key points around journalistic health and safety issues.	
2	Photography and Photo Journalism	1. To understand concepts and apply theories in the use and presentation of images and information	

		2. To think critically, creatively and independently 3. To write correctly and clearly in forms and styles appropriate for the communications professions, audiences and purposes they serve.	
2	Development Communication	1. Have an appreciation of the role of information, communication and the media in development and social change. 2. Be conversant with the dimensions of development and the development policy frameworks. 3. Have an understanding of key issues in sustainable development as a basis for engaging in effective development communication	
2	Magazine Journalism	1. Critical ability analyse the magazine journalism and different kinds of Magazines 2. An in-depth understanding of the	

		history and evolution of magazine Journalism 3. Empowered to operate the different design tools	
2	Communication Skills (Open Elective)	1. Understand the process of communication and its effect on giving and receiving information 2. Learn about historical and theoretical developments in the field of Communication 3. Apply effective communication skills in a variety of public and interpersonal Settings	
3	Media Research Methods	1. Demonstrate knowledge of research literacy 2. Demonstrate a sound knowledge of basic research methods 3. Demonstrate an understanding of the significant risk and ethical issues raised by the conduct of media research	
3	Media Management	1. Examining newspaper as a business enterprise and its public service role	

		with reference to the Indian experience. Various factors associated with ownership of newspapers, the different types of ownership and source of revenue of a newspaper. 2. Understanding circulation of newspapers and the various factors involved with circulation of newspapers, newspaper's policy, role of the Circulation department, circulation manager. 3. Audit Bureau of Circulation (ABC), advertisement department of a newspaper, role of the advertisement manager, different types of advertisement in newspapers and newspaper as a medium of advertisement.	
3	Corporate Communication & PR	1. Identify various communications roles within an organization 2. Develop key messages according to a specific context and set of objectives 3. Understand and use effectively certain communications and public relations processes	

3	Radio Broadcasting	1.Evaluate and critique broadcast and production practices both holistically and in terms of their component parts, namely: audio, video, scripting, production, and editing. 2.Write effectively for broadcast media as well as other forms and styles appropriate for the communications professions and audiences they serve. 3.Demonstrate proficiency in planning, recording and editing for audio productions.	
3	International Communication	1.Enabling to analyze and explain the role of international communication in a global society 2. Critically analyze the impact of various social and political philosophies on the media 3. Demonstrate an ability to apply communication to the solution of global problems	
3	Advertising and PR (Open Elective)	1.Analyze the expanding environment of media and	

		communication techniques. 2. Assess the strengths, weaknesses, opportunities and threats (SWOT) of different kinds of promotional campaigns. 3. Examine the importance of market segmentation, position and action objectives to the development of an advertising and promotion program.	
4	Television Program Production	1. Able to identify and describe key terms, concepts, major trends and periods related to various modes of production (narrative, documentary, experimental, and/or animation), film history, and theory. 2. Able to demonstrate skills necessary to collaborate and communicate effectively on audio-visual productions including working in groups and engaging with peers and professors. 3. Able to demonstrate skills required to create quality media productions including skills in story development, producing, cinematography, editing,	

		and audio production/post production.	
4	New Media Technology	1.Examining newspaper as a business enterprise and its public service role with reference to the Indian experience. Various factors associated with ownership of newspapers, the different types of ownership and source of revenue of a newspaper. 2. Understanding circulation of newspapers and the various factors involved with circulation of newspapers, newspaper ‘s policy, role of the Circulation department, circulation manager. 3.Audit Bureau of Circulation (ABC), advertisement department of a newspaper, role of the advertisement manager, different types of advertisement in newspapers and newspaper as a medium of advertisement	
4	Environmental Communication	1.Identify ways in which public discourses socially construct relationships between nature and humans 2.Demonstrate an understanding of critical and cultural approaches to	

		environmental communication 3. Identify and implement communication skills relevant to disseminating environmental information in organizational, political, and international contexts	
4	Film Studies	1. Empowered to analyze the films through the theoretical, historical, and critical approaches. 2. Empowered to explore the narrative, artistic, cultural, economic, and political implications of the cinema to juxtapose the social-ideological values. 3. Enabling to take a series of critical approaches for the analysis of production, theoretical framework, context, and creation. 4. Enabling to understand the Film theory which includes the study of conflicts between the aesthetics of visual and the textual analysis of screenplay.	

MCOM

Semester	Course/ Subject	Course outcome	Program outcome(summary of all four semesters)
1	Management theory and practice (PCMMTS11)	1. Integrate core management functions (planning, organizing, leading, and controlling) in a cohesive and strategic manner to drive organizational success. 2. Analyze and apply management theories and frameworks to real-world organizational challenges, particularly in decision-making, leadership, and motivation. 3. Develop and implement strategic initiatives that align with organizational goals and respond to dynamic business environments. 4. Evaluate the effectiveness of management practices in improving organizational performance and quality, using modern tools and technologies such as TQM, Six	1. To acquire strong subject-matter expertise in finance, financial instruments and markets. 2. To develop advanced theoretical knowledge and research capabilities in their preparation for academic and research focused career. 3. To equip the students for seeking suitable careers in management and entrepreneurship. 4. To facilitate the students to apply financial and taxation knowledge in taking business decisions.

		Sigma, and strategic analysis frameworks. 5. Adapt to emerging trends in management, including digital transformation, sustainability, and agile methodologies.	
	Business Economics (PCMBES11)	1. Apply economic theories to explain real-world business situations 2. Explore different market structures and understand their implications for pricing, output decisions, and competitive strategies. 3. Understand the business cycle and describe its key phases and method used to alter the phases.	
	Business Statistics(PCMBSH11)	1. Understand and Apply Key Mathematical Concepts 2. Analyze and Solve Problems Involving Progressions 3. Interpret and Analyze Time Series Data 4. Apply Probability and Statistical Methods to Real-World Problems	
	Management Science (PCMMSH11)	1. Use quantitative methods such as Linear Programming, Transportation, and Assignment Problems	

		to solve real-world business and management challenges. 2. Formulate, solve, and interpret models to optimize resources, minimize costs, and improve decision-making in various business scenarios. 3. Understand and apply project scheduling techniques like Critical Path Method (CPM) and Program Evaluation and Review Technique (PERT) for effective project time and cost optimization. 4. Analyse business situations, identify issues, and apply appropriate management science methods for informed, data-driven decisions.	
	Advanced financial accounting (PCMAFH11)	1. Valuation Skills: Apply various methods to value goodwill and shares, and analyze the factors influencing their valuation. 2. Understand and compute purchase consideration, liquidation expenses, and accounting treatments for business reorganizations. 3. Prepare consolidated financial statements for holding	

		companies, including the treatment of intercompany transactions and goodwill. 4. Adjust financial statements for inflation using techniques like CPP and CCA to reflect real economic conditions. 5. Implement updated accounting standards (Companies Act 2013), and incorporate human resource, social responsibility, and environmental accounting in financial reporting.	
2	Personality development (PCMPDE11)	1. Enhance students' personal and professional growth, helping them develop the skills, attributes, and attitudes necessary for success in both their personal lives and career 2. Enhance the ability to assess one's own strengths, weaknesses, values, and beliefs through self-reflection. 3. Develop strong verbal and non-verbal communication skills, including active listening, body language, tone, and clarity.	

	Entrepreneurial startup eco system CMS 452	1. Understanding Entrepreneurial Ecosystems 2. Analyzing Start-Up and Unicorn Landscapes 3. Evaluating Institutions and Policies Supporting Entrepreneurship 4. Enhancing Entrepreneurial Competency and Inclusivity	
	Strategic marketing management CMS 453	1. Understand and Apply Strategic Marketing Concepts 2. Analyze and Evaluate Marketing Environments and Strategies 3. Evaluate Global Marketing Strategies and Ethical Issues 4. Evaluate Global Marketing Strategies and Ethical Issues	
	Business research methods CMH 455	1. Understand the Fundamentals of Business Research and the Research Process 2. Apply Statistical Techniques for Data Analysis and Interpretation 3. Implement Sampling and Statistical Inference Techniques	

		4. Prepare and Present Research Findings Effectively	
	International business CMH 456	1. A holistic understanding of the global business environment, including the economic, political, and cultural factors influencing international trade and business decisions. 2. The ability to analyze and navigate the complexities of international trade policies, foreign exchange markets, and global regulations. 3. A critical perspective on the impact of globalization, both positive and negative, on businesses and societies, particularly in the context of developing countries. 4. A deep understanding of the role of multinational corporations and the key challenges in managing global operations.	
	Advanced cost accounting CMH 457	1. Understand and Apply Inventory Management Techniques 2. Differentiate and Apply Process Costing Methods	

		3. Analyze Cost Behavior Using Marginal Costing and Break-Even Analysis 4. Make Managerial Decisions Based on Cost Accounting Information	
III	Personal savings and investment management CME 501	1. Understand the fundamental concepts of investments, including the distinction between savings, investment, speculation, and gambling, and be able to identify investment goals and risk tolerance. 2. Gain insight into precautionary investments like health insurance, life insurance, and pension funds, and learn how to select suitable policies. 3. Learn about various tax-saving schemes and savings instruments, such as bank deposits, post-office savings, and Provident Funds, for financial planning. 4. Understand the basics of mutual funds, stocks, and bonds, including their selection criteria, performance metrics, and stock market operations regulated by SEBI.	

	Artificial and business intelligence CMH 502	1. Gain a comprehensive understanding of AI, its scope, nature, and its role in business problem-solving, cognitive science, and knowledge acquisition techniques. 2. Learn the importance of knowledge mapping, machine and robotic knowledge, and how AI aids in knowledge creation, re-skilling, and human capital analytics. 3. Understand the modelling of AI, its various applications in business, including psychological modelling, business model analysis, and the use of appreciative intelligence to improve efficiency. 4. Develop expertise in business intelligence (BI), including its role in decision-making, interpreting big data, business analytics, and data mining, while exploring recent trends in BI for business solutions.	
	Business ethics and CSR CMH 503	1. Grasp key ethical theories and identify and manage ethical challenges in areas like marketing, financial services 2. Understand the importance of Corporate Social Responsibility (CSR)	

		and its impact on corporate sustainability. 3. Learn corporate governance practices, including addressing fraud, corruption, and ensuring sustainable business practices. 4. Develop skills to manage cross-cultural diversity and adopt effective global business strategies	
	E-Commerce CMH 504	1. Develop a solid understanding of electronic commerce, its business models. 2. Be able to evaluate and implement electronic payment systems and understand the security challenges associated with it. 3. Gain skills in identifying and resolving conflicts in e-commerce, and learn effective communication strategies for conflict resolution. 4. Have a deep understanding of the legal and policy frameworks affecting e-commerce, including national and international cyber laws and privacy concerns.	
	Indian accounting standard and practice CMS 505	1. Understand and Analyze IFRS and Ind AS Standards	

		2. Apply Accounting Standards to Balance Sheet Items 3. Interpret Income Statement Standards and Their Applications 4. Understand Presentation, Disclosure, and Financial Instruments Standards	
	Capital market operation CMS 506	1. Evaluate and understand the structure and functioning of the Indian financial system, including financial markets, financial institutions, and investment avenues such as mutual funds. 2. Analyze the primary and secondary financial markets, including the methods for raising capital, stock market operations, and the regulatory framework, with an emphasis on insider trading and SEBI regulations. 3. Apply fundamental and technical analysis to evaluate securities, and develop an understanding of market behavior, valuation techniques, and investment decision-making processes.	

		- Critically assess the Efficient Market Hypothesis and its various forms, along with market anomalies and implications for technical and fundamental analysis. - Understand the intricacies of bonds, including types, risks, and valuation methods, and be able to assess duration and convexity in managing bond investments.	
	Direct taxes CMS 511	- Understanding Fundamental Tax Concepts - Computation of Income Under Various Heads - Tax Planning and Compliance - Knowledge of Tax Administration and Audit	
	GST CMS 512	- Comprehend the evolution and structure of GST, including CGST, SGST, UTGST, and IGST. - Learn key concepts such as types of supply, GST rates, and classification of income and Manage GST registration	

		procedures and understand composition levy and filing requirements. 3. Accurately compute GST liability and understand valuation rules, including special cases like exports and SEZs. 4. Gain proficiency in claiming, managing, and distributing ITC using e-ledgers.	
IV	Dissertation CMS 552	1. Research and Analytical Skills 2. Application of Theoretical Knowledge 3. Critical Thinking and Problem-Solving 4. Effective Communication and Documentation	
	Risk and insurance management CMH 553	1. Gain a comprehensive understanding of the insurance industry, its products, and services, and the regulatory frameworks governing it. 2. Deep understanding of both the theoretical and practical aspects of insurance management, risk management, and disaster management 3. Gain a comprehensive understanding of the insurance industry, its products, and	

		services, and the regulatory frameworks governing it. 4. Acquire critical knowledge on managing claims, understanding legal aspects of insurance, and applying risk management strategies	
	International financial management CMH 554	1. Understanding the Evolution of the Global Financial Environment 2. Analyzing Balance of Payments 3. Comprehending International Financial Markets 4. Exchange Rate Dynamics and Risk Management	
	Financial derivative market CMS 555	1. Understanding Derivatives and Their Markets 2. Application of Futures and Hedging Techniques 3. Mastering Option Contracts and Strategies 4. Valuation, Trading, and Regulatory Framework of Derivatives	
	Portfolio management CMS 556	1. Portfolio Construction and Optimization 2. Understanding Capital Market Theories	

		3. Mastering Factor Models and Arbitrage Pricing Theory 4. Evaluating and Revising Portfolios	
	Corporate tax planning CMS 561	1. Understanding Corporate Taxation and Planning 2. Evaluating Tax Concessions and Incentives 3. Tax Management in Financial and Managerial Decisions 4. Strategic Tax Planning and International Taxation	
	Customs duty GST analysis CMS 562	1. Understanding Customs Duty and Procedures 2. Analyzing the GST Framework and Economic Impact 3. Mastering GST Accounts, Records, and Compliance 4. Exploring Global GST Models and IT Integration	

MSW

Semester	Course/ Subject	Course outcome	Program outcome (summary of all four semesters)
I Semester	PSWDHS11 DYNAMICS OF HUMAN BEHAVIOUR	1. To understand the fundamental components of human behavior	The students are expected to practice the social work profession

		2. To gain insight into factors contributing to the development of personality 3. To understand the social bias of behaviour and adjustment 4. To understand the processes of adjustment and non-adjustment and learn the various coping mechanisms.	either specializing in human resource management, medical and psychiatry or in community development field by attaining competencies having the knowledge of applying all methods of social work along with professional ethics and compliance.
I Semester	PSWPSH11 INTRODUCTION TO PROFESSIONAL SOCIAL WORK	1. To understand the methods, history and evolution of social work education in India 2. To develop insights into the origin and development of ideologies, approaches to social change 3. Understand rationale, goals, religious ideologies and ethics for social change 4. To develop skills to understand social work values, ethics and professional associations	
I Semester	PSWWGH11 WORKING WITH INDIVIDUALS AND GROUPS	1. To understand case work and group work as a method of social work and appreciate its place in social work practice. 2. To understand the values and principles of working with individuals and groups 3. To develop an ability to critically analyze the problems of individual and groups and factors affecting to them	

		4. To enhance the understanding of basic concepts, tools and techniques in working with individuals and groups, in problem solving and in developmental work	
I Semester	PSWISH11 UNDERSTANDING OF INDIAN SOCIETY	1. To introduce the various perspectives on understanding caste, class, associations and institutions 2. To introduce the student to the nature, extent, causes and control of various social problems in India 3. To understand the status of women in India. 4. To understand the sociological perspective for social work	
I Semester	PSWSWP11 SOCIAL WORK PRACTICUM-I & ORIENTATION TO SOCIAL WORK PRACTICE	1. To develop the skill of introducing to the agency and rapport building 2. To develop the skill of doing home visits 3. To gain the skills in case work and group work 4. To develop the skill in planning and organizing the need-based programme	
II Semester	PSWSPH12 SOCIAL POLICY AND WELFARE ADMINISTRATION	1. To develop an understanding of social policy for effective social work practice 2. To develop the capacity to develop personnel financial administration	

		of human welfare organization 3. To understand the procedures and policies involved in establishing and maintaining social welfare organizations	
II Semester	PSWCOH12 COMMUNITY ORGANIZATION AND SOCIAL ACTION	1. To develop the competence to undertake critical and holistic analysis of social issues and community dynamics. 2. To understand the principles and elements of community work process with focus on subaltern groups 3. To enhance the understanding of the models and strategies of community work practice 4. To develop the attitude and skills required to facilitate the process of people's participation in changing their situation 5. To gain the knowledge on the process of social action and social movement	
II Semester	PSWSRH12 SOCIAL WORK RESEARCH AND STATISTICS	1. To understand research as a method of social work profession 2. To acquire research work knowledge and skills to undertake independent research projects 3. To become familiar with basic statistical techniques and their	

		application in the field of social work practice	
II Semester	PSWIPS12 INDUSTRIAL PSYCHOLOGY	1. To understand the role of industrial psychology as a tool of industrial social work 2. To acquire psychological knowledge and skills 3. To become familiar with basic psychological techniques and their application in the field of social work practice as applicable to organizational/industrial setting	
II Semester	PSWCSE12 CONTEMPORARY SOCIAL WORK PERSPECTIVES AND CONCERNS	1. To understand the basic concepts of social work 2. To understand the various methods of social work 3. To know about various avenues of social work 4. To study the emerging areas of social work practice	
II Semester	PSWSWP12 SOCIAL WORK PRACTICUM-II & SOCIAL WORK RURAL CAMP	1. To enhance the skills building rapport in the agency 2. To enhance the skill of doing home visits with specific purpose 3. To strengthen the skills of case work and group work practice 4. To build the ability of community profiling 5. To develop the skill in planning and organizing	

		the need-based programmes along with rural camp	
III Semester	SWH 501 PROJECT PLANNING AND MANAGEMENT	1. To gain the knowledge on concept, components and various types of project planning 2. To understand the process of project planning 3. To acquire the knowledge of designing the project proposal	
III Semester	SWS 503 MEDICAL SOCIAL WORK	1. To develop a holistic and integrated concept of health 2. To understand the nature and development of medical social work profession 3. To develop the ability to assess and analyze health problems and related issues 4. To develop skills to handle psycho social problems associated with health	
III Semester	SWS 504 MANAGEMENT CONCEPTS AND CORPORATE SOCIAL RESPONSIBILITIES	1. To understand the concept of Management and Corporate Social Responsibility 2. To gain the knowledge of evolution and functions of Management 3. To gain the ability to design and implement CSR policy	

		4. To understand the role of HR professionals in CSR	
III Semester	SWS 508 THERAPEUTIC COUNSELLING	1. To develop an understanding of the need and the relevance of counselling as a social work approach 2. To acquire an understanding of the various theories and skills of counselling and their practical application 3. To understand the ethical issues in counselling practice.	
III Semester	SWS 509 HUMAN RESOURCE MANAGEMENT AND OCCUPATIONAL SOCIAL WORK	1. To understand the concept of Human Resource Management and Occupational Social Work 2. To gain the knowledge of various roles and functions of Human Resource Management Department 3. To analyze the different emerging issues and concerns related to Occupational Social Work	
III Semester	SWS 513 HUMAN RESOURCE TRAINING AND DEVELOPMENT	1. To understand the concept of Human Resource Training and Development 2. To gain the knowledge of assessment of training needs and training evaluation 3. To know the concept of learning and motivation, principles and stages of learning	

		4. To know the various types of instructional approaches and methods of on-the-job and off-the-job training 5. To know the concept, need and methods of career planning and development	
III Semester	SWE 514 DISASTER MANAGEMNT	1. To understand key concepts, theories, process and approaches of disaster management with specific reference to Indian context 2. To develop skills to analyze factors contributing to disaster 3. To develop an understanding of the social worker's role in the team for disaster management	
III semester	SWH 516 SOCIAL WORK PRACTICUM III AND STUDY TOUR	1. To understand the structure and functions of the organization concerned 2. To gain the hands-on skills by applying the theoretical knowledge into practice 3. To initiate the activities based on the needs 4. To gain the knowledge of organizing study tour and able to understand the different settings of social work practice with real time learning experience along with enhancing the ability of living together and learning each other in a controlled situation	

IV Semester	SWS 551 COMMUNICATION SKILLS FOR SOCIAL WORK PRACTICE	1. To know and understand the concept and methods of communication 2. To acquire the competence to apply the various methods and skills of communication in the field of social work practice 3. To understand and appreciate the role of communication in development 4. To acquire the knowledge of different forms of communication skills and their use in the process of development and social change	
IV Semester	SWS 554 PSYCHIATRIC SOCIAL WORK	1. To gain knowledge about the concepts of mental health and psychiatric disorders 2. To develop an understanding of psychiatric social work and its practice 3. To develop appropriate skills and attitudes required for the practice of social work in mental health setting	
IV Semester	SWS 555 LABOUR WELFARE AND INDUSTRIAL LEGISLATIONS	1. To gain knowledge about labour legislations and labour welfare 2. To understand the legal provisions relating to labour welfare in different industries 3. To gain the knowledge about concept,	

		philosophy and evolution of labour welfare - To understand the components of labour welfare - To acquire the knowledge of modern trends in labour welfare	
IV Semester	SWS 559 COMMUNITY HEALTH	- To gain the basic knowledge of community health - To understand the various health provisions in India - To familiarize the concept of health education - To develop the necessary knowledge and skills for practice of social work in community health	
IV Semester	SWS 560 INDUSTRIAL RELATIONS AND TRADE UNION	- To understand the concept, approaches and factors of industrial relations - To develop the knowledge on various statutory aspects of industrial relations - To understand the concept of trade union - To acquire interpersonal relationship and negotiation skills	
IV Semester	SWS 563 RESEARCH PROJECT	- To develop the ability to conceptualize, formulate and conduct simple research project - Learn to make informal assessment and judicious use of	

		research studies and findings on a particular subject/area 3. Develop skills for use of library and documentation services for research 4. Develop attitudes favourable to the judicious integration of research, theory and practice 5. To develop the ability of logical reasoning and critical analysis	
IV Semester	SWH 516 SOCIAL WORK PRACTICUM IV AND BLOCK PLACEMENT	1. To implement the specialization subject specific knowledge into practice 2. To gain the hands-on skills on each and every course specific matters of concerned specialization 3. To gain real time experience by working with agencies concerned by involving with direct practice with the client system and with the on going operations of the setting	

MSc Mathematics

Semester	Course/ Subject	Course outcome	Program outcome(summary of all six semesters)
I	Algebra-I	To introduce the concepts and to develop working knowledge on fundamentals of algebra. Students will have the knowledge and skills to apply the concepts of the course in pattern recognition in the field of computer science and also for diverse situations in physics, chemistry and other streams. This course is a foundation for next course in Algebra	Provide a strong foundation in different areas of Mathematics, so that the students can compete with their contemporaries and excel in the various careers in Mathematics. Develop abstract mathematical thinking. Motivate and prepare the students to pursue higher studies and research, thus contributing to the ever increasing academic demands of the country. Enrich the students with strong communication and interpersonal skills, broad knowledge and an understanding of multicultural and global perspectives, to work effectively in multidisciplinary teams, both as leaders and team members. Facilitate integral development of the personality of the student

I	Linear Algebra-I	Students will have the knowledge and skills to explain the fundamental concepts of Matrix Operations, vector spaces, Linear Operators, Eigenvectors, The characteristic polynomial, Jordan form, the concepts Orthogonal matrices and Rotations, The matrix exponential, which is use to solve differential equations arsing in the fields like physics, chemistry, economics and also in biology. This course is foundation for next course in Linear algebra.	to deal with ethical and professional issues, and also to develop ability for independent and lifelong learning.

I	Real Analysis- I	Students will have the knowledge and skills to explain the fundamental concepts of the real number system, Perfect sets, Connected sets, explain the concepts of convergent sequences, subsequences, Cauchy sequences, Series, the derivative of a real function, Mean value theorems, L'Hospital's rule, Taylor's theorem and its applications, differential equations and more generally in mathematical analysis.	

I	Numerical Analysis	Students will have the knowledge and skills to explain the fundamental concepts of Numerical analysis, area of mathematics and computer science that creates, analyzes, and implements algorithms for obtaining numerical solutions to problems involving continuous variables. Such problems arise throughout the natural sciences, social sciences, engineering, medicine and business.	

I	Theory of Combinatorics	Students will have the knowledge and skills to develop techniques for constructing mathematical proofs, different counting techniques using generating function, recurrence relations and group theory concepts.	

I	Practical-I	Students will have the knowledge and skills to implement the programmes listed below in the Python programming language. They can be expected to apply these programming skills of computation in Science and Engineering. 1) Program to accept an array of numbers and print the largest/smallest among them (using 'if' – statement, 'elif'-statement and for loop). 2) Program to calculate factorial of a number and program to print Fibonacci numbers using 'for loop'. Program to convert binary/octal number to decimal number and decimal number to binary/octal number using user defined functions. Program to search an element in the array using linear and binary search. Program to arrange a set of given integers in an ascending/descending order and print them. Program to find roots of a quadratic equation. Program to find a real root of an Algebraic/Transcendental equation using Newton Raphson Method/Chebyshev Method. Program to find a real root of an Algebraic/Transcendental equation using Secant Method/RegulaFalsi Method. Program to find a real root of a polynomial equation using Birge-Vieta Method. Program to illustrate Lagrange interpolation. 11) Program to	

		illustrate Newton Gregory Forward/Backward Difference interpolation methods. Program to find the value of a function by using Hermite interpolation method.	

II	Algebra-II	Students will have the knowledge and skills to Apply the advanced topics viz., Unique factorization domains, Field theory and Galois Theory in Coding theory and Cryptography, and also in diverse situations in physics, chemistry and engineering etc..	

II	Real Analysis-II	Students will have the knowledge and skills to demonstrate a competence in formulating, analysing and solving problems in several core areas of higher level Real Analysis, Develop skills to work with Riemann Integrals, sequences and series of functions and their convergence, approximation theory like Weierstrass Theorem, differentiation of several variable functions.	
II	Topology	To study topological spaces, continuous functions, connectedness, compactness, countability and separation axioms.	

II	Linear Algebra-II	Students will have the knowledge and skills to demonstrate a competence in formulating, analysing and solving problems in several core areas of higher level of Linear Algebra concepts- Bilinear, Symmetric forms, orthogonal basis, spectral theorems, theory of modules in solving integer system, Hilbert basis theorem, Structure theorem which have plenty of applications in Fourier analysis, Wavelet Theory, Mathematical Physics and Chemistry.	

II	Ordinary Differential Equations	Students will have the knowledge and skills of solving ordinary differential equations, boundary value problems, finding power series solutions of ordinary differential equations.	
II	Practical-II	Students will have the knowledge and skills to implement the programmes listed below in the Python programming language. They can be expected to apply these programming skills of computation in science and Engineering. Program to plot a neat labeled graph of elementary functions on the same plane. Program to obtain the graph of plane curves - cycloid and astroid in separate figure on a single run. Program to obtain a neat labeled graph of space curves - elliptical helix and circular helix in separate figure on a single run. Program to obtain a neat labeled graph of surfaces - elliptic paraboloid and hyperbolic paraboloid in separate figure on a single run. Program to find the Transpose, Trace, Determinant and Norm of a matrix.	

		Program to find sum, difference and product and inverse (if exists) of matrices. Program to check whether the given system of linear equations are consistent. Program to find solution to a system of linear equations by matrix inversion method (check for all conditions on input matrix). Program to find solution to a system of linear equations by Cramer's rule (check for all conditions on input matrix). Program to solve a system of equations using Gauss Elimination Method and Gauss Jordan Method. Program to find the solution of a system of equations using Jacobi Iterative Method/Gauss Seidal Method. Program to find the numerically largest/smallest eigenvalue and corresponding eigenvector of a matrix by using Power Method.	

MSc Physics

Semester	Course/ Subject	Course outcome	Program outcome (summary of all four semesters)
1	Physics	<u>PHH401:</u> Gain proficiency in various mathematical techniques that are foundational for understanding and solving complex problems in physics, including differential equations, vector	<u>Semester1:</u> Competence in translating physical situations into mathematical models and solving these models using appropriate

		calculus, complex analysis, linear algebra, and Fourier analysis. Apply mathematical techniques to classical mechanics, electromagnetism, thermodynamics, and quantum mechanics. <u>PHH402:</u> Gain a foundational understanding of key quantum concepts such as wave-particle duality, superposition, entanglement, and quantum interference. Learn to solve problems using the Schrödinger equation and other mathematical tools, such as linear algebra, differential equations, and Fourier transforms. c) Use quantum mechanics to model physical systems like atoms, molecules, and subatomic particles, predicting their behaviour under various conditions. <u>PHH403:</u> Apply classical mechanics to solve problems involving interactions between two or more bodies, such as the motion of planets, satellites, or particles in a potential. Develop the ability to formulate and solve equations of motion for particles and systems using techniques such as differential equations, vector calculus, and numerical methods.	analytical and numerical methods. The ability to think critically and analytically, applying core principles of physics to solve problems. <u>Semester2:</u> Students will start gaining practical knowledge in electronics and instrumentation, particularly focusing on circuits, sensors, and measurement devices used in experimental physics. Introduction to the fundamentals of solid-state physics, including crystal structures, band theory, and properties of semiconductors, which are essential for students pursuing careers in condensed matter physics, material science, and nanotechnology. <u>Semester3:</u> students will explore more advanced concepts in statistical mechanics, including thermodynamic potentials, critical phenomena, phase transitions, and non-equilibrium systems. Students will delve into the properties of atomic nuclei, nuclear reactions, decay processes, and the standard model of particle physics. Concepts like nuclear structure models, nuclear forces, and applications

3		<u>PHH404:</u> Gain understanding of Maxwell's equations, which form the foundation of classical electrodynamics. These equations describe how electric and magnetic fields evolve and interact with matter and charge. Develop physical intuition regarding the behavior of electric and magnetic fields, and how they interact with matter, particularly in dynamic or time-varying situations. <u>PHH501:</u> Understand how quantum numbers (n, l, m, s) describe the states of electrons in atoms and how these states determine the electronic structure and chemical properties of elements. Understand the principles behind the absorption and emission of light by atoms and how these processes are described by the Einstein coefficients and selection rules. Analyse the energy levels associated with the vibrational and rotational modes of molecules, and understand how these modes are quantized and detected through spectroscopy. <u>PHH502:</u> Study the stability of thermodynamic systems using concepts such as the Gibbs free energy and how	of nuclear physics in energy and medicine are included. <u>Semester4:</u> Students will begin to engage in research projects or more intensive group work, which allows them to apply theoretical knowledge to unexplored or specific problems. Students will develop the ability to critically assess their research, identify limitations, and suggest future directions for their work.

		stability relates to phase transitions and equilibrium states. Learn about probability distributions (e.g., Boltzmann distribution) and their application to describe the behaviour of large systems of particles. <u>PHH505:</u> Understand the fundamental principles behind particle acceleration, including the relationship between electric fields, magnetic fields, and the motion of charged particles. Learn the distinction between linear accelerators (linacs) and circular accelerators (cyclotrons, synchrotrons), and how each type works to increase the energy of particles. <u>PHH508:</u> Understand how the energy levels of nuclei are quantized and how transitions between these levels emit or absorb radiation, resulting in characteristic spectra. Learn about the decay processes that occur when nuclei are in excited states, including the emission of gamma radiation, internal conversion, and the process of nuclear isomerism.	

Semester	Course/ Subject	Course outcome	Program outcome (summary of all four semesters)
1	PPSCPH11 Cognitive Psychology	The student will have the knowledge of, 1. The organization of basic cognitive functions from an information processing perspective. 2. The relevance of higher cognitive processes for understanding people's behavior in selected areas 3. Describing basic processes from central aspects of cognition such as language, imagery etc. 4. Evaluating the theories of word recognition neuropsychological evidence. 5. Reflecting how the cognitive perspective helps our understanding of human behavior	1. To equip the students with Qualitative and Quantitative Research method used in Psychology. 2. To enhance the student's counselling skills. 3. To expertise the students in developing psychological tests. 4. To orient the students regarding biological basis of Human behaviour. 5. To orient students regarding psychopathology among children, Adolescents and Adults. 6. To enable the students, understand different perspectives of personality. 7. To learn the principles of cognitive abilities among human behaviour. 8. To equip the students with the skills of Human resource management and development. 9. To enable the students in understanding dynamics of

			Psychotherapeutic techniques. 10. In-depth Knowledge of Psychological Principles Develop a thorough understanding of key psychological domains, including physiological, cognitive, educational, and social psychology, to analyze human behavior and mental processes comprehensively. 11. Application of Psychological Testing and Measurement Gain expertise in psychometric tools and assessments for individuals across different age groups, including children and adults, through practical exposure to cognitive processes, psychophysics, and child and personality testing. 12. Skill Development in Counselling and Therapy Master core counselling skills, group counselling techniques, and
1	PPSPPH11 Physiological Psychology	The students will be able to, 1. Identify the structures and functions of neurons 2. Describe the processes involved in the generation and propagation neural impulse 3. Describe, analyze and evaluate the modes of inheritance. 4. Integrate knowledge on Structural and chemical correlates of Emotion and motivation 5. Explain the physiological processes underpinning various psychological processes.	
1	PPSEPS11 Educational Psychology	1. The student will be able to, Evidence an understanding of the role of an educational psychologist in different levels like individual, school, group etc. 2. Have an understanding of Effective teaching-learning and evaluation methods 3. Identify the implications of psychological theories of learning in teaching 4. Demonstrate Effective teaching strategies,	

		technology-based teaching strategies 5. Integrate the knowledge and to analyze, methods and technical issues the assessment in the field of education	psychotherapy approaches to provide effective psychological support across various areas of need, such as childhood pathology, adult pathology, and behavioral modification.
1	PPSPMS11 Psychometry	1. Students will be able to understand many facts of psychological tests and measurement principles used in assessing human behaviour. 2. Students will be familiarized with various the various psychological assessment Methods and with the evaluation of psychological tests. 3. Students will be able to identify quality of a good psychological test 4. Students will be familiar with test construction, test development, standardization, validity, reliability. 5. Students will know the importance of standardized test with relevant, psychometric properties.	13. Research Proficiency and Statistical Analysis Cultivate the ability to design, conduct, and evaluate psychological research using advanced statistical methods, enabling evidence-based practice and contributions to psychological science. 14. Expertise in Behavioral Interventions Understand and apply principles of behavior modification to design and implement therapeutic interventions that promote positive psychological outcomes in individuals and groups.
2	Basics of Research & Statistics	1. The students will be acquainted with basics of research understand its purpose and method of conducting research 2. The students will be informed about the basics of scientific research in psychology.	15. Ethical Practice and Professionalism

		3. The students will be familiarized with the statistical methods and tools used in psychological research. 4. The students will be acquainted with ideas and methods used in the statistical treatment of data obtained from various experiments, surveys, and observations. 5. The students will be learn the statistical rigors in designing research and processing data	Foster a deep sense of ethical responsibility, cultural sensitivity, and professionalism to uphold the integrity of psychological practices and research. 16. Positive Psychology and Well-being Integrate concepts from positive psychology to promote mental health and well-being, emphasizing strengths, resilience, and growth-oriented interventions.
2	Counselling Skills	1. Students will be able to get in depth understanding of Counseling through theoretical concepts Students will be well acquainted with the roles, functions and qualities of an effective counsellor. 2. Students will be familiar with the various approaches, procedures and techniques of counselling. 3. Students will be able to understand the various stages involved in the process of counselling. 4. Students will be able to understand the meaning, need, and advantage of group counselling.	
2	Group Counselling	Utilize group counselling techniques.	

		To effectively conduct group counselling among various groups. To guide a group with cross-cultural perspective. To effectively use psychodrama in group setting. To effectively use behavioral techniques in group.	
2	Positive Psychology	1. Demonstrate an understanding of positive psychology and implications to well-being and flourishing 2. Measure and build individual ,workplace and community flourishing 3. Demonstrate an understanding of resiliency in relation to wellbeing 4. Develop a tool kit of mindfulness and spirituality. 5. Utilize their own strengths and virtues and employ strategies to increase their happiness	
2	Dynamics of Human Behaviour – Open Elective	1. Students will be able to understand the basic concepts of the field of psychology 2. Students will be able to understand normal mental processes and their relationship to brain, mind and behavior.	

		- Students will be oriented about different approaches to understanding human behavior - Students will be able to understand the forces and factors that shape personality - Students will be able to apply psychology in everyday life to some extent.	
3	PYH 501: Personality Theories	- Students will be familiar with significant theories of personality Will be able to understand the forces and factors shaping personality - Will be able to understand the different perspectives of personality - Will be able to differentiate between different approaches - Will be able to understand individual differences which helps in self-reflection and understanding of self and others	
3	PYS 506: Psychotherapy	- Students will be acquainted with several contemporary and classical individual intervention approaches - Students will know Intervention approaches based on different frameworks. - Students will gain an understanding of the applications of each	

		approach in different therapeutic settings 4. Students will get an understanding of the different techniques of psychological intervention. 5. Students will be able to understand the need, method and effectiveness of different techniques in different cases.	
3	PYS 507: Adult Psychopathology	1. Students will be able to understand the principles and models of bio psychosocial assessment, concept of normalcy and psychopathology leading to diagnoses and appropriate counselling plans. 2. Students will be able to develop knowledge of the principles of diagnosis and the use of ICD & DSM. 3. Students will be able to explore the various situational and environmental factors that affect abnormal behaviour. 4. Students will be acquainted with various manifestations of Psychopathology. 5. Students will be able to orient themselves about the psychological, biological and social influence in the etiology and treatment of mental disorders.	
3	PYS 508: Psychological Disorders of Childhood and Adolescence	1. Students will be acquainted with various manifestations of Psychopathology in children	

		2. Students will be oriented about psychological, biological and social influence in the etiology and treatment of mental disorders. 3. Students will be able to explore the various situational and environmental factors that affect abnormal behaviors in childhood. 4. Students will be to understand and how to deal with special issues pertaining to psychological disorders of childhood and adolescence compared to that of adult. 5. Students will be sensitized to children's mental health problems.	
3	PYS 512: Man, and Mental Health	1. The students will gain insight about the diversity of field of Psychology 2. The students will be able to understand group behaviour 3. The students will be able understand and effectively handle simple psychological distress 4. The students will be well acquainted to identify and classify problems and to methods of seeking help to self or others 5. The students will be able to understand and manage themselves better	
4	PYH 551: Behaviour Modification	1. Students will be able to get well acquainted with theory behind behaviour modification	

		2. Students will gain knowledge and develop skills needed for applying behaviour modification techniques. 3. Students will understand different behavioural modification techniques and its process 4. Students will understand the need, effectiveness and choice of techniques based on the conditions 5. Students will gain knowledge and develop skills towards self-development.	
4	PYS 557: Areas of Counselling	1. Orienting the Students about the need for and importance of vocational counseling 2. Orienting students about issues and techniques of marital and family counseling 3. To create awareness about needs of the aged and terminally	
4	PYS 558: Social Psychology	1. Students will be able to understand and explain social behaviour and thought 2. Students will be able to understand and differentiate different perspectives of social psychology 3. Students will be able to understand different concepts of social psychology 4. Students will be familiarized with research in social psychology 5. Students will be familiar with applications of social psychology	

Department of Postgraduate Studies in Zoology

Semester	Course/ Subject	Course outcomes	Pr
I	PZOATH11: Animal Taxonomy and Evolution	After completion of the course the student would be able to apply the theoretical knowledge of taxonomy in field work. 2. The student will be developing an insight about the evolutionary process 3. The student who completes the course would be developing skills in identification and classification of animals.	1. Stu know branch such a evolut and modific of a
	PZOBCH11: Biological Chemistry	1. Students would be able to gain knowledge of basic principles of carbohydrates, lipids, protein and nucleic acids and their role in basic metabolic pathways. 2. Understanding the chemistry behind biological processes and the synthesis of biologically active molecules 3. Estimation of enzymes and other bio molecules help in the diagnosis of various diseases. 4. Student would be able to clinically assess the laboratory indicators of physiologic conditions and diseases.	2. They respo handling wel physi Neuro metabo like bio biote
	PZOCAS11: Comparative Anatomy	1. Students will be able to acquire the skill of systematic dissection. 2. Students acquire knowledge base and learning skills for perusing further educational and career goals. 3. Students will be able to appreciate the importance of comparative anatomy I day today life	Aquat and al conserv
	PZOTTS11: Tools and Techniques in Biology	1. After completion of the course the student would be able to design experiments and understand the instrumentation. 2. The students will able to handle biotechnological and microbiological tools. 3. Students will be able to work in industries based on biotechnology, pharmacology, microbiology etc.	3. Stu skills zoolog biolog
II	PZOABH21: Animal Cell Biotechnology	1. Students will be familiar with the theoretical and practical aspects of culturing cells. 2. Students acquire the necessary practical skills for the isolation of animal cells for in vitro studies, maintenance of animal cells in vitro and application of molecular techniques to in vitro situations. 3. Students will be able to understand the significance of animal biotechnology for the betterment of society	4. Stud research aspect 5. Stud up posi forensic drug 6. Stud up a breedi curato biolo

	PZOTCH21: Toxicology and Cancer Biology	1. Acquire broad knowledge of the field of environmental toxicology and chemistry including basic principles, target organ toxicity and the toxicity of a select group of chemical compounds. 2. Students acquire basic knowledge of applications of animal models to study cancer. 3. Students will be able to understand the acute toxic effects of chemicals on the skin and the effects of hormone disrupting compounds.	differen
	PZOCPS21: Comparative Physiology	1. After completing the course, the student would be able to acquire the knowledge of various life supporting properties, functions and processes of animals or their parts. 2. The student would be able to describe how different kinds of animals meet their needs. 3. The students would learn to elucidate how physiology mediates interactions between organisms and their environments.	
	PZOMBS21: Molecular Cell Biology	1. Students will be able to understand, apply and use appropriate laboratory procedures for biological studies. 2. Students develop basic knowledge of molecular events occurring within human body. 3. After completion of course students will be able to get employment in molecular biology related disciplines.	
	PZOHGE21: Human Genetics	1. Students acquire the knowledge of pattern of inheritance in human traits. 2. Students would be able to understand the basis of autosomal dominant and recessive traits and sex-linked inheritance in humans. 3. Students who complete the course will be able to get in dept knowledge of genetic counselling and its significance.	
III	PZOGBH31: Genetics and Quantitative Biology	1. After completion of the course the student would be well grounded in the basics of molecular genetics. 2. The student will be able to acquire skills including how to elicit comprehensive family history and construct a pedigree. 3. The student will be able to describe genetics in medical practice including recognizing congenital anomalies and syndromes.	
	PZONMH31: Nutrition and Metabolism	1. Students will be able to describe the physiological function and metabolism of the micro and macronutrients. 2. Student acquire the knowledge of nutrition of domestic, zoo and wild animals.	

		3. Students get in depth understanding of evaluation of chemical and nutritional value of feeds, feed supplements, grass and forage for commercial animals and pets. 4. Students will be carryout animal diet formulation to maximize growth, reproduction, health and performance.	
	PZOFBS31: Fisheries and Aquatic Biology	1. Students will be able to understand aquatic environment for different animals. 2. Students will get knowledge of fish diversity in India. 3. Students will be able to understand different culturing practices of fishes.	
	PZOEBS31: Environmental Biology	1. After the end of the course the students obtain an in dept knowledge of surrounding environment. 2. Students will be able to carry out impact assessment pollutants on environment. 3. Students will be able to develop strategies for maintenance of sustainable ecosystems.	
	PZOVTE31: Vermitechnology	1. Students will be able to compost in a limited space and will turn towards organic farming. 2. Student will get the knowledge of biodiversity of local earthworms. 3. Student will get the knowledge of bio-management of environmental waste through vermicomposting. 4. Students with the knowledge of composting can generate employment.	
IV	PZOBH41: Biology of Immune System	1. Student will be able to understand how the immune system works and acquire general knowledge about basis of infectious diseases and vaccination and transplantation. 2. Acquire practical skills in undertaking simple immunological experiments that mimic those undertaken in diagnostic laboratories and research laboratories. 3. Students can have post-doctoral career in biomedical research, healthcare and as teaching faculty.	
	PZOPWH41: Project work	1. Students would be able to learn on their own, reflect on their learning and take appropriate actions to improve it. 2. Acquire the skills to communicate effectively and to present ideas clearly and logically in both the written and oral forms. 3. Students will be able to acquire research temperament.	

	PZOWMS41: Wildlife Conservation and Management	1. Students would be able to understand biodiversity concept and management, mainly conservation of wild animals. 2. Students are able to understand need of conserving the wild animals.	
	PZOSBS41: Statistics and Bioinformatics	1. After the completion of the course students will be able to acquire the knowledge of applying statistics in the field of agriculture, business, industry, health sciences, scientific and other disciplines. 2. Students will be able to understand the collection, presentation and analysis of scientific data. 3. Students acquire in depth understanding of basic methods of biological sequence analysis and able to perform simple sequence analysis using existing tools.	

NEW COURSES 2025-26

Bachelor of Commerce (Banking and Insurance)

Program Educational Objectives (PEOs)

The B. COM B&I program describe accomplishments that graduates are expected to attain within three to four years after graduation.

PEO1	Provide knowledge of banking, insurance, and financial service principles and practices.
PEO2	Develop analytical and problem-solving skills for the banking and insurance sectors.
PEO3	Equip students with practical and technological competencies for the industry.
PEO4	Instill ethical values, professionalism, and adaptability to industry changes.
PEO5	Prepare graduates for higher education, certifications, and entrepreneurial ventures.

Programme Specific Outcomes (PSO) of B Com (Banking and Insurance) :

After the successful completion of B.COM B&I program, the students are expected to

PSO1	Develop in-depth knowledge of banking operations, insurance policies, and financial markets
PSO2	Analyze financial statements, assess risks, and make informed decisions in banking and insurance sectors.
PSO3	Gain practical exposure to modern banking tools, insurance practices, and financial technologies.
PSO4	Demonstrate ethical practices, regulatory compliance, and professionalism in financial services
PSO5	Prepare for diverse career opportunities and professional certifications in banking, insurance, and allied services.

Programme Outcomes (PO) of B Com (Banking and Insurance) :

After the successful completion of B.COM B&I program, the students are expected to

PO1	Develop a strong foundation in banking, insurance, and financial services concepts.
PO2	Acquire analytical and problem-solving skills for financial decision-making.
PO3	Understand the regulatory and legal framework of banking and insurance.
PO4	Gain practical knowledge in banking, insurance operations, and risk management.
PO5	Equip with technological skills for modern banking and insurance environments
PO6	Foster ethical practices and professionalism in financial services.
PO7	Encourage entrepreneurial thinking in financial services and consulting.
PO8	Prepare for careers in banking, insurance, and financial consulting, or higher education

**Scheme of Teaching and Evaluation for B.Com (Banking and Insurance)
Programme**

Semester-I								
Sl. No.	Course Code	Title of the Course	Category of Courses	Teaching Hours per week	SEE	IA	Total Marks	Credits
1		Language–I	Lang	4	80	20	100	3
2		Language–II	Lang	4	80	20	100	3
3		Quantitative Aptitude – I	Core	5	80	20	100	5
4		Fundamentals of Insurance	Core	5	80	20	100	5
5		Principles of Accounting	Core	5	80	20	100	5
6		Individual and Team Building / Principles and Practice of Life Insurance	Elective	4	80	20	100	3
7		Constitutional values	Compulsory	3	40	10	50	2
Sub–total				30				26

Semester II								
Sl. No.	Course Code	Title of the course	Category of Courses	Teaching Hours perWeek	SEE	IA	Total Marks	Credits
1		Language–I	Lang	4	80	20	100	3
2		Language–II	Lang	4	80	20	100	3
3		Quantitative Aptitude – II	Core	5	80	20	100	5
4		Insurance Law and Regulations	Core	5	80	20	100	5
5		Financial Accounting	Core	5	80	20	100	5
6.		Personal Investment Management / Money and Financial System	Optional	4	80	20	100	3
7		Environmental Studies	Compulsory	3	40	10	50	2
Sub–Total				30				26
Semester III								

Sl. No.	Course Code	Title of the Course	Category of Courses	Teaching Hours per Week	SEE	IA	Total Marks	Credits
1		Language–I	Lang	4	80	20	100	3
2		Language–II	Lang	4	80	20	100	3
3		Logical Reasoning – I	Core	5	80	20	100	5
4		Banking and Financial Awareness	Core	5	80	20	100	5
5		Advanced Financial Accounting-I	Core	5	80	20	100	5
6.		Human Resource Development / Digital Marketing	Elective	4	80	20	100	3
7		Cyber Law	Compulsory	3	40	10	50	2
Sub–Total				30				26
Semester IV								
Sl. No.	Course Code	Title of the Course	Category of Courses	Teaching Hours per Week	SEE	IA	Total Marks	Credits
1		Language–I	Lang	4	80	20	100	3
2		Language–II	Lang	4	80	20	100	3
3		Logical Reasoning – II	Core	5	80	20	100	5
4		Computer Applications in Business	Core	5	80	20	100	5
5		Advanced Financial Accounting -II	Core	5	80	20	100	5
6.		Indian Banking System / Statistical Methods	Optional	4	80	20	100	3
7		Entrepreneurship Development	Compulsory	3	40	10	50	2
Sub–Total				30				26
Semester V								
Sl. No.	Course Code	Title of the Course	Category of Courses	Teaching Hours per week	SEE	IA	Total Marks	Credits
1		Business Law	Core	4	80	20	100	3

2		Cost and Mgt. Accounting-I	Core	4	80	20	100	3	
3		Income Tax Law and Practice	Core	5	80	20	100	5	
4		Financial Management	Core	5	80	20	100	5	
5		Corporate Accounting -I	Core	5	80	20	100	5	
6.		Business Communication / E-Commerce	Elective	4	80	20	100	3	
7		Internship	Skill Enhancement	3	40	10	50	2	
Sub-Total				30				26	
Semester VI									
Sl. No.	Course Code	Title of the Course	Category of Courses	Teaching Hours per week	SEE	IA	Total Marks	Credits	
1		Indian Corporate Law	Core	4	80	20	100	3	
2		Cost and Mgt. Accounting-II	Core	4	80	20	100	3	
3		Goods and Service Tax and Customs Duty	Core	5	80	20	100	5	
4		Advanced Financial Management	Core	5	80	20	100	5	
5		Corporate Accounting -II	Core	5	80	20	100	5	
6.		Auditing / Risk Management	Elective	4	80	20	100	3	
7		Research Methodology	Skill Enhancement	3	40	10	50	2	
Sub-Total				30				26	

Semester-I

QUANTITATIVE APTITUDE-I

5 Hours per week

60 Hours

COURSE OUTCOMES:**After completing the course, the student will be able to**

1. Gain the ability to analyze univariate data by calculating measures like range, quartile deviation, mean deviation, standard deviation, variance, and coefficient of variation.
2. Connect a formal quantitative approach to problem solving and decision-making.
3. Utilize the idea of index numbers to comprehend current market conditions
4. Compute the ratios, proportions, discounts, and percentages that are utilized in business.

COURSE CONTENTS:

Module	Particulars	No of hrs
Module 1	Introduction and Basic Concepts Introduction to Statistics: Meaning and Definitions (Singular and Plural), Types of Data and Variables, Measures of Central Tendency-Arithmetic Mean-Properties (Combined Mean Included), Median and Mode.	12
Module 2	Descriptive Statistics of Univariate Distribution Measures of dispersion, Absolute and Relative Measures, Types-Range, Quartile deviation, Mean deviation, Standard Deviation. Coefficient of Variation and Variance	12
Module 3	Index Numbers Meaning and Uses of Index Numbers, Steps in the Construction of Index Numbers, Construction of Index Numbers: Simple and Weighted Average of Price Relatives, Weighted Aggregative Method: Laspeyres's, Paasche's, and Fisher's Index Numbers Tests of consistency of index number, time reversal, and factor reversal. Consumer Price Index Number: Aggregative Expenditure Method and Family Budget Method.	12
Module 4	Number System and Indices Introduction- Natural Numbers, Whole Numbers, Integers-Prime numbers -Rational and Irrational Numbers (simple Problems on sum of Natural numbers.....) Real Number- HCF and LCM Calculations. Indices and Laws of Indices: Problems	12
Module 5	Commercial Arithmetic Concept of Percentages- problems on Profit/Loss,, Simple Interest, Compound Interest, Nominal and Effective Rate of Interest, Cash Discount and Trade Discount.	12

Skill Development Activities

1. Visit the college office and collect data regarding student strength, results, etc. and analyze the same using statistical techniques.
2. Visit any Commercial Bank in your area and collect the information about types of loans and the rates of interest on loans
3. Use consumer price data to create and interpret index values in order to analyze inflation and economic trends.
4. Any other Activities which are relevant to the course

Books for Reference:

1. Business Statistics- S.C. Gupta
2. Business Mathematics- D.C. Sanchete & V.K. Kapoor, Sulthan Chand and sons
3. Business Statistics- S.P. Gupta, S.E. Gupta, B.N. Gupta
4. Business Mathematics-Madappa and Sridhara Rao, Shubhash Publications
5. Business Mathematics, S. N Doraira, United Publication
6. Financial Mathematics, A Lenin Jyothi, Himalaya Publications, Mumbai
7. Business Statistics & Mathematics, Vittal
8. Business Mathematics – S.P Gupta
9. Business Mathematics – Dr. Amarnath Dikshit & Dr. Jinendra Kumar Jain, Himalaya Publications
10. Business Mathematics – Kashyap Trivedi, Chirag Trivedi, Pearson Publications
11. Comprehensive Statistical Methods – P.N. Arora, Sumeet Arora & S.Arora, Chand Publications

Course Code: Title of the Course: FUNDAMENTALS OF INSURANCE (Core Course)		
Course Credits	No. of Hours per Week	Total No. of Teaching Hours
5 Credits	5 hours	60 hours
SEE	CIE	Total Marks
80	20	100
Pedagogy: Classrooms lecture, Tutorials, and Problem Solving.		

Course Outcomes: On successful completion of the course, the students will be able to;

- 1) Understand the purpose, need, and role of insurance in providing social security and contributing to economic development.
- 2) Gain knowledge of the procedures and prerequisites for becoming an insurance agent, including licensing and code of conduct.
- 3) Learn the key functions of an insurance agent, including underwriting, proposal processing, and settlement of policy claims.
- 4) Analyze the organizational structure, promotional strategies, and actuarial aspects of insurance companies, including product pricing.
- 5) Understand the fundamental principles and types of insurance, including life, marine, fire, medical, and general insurance, and the concept of insurance interest.

Syllabus	Hours
Module 1: Introduction to Insurance	12 hours
Introduction to insurance: Purpose and need of insurance: Insurance as a social security tool; insurance and economic development.	
Module 2: Principles of Insurance	12 hours
Fundamental/Principles of life Insurance/Marine/Fire/Medical/General Insurance: Contract of various kinds; Insurance Interest	
Module 3: Insurance Agent-Introduction	12 hours
Procedures for Becoming an Agent: Pre- requisite for obtaining a license: Duration of license; Cancellation of license; Revocation or suspension/termination of agent appointment; Code of conduct; Unfair practices.	
Module 4: Insurance Agent-Functions	12 hours
Functions of the Agent: Proposal form and other forms for grant of cover; Financial and medical underwriting; Material information; Nomination and assignment; Procedure regarding settlement of policy claims.	
Module 5: Strategies of Insurance Company	12hours
Company Profile: Organizational set-up of the company; Promotion strategy; Market share; Important activities; Structure; Product; Actuarial profession; Product pricing - actuarial aspects; Distribution channels.	
Books For Reference: 1) Fundamentals of Insurance- Dr. Periyasamy, Himalaya Publishing Pvt Ltd, Mumbai 2) Insurance Regulatory Development Act 1999 3) Life Insurance Corporation Act 1956. 4) Principles of Insurance" by M.N. Mishra	

- 5) "Insurance Principles and Practice" by P.K. Gupta
 - 6) "Fundamentals of Insurance" by Nashit A.
 - 7) "Principles of Risk Management and Insurance" by George E. Rejda
 - 8) "Insurance: Principles and Practice" by H.S. Bhatia
 - 9) "Life Insurance" by M. N. Mishra & S. B. Mishra
 - 10) "Insurance and Risk Management" by P.K. Gupta
 - 11) "Insurance: A Business Perspective" by A. K. Sharma
- Related Online Contents [MOOC, SWAYAM, NPTEL, Websites etc.]**
1. <https://www.youtube.com/watch?v=xojTrXb4qTg>

Course Code: Title of the Course: PRINCIPLES OF ACCOUNTING (Core Course)		
Course Credits	No. of Hours per Week	Total No. of Teaching Hours
5 Credits	5 hours	60 hours
SEE	CIE	Total Marks
80	20	100
Pedagogy: Classroom Lectures, Tutorials, Seminar etc.		
Course Outcomes: On successful completion of the course, the students will be able to a) Understand the mechanism of accounting as well as accounting standards b) Pass journal entries and prepare ledger accounts c) Prepare subsidiary books d) Understand the depreciation accounting e) Prepare trial balance and final accounts of sole proprietary concern		
Syllabus		Hours
Module 1: Introduction to Accounting		12 hours
Meaning, Definition- Objectives of Accounting- Importance of accounting-Users of accounting information- -Accounting cycles-Accounting principles-Accounting concepts and accounting conventions – Accounting standards- Objectives - Significance of accounting standards – List of Indian Accounting standards- Accounting software-Tally software, ERP system, Billing and invoicing system, Payroll management system.		
Module 2: Accounting Process		12 hours
Recording of transactions under double entry system - Journal - Ledger- Balancing of Accounts-Trial Balance, Problems on Journal, Ledger Posting and Preparation of Trial Balance.		
Module 3: Subsidiary Books		12 hours

Meaning- Significance- Types of Subsidiary Books –Preparation of Purchase Book, Sales Book, Purchase Returns Book, and Sales Returns Book- Types of Cash Book- Simple Cash Book, Double Column Cash Book, Three Column Cash Book and Petty Cash Book - Problems on Three Column Cash Book and Petty Cash Book.

Module 4: Depreciation Accounting	10hours

Meaning and definition – Causes - Methods of charging depreciation- Original Cost Method- Written Down Value Method and Annuity Method (excluding change of methods)

Module 5: Preparation of Final Accounts of Sole Proprietary Concerns (non-manufacturing entities).	14 hours

Preparation of final accounts of non-manufacturing entities- Preparation of Trading and Profit and Loss Account-items appearing in Trading and Profit and Loss Account, closing entries, Important Adjustments-Bad Debts, Provision for Bad and doubtful debts, Provision for Discount on Debtors, and Provision for Discount on Creditors and charging of depreciation, loss of stock by fire. Preparation of Balance sheet-meaning and features. Classification of assets and liabilities-current assets, Long term assets and intangible assets; liabilities-current liabilities and long term liabilities.

Books for Reference:

1. B.S. Raman – Financial Accounting I & II, United Publishers
2. Dr. P.C Thulsian- Financial Accounting, S. Chand & Co.
3. Dr. V. K. Goyal- Financial Accounting, Excel Books
4. K.S Adiga – Financial Accounting I & II, Shubhadri Books
5. Maheshwari S. N - Advanced Accountancy, Vikas Publishing House
6. R. L. Gupta - Principles & Practices of Accountancy, Sultan Chand & sons
7. Shukla M.C & T. S Grewal - Introduction to Accounting
8. S.P. Jain & Narang K. L - Financial Accounting, Kalyani Publishers

Individual and Team Management

4 Hours per week

48 Hours

COURSE OUTCOMES:

After studying this course the students can

1. Become effective in their day to day transactions.
2. Develop interpersonal skills
3. Enhance individual resourcefulness in all walks of life and thereby improve the quality of their thinking and become self-motivated in their personal dealings.

COURSE CONTENTS:

Module	Particulars	No of hrs

Module 1	Managerial Effectiveness and Inter-Personal Skills: Meaning of Managerial Effectiveness, Essentials for Managerial Effectiveness and Importance of ME for an organization. Meaning of Inter-personal skills – Importance, Essentials IP skills – communication, clarity, empathy, etc., developing IP Skills –Assertiveness, Responsibility, Managing conflicts & factors hampering IP Skills, self-development goals & its relevance in the present time	12
Module 2	Stress & Time Management: Meaning of Stress, Sources of stress – Internal, external and types, Effects of stress & burnout – effect on environment and personal life. Strategies for coping with Stress – Avoiding and fighting stress, maintaining Work life balance – its importance and benefits. Importance of Time Management, Analysis of Time – time logs, Time wasters & time Abusers, Planning Time and Resources – Need & strategies for planning time – Matrix of Time Management, Setting Goals and objectives – Advantages and setting SMART goals and planning to achieve goals – Scheduling, Delegating and controlling time-wasters.	12
Module 3	Creativity & Emotional Intelligence in Management: Meaning of Creativity & Innovation, Stage of Creativity, Importance of Creativity, Barriers to Creative thinking, Developing Creativity and techniques of enhancing creativity – Brainstorming, Six Thinking Hats & Mind Mapping. Nature of Emotional Intelligence (EI), Definition of emotions –empathy, fear, anger and depression, Components of Emotional Intelligence, analysing the importance of emotions in the workplace – Negative and Positive emotions and Characteristic features of people with High IQ or High EQ.	12
Module 4	Working in Teams: Meaning of Team & Team work, Importance of teamwork, Challenges of working in a Team, Characteristics of a successful team, Team dynamics vs Group dynamics, Employee engagement, 5C's & 4P's of Team building, Collaboration – meaning, benefits and tips to improve workplace collaboration.	12

Skill development:

1. Collecting the list of Best practices of enhancing managerial effectiveness of a few corporates.
2. Analysing the different techniques used by corporates in promoting work life balance amongst its employees.
3. Preparing a Time log of 24 hours for every student and providing feedback as to its improvement for better productivity
4. Application of Creativity techniques in a learners day to day social transactions
5. Team building games can be conducted on specific characteristics of a successful Team.

Books & Materials for Reference: (Text Books and Websites for additional reading)

1. The Effective Executive: Peter Drucker – Harper Collins
2. Workplace Stress – Concepts and Cases: Gopal V V – ICFAI University Press
3. Managing Time: David Fontana – BPS Books, New Delhi
4. The Seven Habits of Highly Effective People: Stephen R Covey – Simon & Schuster
5. The On-time, On Target Manager: Ken Blanchard and Steve Gottry – Harper Collins
6. Getting Things Done – The Art of Stress Free Productivity: David Allen – Penguin Books
7. Lifelong Creativity – An Unending Quest: Pradip N Khandwalla, Tata McGraw Hill.
8. Emotional Intelligence: Why It Can Matter More Than IQ: Daniel Goleman, Bantam Books.
9. How to Win Friends and Influence People: Dale Carnegie – Simon & Schuster
10. <https://www.sessionlab.com/blog/team-building-activities/>
11. <https://asana.com/resources/team-building-games>
12. <https://teambuildinghub.com/team-building/activities-games/quick-team-building/h>

Course Code:		
Title of the Course: PRINCIPLES AND PRACTICES OF LIFE INSURANCE (Elective)		
Course Credits	No. of Hours per Week	Total No. of Teaching Hours
4 Credits	4 hours	60 hours
SEE	CIE	Total Marks
80	20	100
Pedagogy: Classroom Lectures, Tutorials, Seminar etc.		

Course Outcomes: On successful completion of the course, the students will be able to	
1. Examine the basic concepts of Life Insurance Law 2. Explain different types of Policies 3. Emulate rules governing Underwriting 4. Interpret the importance of Financial Planning and Tax Saving. 5. Outline Grievance and Redressal pertaining to Life Insurance.	
Syllabus	Hours
Module 1: Introduction	12 hours
Meaning of Life Insurance – The Evolution and Growth of Life Insurance – Basic Principles of Insurance – Life Insurance Organizations in India – Competition and Regulation of Life Insurance.	
Module 2: Life Insurance Policies	12 hours
Types of Life Insurance Policies – Term Life Insurance – Whole Life Insurance – Endowment Life Insurance – Unit Linked Policies with or without Profit Policies –Customer Evaluation – Policy Evaluation –Group and Pension Insurance Policies – Special features of Group Insurance/ Super Annuation Schemes – Group Gratuity Schemes – Annuity – Types.	
Module 3: Underwriting	12 hours
Underwriting: The need for underwriting – Guiding principles of Underwriting – Factors affecting Insurability – Methods of Life Classification – Laws affecting Underwriting.	
Module 4: Life Insurance Premium	12hours
Premium defined –Computation of Premiums – Mortality Table - Mode of Rebates – Large sum assured Rebates – Premium Loading – Rider Premiums – Computation of Benefits – Surrender value – Paid up value – Settlement of claims: Intimation procedure, documents and settlement procedures.	
Module 5:Tax Laws and Life Insurance	12 hours
Financial Planning and taxation: Tax Laws and Life Insurance – Stamp Duties	
E-RESOURCES: 1. www.licindia.com 2. www.insurancepandit.com 3. www.insurancebrokerindia.com 4. www.insuranceinstituteofindia.com 5. www.insureatclick.com	

Semester-II

QUANTITATIVE APTITUDE – II

5 Hours per week

60 Hours

COURSE OUTCOMES:

After completing the course, the student will be able to

1. Establish relationships between variables in real-world situations by using methods like regression and correlation.
2. Use the ideas from probability distributions to solve practical issues.
3. Predict future results using time series
4. Recognise the relationship between two variables and how to use ratios and proportions to express it.

COURSE CONTENTS:

Module	Particulars	No of hrs
Module 1	Descriptive Analysis of Bivariate Data: Correlation- Meaning and Definition, Linear and Non-linear correlation, Correlation and causation, Scatter Diagram, Karl Pearson's Co-efficient of Correlation, Calculation and Spearman's Rank Correlation.	12
Module 2	Regression Analysis: Regression Analysis- Principle of Least Squares and Regression lines, Regression equations and estimation. Properties of Regression Coefficients.	12
Module 3	Time Series Analysis and Theory of Probability: Meaning and uses of Time Series, Various components of Time series, determination of Trend using Moving Average and Least square method Theory of Probability: Some important concepts, Addition Theorem of probability for two non-mutually and mutually exclusive events - Multiplication theorem of probability for dependent and independent events. Simple problems	12
Module 4	Ratios and Proportions and Theory of Equations: Definition- Equality of Ratio- Simple Problems. Proportion- definition- Direct Proportion-Inverse Proportion- Continued Proportion- Problems on proportions	12
Module 5	Equations: Definition - Degree of Equation. Types of Equation - Linear equations and its solution-Simultaneous linear equations-Quadratic equation-Solution by method of factorisation and formula method. Permutation and Combinations: Factorial Notations- permutations of n different things-Circular permutations- Permutation of things not all different- Restricted Permutation-Simple problems. Combinations - Simple problems based on formula.	12

Skill Development Activities

1. Determine the strength and direction of the relationship between advertisement expenditure and sales income by computing the correlation coefficient.
2. Use historical sales data to create a simple linear regression model to predict future sales based on advertisement expenditure.
3. Utilize a time series model to analyze monthly sales data to identify trends and seasonal patterns and generate a forecast for the upcoming year.
4. Instruct the students to use their knowledge of ratios to determine how much of each ingredient they would require to make the recipe for exactly the number of people in the group
5. The task involves resolving a shelf arrangement issue to maximize visibility by utilizing permutations and combinations to explore various arrangements

Books for Reference:

1. Business Statistics- S.C. Gupta
2. Business Mathematics- D.C. Sancheti & V.K. Kapoor, Sulthan Chand and sons
3. Business Statistics- S.P. Gupta, S.E. Gupta, B.N. Gupta
4. Business Mathematics-Madappa and Sridhara Rao, Shubhash Publications
5. Business Mathematics, S. N Dorairaj, United Publication
6. Financial Mathematics, A Lenin Jyothi, Himalaya Publications, Mumbai
7. Business Mathematics – S.P Gupta
8. Business Mathematics – Dr. Amarnath Dikshit & Dr. Jinendra Kumar Jain, Himalaya Publications
9. Business Mathematics – Kashyap Trivedi, Chirag Trivedi, Pearson Publications
10. Comprehensive Statistical Methods – P.N. Arora, Sumeet Arora & S.Arora, Chand Publications

Course Code: Title of the Course: INSURANCE LAW AND REGULATIONS		
Course Credits	No. of Hours per Week	Total No. of Teaching Hours
5 Credits	5 hours	60 hours
SEE	CIE	Total Marks
80	20	100
Pedagogy: Classroom Lectures, Tutorials, Seminar etc.		

Course Outcomes: On successful completion of the course, the students will be able to 1. Examine the basic concepts of Insurance Law. 2. Interpret the importance of Insurance. 3. Emulate rules governing Insurance sector 4. Explain different types of Insurance. 5. Outline Grievance and Redressal pertaining to Insurance	
Syllabus	Hours
Module 1: Contract of Insurance	12 hours
Insurance as a contract -Legal principles: Principle of indemnity, Insurable interest, Subrogation, and Utmost good faith - History of Insurance Legislation in India — Life Insurance Corporation Act 1956 – General Insurance Business Nationalization Act 1973.	
Module 2: Legal Environment	12 hours
Current Legal Environment – Insurance Act 1938 (as amended) & Insurance Regulatory & Development Act - An Overview – Insurance Sector Reforms - The Insurance Regulatory Development Authority (IRDA) Act, 1999 – IRDA (Investment) Regulations 2000.	
Module 3: IRDA	12 hours
Licensing functions of IRDA-Code of Conduct, Qualifications , functions, Validity and Renewal of license applicable to Brokers, Agents and Corporate Agents – Regulations for Third Party Administrators(TPA) –Procedure for obtaining a license – revocation and cancellation – code of conduct and maintaining confidentiality by TPA –Code of Conduct and Categorization of Surveyors- licensing procedures – Duties and Responsibilities and practical training	
Module 4: Regulatory Aspects	12hours
Financial Regulatory aspects of Solvency margin – Reserves maintained by Insurance companies – Management of reserves – Stakeholders – Types of Technical Reserves – Reserving Process followed by Insurance Companies – Premium Investment strategies	
Module 5: Dispute Resolution Mechanism	12 hours
Dispute Resolution Mechanism – Consumer protection Act – Feature and Structure - Appeals and penalties - Ombudsman –Nature of complaints - Pre requisite for filing Complaints	
Books for Reference: 1. Avtar Singh, (2008), Law of Insurance, Universal Publication Pvt. Limited. 2. IC14 - Regulations of Insurance Business, Insurance Institute of India Publication. 3. Mishra, K.C. and Bakshi, M, (2017), Legal and Regulatory Aspects of Insurance, Cengage learning, Delhi. 4. Murthy K.S.N, Sharma K.V.S, (2013), Modern Law of Insurance, Lexis Nexis Butterworths, 5th Edition. 5. Murthy, A, (2016), Elements of Insurance, Margham Publications, Chennai. 6. Srinivasan, M. N, (2017), Principles of Insurance Law (Life - Fire - Marine - Motor and Accident), Eastern Book Company, 10th Edition.	

E-RESOURCES:

1. www.hr.blr.com
2. www.irda.gov.in
3. www.legalworkplace.com
4. www.library.hku.hk
5. www.textbooks.com
6. www.vakilno1.com

Course Code: Title of the Course: FINANCIAL ACCOUNTING (Core Course)		
Course Credits	No. of Hours per Week	Total No. of Teaching Hours
5 Credits	5 hours	60 hours
SEE	CIE	Total Marks
80	20	100
Pedagogy: Classrooms lecture, Tutorials, and Problem Solving.		
Course Outcomes: On successful completion of the course, the students will demonstrate the ability to independently: 1. Prepare accounts for the Non-Profit Organizations 2. Understand the procedure of rectifying the errors committed and to set right the accounting records 3. Understand and compute the amount of claims for loss of stock and loss of profit. 4. Know the features and accounting treatment of Joint Ventures 5. Identify the main causes for difference between the bank statement balance and the Cash book balance.		
Syllabus		Hours
Module 1: Financial Statements of Non-Profit Organisations		14 hours
Final Accounts of Not for Profit Organisations: Meaning & Characteristics of Non-Profit Organisations Meaning of Capital & Revenue Income & Expenditure – Deferred Revenue Expenditure Meaning of Receipts & Payment Account, Income & Expenditure Account and Balance Sheet. Differences between Income & Expenditure Account and Receipt and Payments Account. Preparation of Income & Expenditure and Balance Sheet when Receipts & Payment Account is given with adjustments for existing and new organisations.		
Module 2: Rectification of Errors		12 hours
Types of Errors – Rectification of Errors – Before preparing the Trial Balance – After preparing the Trial Balance – Suspense Account – After preparing the Final Accounts.		

Module 3: Fire Insurance Claims	10 hours
Introduction-Meaning of Fire-Computation of Claim for loss of Stock Computations of claim for loss of profit –Average clause	
Module 4: Joint Venture Accounts	12 hours
Meaning and Characteristics of Joint Venture – Problems on Joint Venture; Recording Joint Venture Transactions in a separate set of Books with a joint Bank Account.	
Module 5: Bank Reconciliation Statement	12hours
Bank Reconciliation Statement: Meaning and Need-Preparation of Bank Reconciliation Statement-Reason for Difference between Cash Book and Pass Book balance.	
Skill Developments Activities: 1. Study the procedure of Claim settlement in Fire Insurance. 2. Prepare Bank Reconciliation Statement with imaginary figures. 3. Collect the Financial Statement of a Non Profit organisation and Record it. 4. Any other Activities, which are relevant to the Course.	
Books For Reference: 1) Jain and Narang, Advanced Accountancy. 2) R.L Gupta and M. Radhaswamy, Advanced Accountancy, Sultan Chand & Sons. 3) S.N .Maheshwari, Advanced Accountancy. 4) Asok K. Nadhan, Tally ERP 9 Training Guide, BPB Publications; 4th Edition, 2018. 5) Advanced Accounting – B.S Raman 6) B.S. Raman – Financial Accounting I & II, United Publishers	

Course Code: Title of the Course: Money & Financial System		
Course Credits	No. of Hours per Week	Total No. of Teaching Hours
3 Credits	4hours	60 hours
SEE	CIE	Total Marks
80	20	100
Pedagogy: Classroom Lectures, Tutorials, Seminar etc.		
Syllabus		Hours
Module 1: Money: Functions		12 hours
Finance: Role of Finance in an economy: Kinds of finance: Financial System: Components: Financial intermediaries: Markets and instruments and their functions		

Module 2: Indian Banking System		12 hours
Definition of bank: commercial Banks-Importance and functions: structure of commercial banking system in India: Balance sheet of a Bank: Meaning and importance of main liabilities and assets: Regional rural banks: Cooperative banking in India.		
Module 3: Money Supply		12 hours
Alternative measures to money supply in India-their different components: Meaning and changing relative importance of each: High powered money-meaning and uses: Sources of changes in high powered money. Process of credit creation by banks: Credit creation process: Determination of money supply and total bank credit.		
Module 4: Development Banks		12hours
Development Banks and other Non-Banking Financial Institution : Their main features: Unregulated credit markets in India-main feature.		
Module 5: The Reserve Bank of India		12 hours
The Reserve Bank of India: Functions: Instruments of monetary and credit control: main features of monetary policy since independence.		
Books for Reference: 1. Money and Financial Systems- Dr. Sathish Kumar Saha- SBPD Publications 2. Principles of Money, Banking, and Financial Markets" by Lawrence S. Ritter, William L. Silber, and Gregory F. Udell. 3. "The Economics of Money, Banking, and Financial Markets" by Frederic S. Mishkin. 4. Indian Financial System" by M.Y. Khan. 5. "Financial Markets and Institutions" by Jeff Madura.		
E-Resources: 1) https://corporatefinanceinstitute.com/resources/wealth-management/financial-system/ 2) National Digital Library of India (https://ndl.iitkgp.ac.in) 3) Project Gutenberg (https://www.gutenberg.org) 4) Reserve Bank of India (https://rbi.org.in) 5) Securities and Exchange Board of India (https://sebi.gov.in) 6) Ministry of Finance, Government of India (https://financialservices.gov.in)		
Course Code: Title of the Course: Personal Investment Management		
Course Credits	No. of Hours per Week	Total No. of Teaching Hours
3 Credits	4hours	60 hours

SEE	CIE	Total Marks
80	20	100
Pedagogy: Classroom Lectures, Tutorials, Seminar etc.		
Course Outcomes: On successful completion of the course, the students will be able to		
1. To know various avenues of Personal Savings and Investment Management 2. Explain investments and differentiate them from savings, speculation, and gambling. 3. Identify investment goals, constraints, and risk tolerance. 4. Evaluate precautionary investments like health insurance, life insurance, and pension funds. 5. Analyze tax-saving and savings schemes (e.g., bank deposits, PPF, NSC). 6. Understand mutual funds, calculate NAV and returns, and assess performance using financial metrics. 7. Comprehend stocks, bonds, and stock market operations, including SEBI guidelines.		
Syllabus		Hours
Module 1: Introduction to Investments		12 hours
Meaning of Investments, Difference between Savings and Investment; Difference between Investment, Speculation and Gambling. Investment Goals; Investment Constraints. Identifying Risk Tolerance		
Module 2: Pre-cautionary Investments		12 hours
Health Insurance: Types, operations and procedure. Life Insurance: Origin, Types, Operations and Procedures, Selection of Type of Insurance Policy. Pension Funds.		
Module 3: Tax Saving Schemes and Savings Schemes		12 hours
Bank Deposits, Post-office Saving Schemes, NDFC Deposits, Kisan Vikas Patra, National Savings Certificates, Employee Provident Fund, Public Provident Fund.		
Module 4: Mutual Funds		12 hours
Introduction to Mutual Funds, Historical background of Mutual Funds in India, Classification of Mutual Funds. Selection of Mutual Funds – criteria for selection. Calculation of Net Asset Value. Calculation of Mutual Fund Returns for Dividend Payment Plan, Dividend Reinvestment Plan, Bonus Plan and Growth Plan. Performance Criteria – Sharpe’s Measure, Treynor’s Measure and Jensen’s Alpha.		
Module 5: Stocks and Bonds		12 hours
Meaning of Shares and Stock, Bonds – Features and Types of Bonds. Stock Market Operations; SEBI Guidelines – KYC guidelines.		
Books for Reference:		
1. Chandra, Prasanna (2008), “Investment Analysis and Portfolio Management”, Tata McGraw Hill Publishing Limited, 3rd Edition. 2. Rao, Balaji, “Financial Markets and Investment Instruments – An Industry Integrated Working Knowledge Study Material”, Balaji Rao Publishers.		

3. Bhalla, V.K. (2006); “Investment Management”, S. Chand; 12th Edition.
4. Avadhani V.A (2006), “Securities Analysis and Portfolio Management”, Himalaya Publishing House, Eighth Revised Edition.
5. Ranganatham and Madhumathi (2005); “Investment Analysis and Portfolio Management”, Pearson Education, First Edition.
6. Pandian, Punithavathy (2007); “Security Analysis and Portfolio Management”, Vikas Publishing House Private Limited, Fifth Reprint Edition.
7. Kevin (2008); “Security Analysis and Portfolio Management”, Prentice Hall of India Private Limited, First Reprint Edition.
8. Maheshwari, Yogesh (2008); “Investment Management”, PHI Learning Private Limited, First Edition.
9. “Stock Market Book” (2005); Dalal Street Journal.
10. “The Layman’s Guide to Mutual Funds” (2004), Outlook Publishing (India) Private Limited, First Edition.

PROGRAM:B.COM (BUSINESS DATA ANALYTICS)

1. Preamble:

Business Analytics are the skills, technologies, and practices for continuous iterative exploration and investigation of past business performance. This helps the concerned to gain insight and drive business planning through proper decision. Using data analytics is a very effective way to have influence in an organization. Business analytics focuses on developing new insights and understanding of business performance based on data statistical methods, which facilitate the decision-making process. It is also a powerful tool in the day's market place. Across industries, organizations generate vast amounts of data which, in turn, has heightened the need for professionals who are data literate and know how to interpret and analyze that information.

According to a recent study by MicroStrategy, around 60% of companies worldwide are using data to boost process and cost efficiency, drive strategy and change, and monitor and improve financial performance. Over the next three years and beyond, 71 percent of global enterprises predict the reinvestments in analytics will accelerate stupendously. In the light of this trend, gaining an in-depth understanding of business analytics can be a way to advance one's career and make better decisions in the workplace. The benefits of business analytics include more informed decision-making, greater revenue, and improved operational efficiency. Over and above, analytics can be used to fine-tune business operations. Taking a data-driven approach business can come with tremendous upside, but many companies report that the numbers of skilled employees in analytics roles are short supply. LinkedIn lists business analysis as one of the skills companies need most in 2019, and the Bureau of Labor Statistics projects operations research analyst jobs to grow by 27 percent through 2026, will shoot up to 70%. As such there is a plethora of career opportunities for the skilled human resources having formal education in Data Analytics. Business analytics course is intended to empower professionals employed in the areas of Finance, Marketing, Economics, Statistics, Computer Science, Mathematics, IT, Research, Commodity markets and soon.

There are various methods of business analysis: and they are descriptive, diagnostic, predictive, and prescriptive. Data Analytics is an emerging trend that moves rapidly, but it lacks qualified professionals, hence greater demand for them. In a bid to bridge the gap between demand and supply of professionals in data science, many programs are in the pipeline at various levels and one such program is B.COM in Business Data Analytics.

The B.COM program for a duration of 3 Years help aspirants to learn concepts and methods of business analytics, model to solve decision problems in different settings, identify appropriate courses of action for a given managerial situation, viable solutions to decision making problems, aptitude for business improvement, collaborative learning, techniques of database design, administration and implementation data collection capabilities and decision- support systems, relationship between price and cost business intelligence capabilities, construct data models and proto types to gain stakeholder support or achieve business objectives, organize big data sets into a structures, articulate assumptions, analyses, and interpretations of data in an oral format, RDBMS and SQL queries and software system to manage finance, human resources operations, R Programming, data warehousing and mining etc.

The program is an embodiment of UG and PG with multidisciplinary holistic education. The National Education Policy (2019) has stressed that apt skills are an imperative need to cope with 21st Century challenges and resolved to develop specialized knowledge with disciplinary rigor. It is to bring equity, efficiency and academic excellence in the higher education system of the country. This includes innovation, improvement in course-curricula, and paradigm shift in learning, teaching pedagogy, evaluation and education system. Learner- centric, flexibility and mobility with the fragrance of professionalism and contemporary skills empower them to operate efficiently in their sphere. The rigorous activities in the specialized field will help create qualified professionals in Business data Analytics. The program with Business Data Analytics and regulations of the program are in conformity with notification of Mangalore University and common curriculum notified by Karnataka State Higher Education Council. The program is revolving around discipline courses, discipline specific courses, skill enhancement courses, vocational courses; courses under open elective, and the courses to enrich value based and skill based to inculcate community development for sustainability. B.COM Business Data Analytics program offers extraordinary job opportunities in diverse sectors.

2. Program:

B.COM Business Data Analytics

2(a)Program Objectives

The objectives of B.COM Business Data Analytics are:

- To Recognize,understand and apply the language,theory and models in the field of business analytics
- To foster an ability to critically analyze,synthesize and solve complex unstructured business problems
- To encourage an aptitude for business improvement,innovation entrepreneurial action
- To Share Experiences to enhance the benefits of collaborative learning
- To instill a sense of ethical decision-making and commitment in the long-run welfare of both organizations and the communities they serve

- To gain insight and drive business planning through proper decisions.
- To use data analytics very effectively thereby to influence an organization.
- To focus on developing new insights and understanding of business performance based on data and statistical methods.
- To derive meaning from data, thereby to make informed business decisions

2(b) Program Outcomes (PO):

After Studying The Program, the Graduates will be attributed to;

- Critically Apply The Concepts And Methods Of Business analytics
- Identify, model and solve decision problems in different settings
- Interpret results/solutions and identify appropriate courses of action
- Create Viable Solutions To Decision making problems
- Get acquainted with Financial Securities Analytics
- Plan the implementation of a BI system.

2(c) Program Specific Outcomes (PSO):

After Completion Of The Program, the Graduates will be attributed to;

- **PSO1:** Equip with the tools necessary to effectively meet the challenges of human resources in an ever-changing business climate.
- **PSO2:** Maintain interpersonal skills and develop leadership qualities to work in and with teams in organizations.
- **PSO3:** Draw the fundamental elements of relational database management systems
- **PSO4:** Apply the basic concepts of relational data model, entity-relationship model, relational database design, relational algebra and SQL.
- **PSO5:** Convert the ER-model to relational tables, populate relational database and formulate SQL queries on data.
- **PSO6:** Differentiate supervised machine learning from unsupervised machine learning
- **PSO7:** Apply regression, classification and clustering techniques of Machine learning.
- **PSO8:** Discover basics deep Learning, specialized field of machine learning, artificial intelligence (AI)
- **PSO9:** Implement the concept of virtualization for development of Cloud Computing
- **PSO10:** Explore Some Important Cloud Computing Driven commercial systems.
- **PSO11:** Create and edit visualization with R
- **PSO12:** Demonstrate the use of mathematical software and solve simple mathematical problems

B.Com (Business Data Analytics)(Final)

Semester I								
S I . N o .	Course Code	Title of the Course	Category of Courses	Teach in g Hours per Week	SE E	IA	Tot al Mar ks	Credi ts
1		Language–I	Lang	4	80	20	100	3
2		Language–II	Lang	4	80	20	100	3
3	B Com 1.1	Quantitative Techniques – I	Core	5	80	20	100	5
4	B Com 1.2	Foundation of Commerce	Core	5	80	20	100	5
5	BCom 1.3	Financial Accounting – I	Core	5	80	20	100	5
6	B.Com 1.4	Individual and Team Management / Fundamentals of Business Analytics	Optional	4	80	20	100	3
7		Constitutional Values	Compulsory	3	40	10	50	2
Sub–Total				30				26

Semester II								
S I . N o .	Course Code	Title of the Course	Category of Courses	Teachi n g Hours per Week	S EE	IA	Tot al Mar ks	Credi ts
1		Language–I	Lang	4	80	20	100	3
2		Language–II	Lang	4	80	20	100	3
3	BCom 2.1	Quantitative Techniques – II	Core	5	80	20	100	5
4	BCom 2.2	Foundation of Commerce – IIA (Insurance, Banking & Finance)	Core	5	80	20	100	5
5	BCom 2.3	Financial Accounting – II	Core	5	80	20	100	5
6.	BCom 2.4	Fundamentals of MS Excel/Organisational Behaviour	Option al	4	80	20	100	3
		Environmental studies	Compuls ory	3	40	10	50	2
Sub–Total				30				26

B Com 1.1:QUANTITATIVE TECHNIQUES-I

5 Hours per week

60 Hours

COURSE OUTCOMES:

After completing the course, the student will be able to

1. Study concerning metrics of dispersion, mean, median, and mode.
2. Connect a formal quantitative approach to problem solving and decision-making.
3. Utilize the idea of index numbers to comprehend current market conditions
4. Compute the ratios, proportions, discounts, and percentages that are utilized in business.

COURSE CONTENTS:

Module	Particulars	No of hrs
Module 1	Introduction and Basic Concepts Introduction to Statistics: Meaning and Definitions (Singular and Plural), Types of Data and Variables, Measures of Central Tendency-Arithmetic Mean-Properties (Combined Mean Included), Median and Mode.	12
Module 2	Descriptive Statistics of Univariate Distribution Measures of dispersion, Absolute and Relative Measures, Types- Range, Quartile deviation, Mean deviation, Standard Deviation. Coefficient of Variation and Variance	12
Module 3	Index Numbers Meaning and Uses of Index Numbers, Steps in the Construction of Index Numbers, Construction of Index Numbers: Simple and Weighted Average of Price Relatives, Weighted Aggregative Method: Laspeyres's, Paasche's, and Fisher's Index Numbers Tests of consistency of index number, time reversal, and factor reversal. Consumer Price Index Number: Aggregative Expenditure Method and Family Budget Method.	12

Module 4	Number System and Indices Introduction- Natural Numbers, Whole Numbers, Integers- Prime numbers -Rational and Irrational Numbers (simple Problems on sum of Natural numbers.....)Real Number- HCF and LCM calculations. Indices and Laws of Indices: Problems	12
Module 5	Commercial Arithmetic Concept of Percentages- problems on Profit/Loss,, Simple	

	Interest, Compound Interest, Nominal and Effective Rate of Interest, Cash Discount and Trade Discount.	12

Skill Development Activities

1. Visit the college office and collect data regarding student strength, results, etc. and analyze the same using statistical techniques.
2. Visit any Commercial Bank in your area and collect the information about types of loans and the rates of interest on loans
3. Use consumer price data to create and interpret index values in order to analyze inflation and economic trends.
4. Any other Activities which are relevant to the course

Books for Reference:

1. Business Statistics- S.C. Gupta
2. Business Mathematics- D.C. Sanchete& V.K. Kapoor, Sulthan Chand and sons
3. Business Statistics- S.P. Gupta, S.E. Gupta, B.N. Gupta
4. Business Mathematics-Madappa and Sridhara Rao, Shubhash Publications
5. Business Mathematics, S. N Doraira, United Publication
6. Financial Mathematics, A Lenin Jyothi, Himalaya Publications,Mumbai
7. Business Statistics & Mathematics, Vittal
8. Business Mathematics – S.P Gupta
9. Business Mathematics – Dr.AmarnathDikshit&Dr.Jinendra Kumar Jain, Himalaya Publications
10. Business Mathematics – Kashyap Trivedi, Chirag Trivedi, Pearson Publications
11. Comprehensive Statistical Methods – P.N. Arora, Sumeet Arora &S.Arora, Chand

Publications

Foundation of Commerce – I

5 Hours per week 60 Hours COURSE OUTCOMES:

After completing the course, the student will be able to

1. Create awareness of how HR works in organization and its role and functions.
2. Understand the basic concepts of Marketing, Marketing Management and Market Segmentation
3. Understand the basic concepts of Financial Management and the decisions involved in finance

COURSE CONTENTS:

Module	Particulars	No of Hrs
Module 1	Introduction to Human Resource Management Introduction, concept and meaning of Human Resource, Human Resource Management –Meaning - Characteristics, Objectives and scope, Significance of HRM, Personnel Management V/s. HRM, Paradigm shift in HRM, Significance of HRM, Human Resource Manager –Qualities of HR manager - changing role of HR manager, Human Resource Information System – Benefits of HRIS.	12
Module 2	Dimensions of Human Resource Management Human Resource Planning – meaning, characteristics and importance, Job Analysis – meaning and objectives, Recruitment and Selection –meaning, features and objectives, Training and Development – meaning, features and importance, Leadership - meaning, objectives and importance, Communication - meaning, objective and importance, Motivation - meaning, objectives and importance.	12
Module 3	Introduction to Marketing Introduction, Meaning and Definition of Market, Marketing, Nature/ Features of Marketing , Scope of Marketing/ Marketing Entities, Importance of Marketing, Core Concepts of Marketing , Approaches to the study of Marketing, Marketing Philosophies, Marketing Management – Meaning, features, importance	12

Module 4	Market Segmentation Meaning and Definition, Need, Criteria of Effective Segmentation, Bases, Target Market Selection-Positioning Concept (STP Model) –Importance, Product Differentiation vs. Market Segmentation. Marketing Mix- Meaning, Elements (4 Ps/ 7 Ps/ 4 Cs)	12

Module 5	Fundamentals of Financial Management Meaning of Business Finance – Meaning and definition of Financial Management - Objectives of Financial management: Profit maximization and wealth maximization –Financial Decisions: Financing decision, Investment decisions and Dividend decisions – Organisation of Structure of Finance Department - Functions of a Finance Manager	12

Skill Development Activities:

1. Visit the nearby industry or startup and evaluate the hiring process and make study on relevance of human resource in the organisation.
2. Analyze the marketing environment of your locality and identify need, wants & purchasing power of customers.
3. Students can collect and present the organization chart of Finance Section of any business firm.

Books for Reference:

1. Human Resource Management by P.Subba Rao, Himalaya Publishing house, Mumbai. 2. Personnel management by P.Subba Rao, Himalaya Publishing house, Mumbai. 3. Human Resource Management by K Ashwathappa, Mc Graw Hill Publication 4. Human Resource Management by Suman Shetty N and Ravi M.N., Professional Books Publishers, Hyderabad.
5. Philip Kotler (2015), Principles of Marketing. 13th edition. Pearson Education.
6. Saxena Rajan, (2017) Marketing Management, Tata McGraw-Hill Publishing Company Ltd., New Delhi. Fifth Edition.
7. Kumar Arun & MeenakshiN (2016), Marketing Management, Vikas Publishing House Pvt. Ltd., New Delhi. Third Edition
8. Panda Tapan (2008), Marketing Management, Excel books, New Delhi, Second Edition.

9. Michael, J. Etzel, Bruce J. Walker, William J Stanton and Ajay Pandit. Marketing: Concepts and Cases. (Special Indian Edition)., McGraw Hill Education
10. William D. Perreault, and McCarthy, E. Jerome., Basic Marketing. Pearson Education.
11. Chhabra, T.N., and S. K. Grover. Marketing Management.Fourth Edition. Note: Latest edition of text books may be used.
12. Financial Management: Text, Problems and Cases" by M.Y. Khan and P.K. Jain.
13. Financial Management: I.M.Pandey
14. Financial Management Theory and Practice: ShashiK.Gupta and R.K.Sharma
15. Financial Management: Ravi M Kishore.

B Com 1.3: Financial Accounting - I

5 Hours per week

60 Hours

COURSE OUTCOMES:

After completing the course, the student will be able to

1. Understand the need of maintaining proper books of records of financial nature for an organisation.
2. Prepare financial statements of a sole trader to assess the financial position and results.
3. Understand the meaning and financial records of a non-trading concerns.

COURSE CONTENTS:

Module	Particulars	No of Hrs
Module 1	Introduction to Accounting: Meaning of Accounting – Basic Terms in Accounting – Entity, Business Transaction, Capital, Drawings, Assets, Liability, Debtor, Creditor, Stock, Purchases and Sales. Accounting Concepts – Meaning – Types (Business Entity, Money Measurement, Going Concern, Accounting Period, Cost, Dual Aspect, Revenue Recognition, Matching, Accrual, Objective Evidence) Accounting Conventions – Conservatism, Consistency, Full Disclosure and Materiality. Basis of Accounting – Cash & Accrual, Systems of Accounting – Single & Double Entry. Rules of Debit & Credit as per American Approach - Accounting Equation Accounting Cycle – Journal, Ledger & Trial Balance	12
Module 2	Depreciation Accounting: Meaning of depreciation and amortisation, Causes, Factors determining economic life of the asset – Methods of charging depreciation Accounting treatment for charging depreciation under Straight Line Method & Written Down Value Method - Change in Method of Depreciation	12
Module 3	Final Accounts of Sole Trading Concerns: Preparation of Trading & Profit & Loss Account and Balance Sheet of a Sole Trader. Adjustments – Closing Stock, Outstanding & Prepaid Expenses, Accrued Incomes & Incomes Received in Advance, Bad Debts & Provisions for Doubtful Debts, Provision for discount on Debtors, Depreciation, Interest on Capital & Drawings, Manager's Commission, Goods Sent on Sale or Return basis, Treatment of deferred revenue expenditure.	12

Module 4	Final Accounts of Not for Profit Organisations: Meaning & Characteristics of Non- Profit Organisations Meaning of Capital & Revenue Income & Expenditure – Deferred Revenue Expenditure	12

	Meaning of Receipts & Payment Account, Income & Expenditure Account and Balance Sheet. Differences between Income & Expenditure Account and Receipt and Payments Account. Preparation of Income & Expenditure and Balance Sheet when Receipts & Payment Account is given with adjustments for existing and new organisations.	
Module 5	Bank Reconciliation Statement: Meaning & Reasons for difference between Cash book and Pass book Balance Problems on preparation of BRS (problems when cash book and pass extract is given to be included)	12

Skill Development:

1. Visit minimum three Sole Trading Concern and examine its accounting practices.
2. Identify a non-trading concern and assist them in preparing its financial statements.
3. Apply depreciation methods to real life scenarios.
Develop numerical, analytical and decision-making abilities

Books for Reference:

1. ICAI Study Materials on Principles & Practice of Accounting, Accounting and Advanced Accounting
2. SP Iyengar, Advanced Accounting, Sultan Chand & Sons, Vol. 1
3. Advanced Accounting Shukla M.C., Grewal T.S., S Chand, Vol. 1
4. Advanced Accounting, Gupta R.L., Sultan Chand & Sons, Vol. 1
5. Advanced Accounting Jain & Narang, Kalyani Publishers, Vol. 1
6. S.N. Maheshwari, and. S. K. Maheshwari. Financial Accounting. Vikas Publishing House, New Delhi.
7. B.S. Raman, Financial Accounting Vol. I & II, United Publishers & Distributors.

Note: Latest edition of text books may be used.

B Com 1.4: Individual and Team Management

4 Hours per week

48 Hours

COURSE OUTCOMES:

After studying this course the students can

1. Become effective in their day to day transactions.
2. Develop interpersonal skills
3. Enhance individual resourcefulness in all walks of life and thereby improve the quality of their thinking and become self-motivated in their personal dealings.

COURSE CONTENTS:

Module	Particulars	No of hrs
Module 1	Managerial Effectiveness and Inter-Personal Skills: Meaning of Managerial Effectiveness, Essentials for Managerial Effectiveness and Importance of ME for an organization. Meaning of Inter- personal skills – Importance, Essentials IP skills – communication, clarity, empathy, etc., developing IP Skills – Assertiveness, Responsibility, Managing conflicts & factors hampering IP Skills, self-development goals & its relevance in the present time	12
Module 2	Stress & Time Management: Meaning of Stress, Sources of stress – Internal, external and types, Effects of stress & burnout – effect on environment and personal life. Strategies for coping with Stress – Avoiding and fighting stress, maintaining Work life balance – its importance and benefits. Importance of Time Management, Analysis of Time – time logs, Time wasters & time Abusers, Planning Time and Resources – Need & strategies for planning time – Matrix of Time Management, Setting Goals and objectives – Advantages and setting SMART goals and planning to achieve goals – Scheduling, Delegating and controlling time-wasters.	12
	Creativity & Emotional Intelligence in Management: Meaning of Creativity & Innovation, Stage of Creativity, Importance of Creativity, Barriers to Creative thinking, Developing Creativity and techniques of enhancing creativity – Brainstorming, Six Thinking	

	Hats & Mind Mapping.	

Module 3	Nature of Emotional Intelligence (EI), Definition of emotions – empathy, fear, anger and depression, Components of Emotional Intelligence, analysing the importance of emotions in the workplace – Negative and Positive emotions and Characteristic features of people with High IQ or High EQ.	12
Module 4	Working in Teams: Meaning of Team & Team work, Importance of teamwork, Challenges of working in a Team, Characteristics of a successful team, Team dynamics vs Group dynamics, Employee engagement, 5C's & 4P's of Team building, Collaboration – meaning, benefits and tips to improve workplace collaboration.	12

Skill development:

1. Collecting the list of Best practices of enhancing managerial effectiveness of a few corporates.
2. Analysing the different techniques used by corporates in promoting work life balance amongst its employees.
3. Preparing a Time log of 24 hours for every student and providing feedback as to its improvement for better productivity
4. Application of Creativity techniques in a learners day to day social transactions
5. Team building games can be conducted on specific characteristics of a successful Team.

Books & Materials for Reference: (Text Books and Websites for additional reading)

1. The Effective Executive: Peter Drucker – Harper Collins
2. Workplace Stress – Concepts and Cases: Gopal V V – ICFAI University Press
3. Managing Time: David Fontana – BPS Books, New Delhi
4. The Seven Habits of Highly Effective People: Stephen R Covey – Simon & Schuster
5. The On-time, On Target Manager: Ken Blanchard and Steve Gottry – Harper Collins
6. Getting Things Done – The Art of Stress Free Productivity: David Allen – Penguin Books
7. Lifelong Creativity – An Unending Quest: Pradip N Khandwalla, Tata McGraw Hill.
8. Emotional Intelligence: Why It Can Matter More Than IQ: Daniel Goleman, Bantam Books.
9. How to Win Friends and Influence People: Dale Carnegie – Simon & Schuster
10. <https://www.sessionlab.com/blog/team-building-activities/>
11. <https://asana.com/resources/team-building-games>
12. <https://teambuildinghub.com/team-building/activities-games/quick-team-building/>

13. <https://teambuilding.com/blog/team-building-games>

B Com 1.4: Fundamentals of Business Analytics

Objectives: In the business world, competition is the main factor, intelligence is prerequisite for understanding competition. AI and BI are essential learning and analytical concepts. So that, students enhance their intelligence and they can take-up career in these fields.

Outcomes : Familiarizes the students with the areas applications of artificial and business intelligence.

Unit -1: Artificial Intelligence: Meaning, scope, nature of business problem solving, cognitive science, knowledge acquisition techniques, knowledge sharing and transformation of knowledge.

Unit -2: Knowledge System: Inheritable knowledge, machine and robotic knowledge, knowledge mapping system knowledge V/s skills, re-skills, knowledge creation with the help of AI, forward and backward thinking, value system and mind mapping techniques, human capital analytics.

Unit -3: AI: Intelligent system, areas of AI, Psychological modeling, improving efficiency, business model analysis, appreciative intelligence, benchmarking analysis and business model analysis.

Unit -4: Intelligent Cycle: Intelligent cycle components, forms of analysis: facts, perception, beliefs, assumptions, projections and synthesis. Intelligent decision-making, intelligent solution to business problems, unlock value of business, avoiding analysis pitfalls and developing analytical fitness through AI, recent trends in AI.

Unit -5: Business Intelligence and Data Analytics: Meaning, importance in business decision-making, interpretation of big data, business intelligence and competitive intelligence in business, business analytics, BI capabilities, business solutions, Data mining and scope, recent trends in BI and big data analytics.

References:

- Anu Singh Lather, Anil S Saini and Sanjay Dhingra: Business Intelligence and Data warehousing: Narayana Publishing House.
- Barr et al (1981) Handbook of Artificial Intelligence: Morgan Kaufmann.
- Business Intelligence: Concepts, methods, tools and application by MAIR (Management Association Information Resources) IGI Global Publisher 2015.
- Charniak and McDermott: Introduction to Artificial Intelligence (1985) Addison Wesley.
- Craig S. Fleisher and Babette E. Bensoussan: Business and Competitive Analysis, Pearson.
- Elaine Rich and Kevin Knight: Artificial Intelligence, Second edition: McGraw-Hill –Inc.
- Genesereth & Nilsson (1987): Logical Foundation of Artificial Intelligence: Morgan Kaufmann.
- John Boyer et al: Business Intelligence Strategy: A Practical Guide for achieving business intelligence excellence: McGraw Hill.
- John Brooks: Business Adventures: John Murray Learning Private Information and Business Development
- Nilsson (1980): Principles of Artificial Intelligence: Morgan Kaufmann.
- Rajiv Sabherwar, et al, Business Intelligence Practice: Practices, Technologies and Management, Wiley.
- Shapiro and Eckroth (1987): Encyclopedia of Artificial Intelligence: Addison Wesley.
- Webber B. L and Nilsson: Reading in Artificial Intelligence: Morgan Kaufmann.
- Winston (1984): Artificial Intelligence: Addison Wesley.

Semester II

B.Com 2.1 :QUANTITATIVE TECHNIQUES – II

5 Hours per week

60 Hours

COURSE OUTCOMES:

After completing the course, the student will be able to

1. Establish relationships between variables in real-world situations by using methods like regression and correlation.
2. Use the ideas from probability distributions to solve practical issues.
3. Predict future results using time series
4. Recognise the relationship between two variables and how to use ratios and proportions to express it.

COURSE CONTENTS:

Module	Particulars	No of hrs
Module 1	Descriptive Analysis of Bivariate Data: Correlation- Meaning and Definition, Linear and Non-linear correlation, Correlation and causation, Scatter Diagram, Karl Pearson's Co-efficient of Correlation, Calculation and Spearman's Rank Correlation.	12
Module 2	Regression Analysis: Regression Analysis- Principle of Least Squares and Regression lines, Regression equations and estimation. Properties of Regression Coefficients.	12
Module 3	Time Series Analysis and Theory of Probability: Meaning and uses of Time Series, Various components of Time series, determination of Trend using Moving Average and Least square method Theory of Probability: Some important concepts, Addition Theorem of probability for two non-mutually and mutually exclusive events - Multiplication theorem of probability for dependent and independent events. Simple problems	12
Module 4	Ratios and Proportions and Theory of Equations: Definition- Equality of Ratio- Simple Problems. Proportion- definition- Direct Proportion-Inverse Proportion- Continued Proportion- Problems on proportions Equations: Definition - Degree of Equation. Types of Equation - Linear equations and its solution-Simultaneous linear equations-Quadratic equation-Solution by method of factorisation and formula method.	12

	Permutation and Combinations: Factorial Notations- permutations of n different things-Circular	

Module 5	permutations-Permutation of things not all different- Restricted Permutation-Simple problems. Combinations- Simple problems based on formula.	12

Skill Development Activities

1. Determine the strength and direction of the relationship between advertisement expenditure and sales income by computing the correlation coefficient.
2. Use historical sales data to create a simple linear regression model to predict future sales based on advertisement expenditure.
3. Utilize a time series model to analyze monthly sales data to identify trends and seasonal patterns and generate a forecast for the upcoming year.
4. Instruct the students to use their knowledge of ratios to determine how much of each ingredient they would require to make the recipe for exactly the number of people in the group
5. The task involves resolving a shelf arrangement issue to maximize visibility by utilizing permutations and combinations to explore various arrangements

Books for Reference:

1. Business Statistics- S.C. Gupta
2. Business Mathematics- D.C. Sanchete & V.K. Kapoor, Sulthan Chand and sons
3. Business Statistics- S.P. Gupta, S.E. Gupta, B.N. Gupta
4. Business Mathematics-Madappa and Sridhara Rao, Shubhash Publications
5. Business Mathematics, S. N Dorairaj, United Publication
6. Financial Mathematics, A Lenin Jyothi, Himalaya Publications, Mumbai
7. Business Mathematics – S.P Gupta
8. Business Mathematics – Dr.AmarnathDikshit&Dr.Jinendra Kumar Jain, Himalaya Publications
9. Business Mathematics – Kashyap Trivedi, Chirag Trivedi, Pearson Publications
10. Comprehensive Statistical Methods – P.N. Arora, Sumeet Arora &S.Arora, Chand Publications

B.Com 2.2 :Foundation of Commerce – II (Insurance, Banking and Finance)

5 Hours per week

60 Hours

COURSE OUTCOMES:

After completing the course, the student will be able to

1. Understand the concepts of Insurance, Banking and Finance.
2. Apply Fundamental conceptual knowledge to analyse and interpret relevant areas in Insurance, Banking and Finance.
3. Learn new reforms and technology in Insurance and Banking sector.
4. Evaluate the investment opportunities using risk and return

COURSE CONTENTS:

Module	Particulars	No of Hrs
Module 1	Basics of Insurance: Concept of Risk, Assurance and Insurance – Meaning – Definition – Functions – Need and Importance, Principles of Insurance Contract – Insurance Industry in India – IRDAI- Insurance Sector reforms – Bank assurance. Claims management – Claim settlement – legal framework – Third Party Administration.	12
Module 2	Types of Insurance: Life Insurance – Features – Principles – Life Insurance Products – Policy Conditions – Application and Acceptance – Assignment – Nomination – Surrender – Re-Insurance in life Insurance. Marine Insurance – Features – Policy Conditions – Clauses and covers. Fire Insurance – Motor vehicle Insurance. Health Insurance – Clauses – Health Insurance Frauds – Personal accident Insurance – Group Insurance.	12
Module 3	Basics of Banking: Origin – Evolution of banking – Definition of term bank and banking – Commercial Banks. Functions – Primary and subsidiary functions. Co-operative Banking – Primary – Central and State Co-operatives. Banks – Functions and Features. Principles of Investment Policy- Basic and allied principles. Financial Inclusion-Meaning, need and Importance. Cheques - Meaning and definition - features - Types and Crossing of Cheques. Paying Banker and Collecting Banker (Meaning only) Dishonour of Cheques- Reasons for Dishonour.	12

Module 4	Innovative and Digital Banking: ATM – Debit Cards – Credit Cards – Smart Cards – Internet Banking – Mobile Banking – Wallet Banking – Digital Cash – Core Banking System – NEFT – RTGS – IFSC – UPI – IMPS – AEPS - CIBIL- CTS – ECS –	12

	MICR.	
Module 5	Basic Financial concepts: Introduction to Risk & Return: Meaning of Risk and Return, Measurement of return- Return on Investment, Types of Risk- systematic & unsystematic risk, Risk analysis- Expected return, Standard deviation and Coefficient of Variation. Risk -Return trade off.	12

Skill development activities:

1. Learners should collect data from the company reports and analyse the risk and return
2. Learners can enhance knowledge by collecting Banking product details by visiting the bank.
3. Learners can understand Risk assessment, policy analysis and interpretations by taking a print of any insurance policy.
4. Learners can have ideas on technology usage in banking by using their mobile.

Reference Books:

1. Principles and practice of Life Insurance – P PeryaSwamy.
2. Insurance Principles and Practice – Mishra M N.
3. Insurance and Risk Management – P K Gupta.
4. A Text Book on principles and Practice of life Insurance – G Krishna Swamy.
5. Financial Management: Text, Problems and Cases" by M.Y. Khan and P.K. Jain.
6. Indian Banking by R Parmeshwaram.
7. Banking Theory and Practice by P N Varshney.
8. Banking Theory, Law and Practice by KPM Sundharam and P N Varshney.
9. Principles and Practice of Banks by Indian Institute of Banking and Finance.
10. Digital Banking by Indian Institute of Banking and Finance.

B.Com 2.3 :Financial Accounting - II

5 Hours per week

60 Hours

COURSE OUTCOMES:

After completing the course, the student will be able to

1. Learn about Accounting Standards and Indian Accounting standards.
2. Understand the recent developments in the field of financial accounting.
3. Learn to deal with special transactions and situations while preparing financial statements.

COURSE CONTENTS:

Module	Particulars	No of Hrs
Module 1	Accounting Standards and Recent Developments in Accounting: Accounting Standards - Meaning, Procedure to issue – Applicability Indian Accounting Standards – Meaning – Applicability Recent Trends in Accounting –Computerised Accounting - Big data Analytics, Cloud Computing in Accounting, Accounting with drones.	12
Module 2	Conversion of Single Entry into Double Entry System: Introduction – Meaning – Limitation of Single-Entry System – Differences between Single Entry & Double Entry System Problems on Conversion of Single Entry into Double Entry (preparing Opening Statement of Affairs, Cash Book, Total Debtors Account, Total Creditors Account, Trading & Profit & Loss Account and Balance Sheet).	12
Module 3	Hire Purchase Accounting: Introduction, Meaning of Hire Purchase, Features Terms used – Hire Purchaser, Hire Vendor, Cash Price, Hire Purchase Price, Total Interest, Down Payment & Net Cash Price Accounting for Hire Purchase transactions in the books of Hire Purchaser (when Cash Price and Rate of Interest is given) under Accrual System only. Repossession – Complete & Partial	12
Module 4	Departmental Accounts: Meaning, Types of Departments, Advantages, Basis of Allocation of common expenses and income among various departments Departmental Accounts – Columnar Trading & Profit & Loss Account, General Profit & Loss Account and Consolidated Balance Sheet Treatment of Inter Departmental Transfers at Cost and Selling Price.	12

Module 5	Royalty Accounts: Meaning – Types of Royalty. Terminologies – Lessor, Lessor, Minimum Rent,	12

	Short working – Recoupment of Short working. Accounting Treatment in the books of Lessee with opening Minimum Rent Account.	

Skill Development:

1. Collect a copy of the Hire Purchase agreement and examine the various terminologies.
2. Identify a business where royalty accounting is applied.
3. Learn to prepare financial statements with incomplete records using imaginary figures.
4. Know the differences between Accounting Standards and Indian Accounting Standards.

Books for Reference:

1. ICAI Study Materials on Principles & Practice of Accounting, Accounting and Advanced Accounting.
2. SP Iyengar, Advanced Accounting, Sultan Chand & Sons, Vol. 1
3. Advanced Accounting Shukla M.C., Grewal T.S., S Chand, Vol. 1
4. Advanced Accounting, Gupta R.L., Sultan Chand & Sons, Vol. 1
5. Advanced Accounting Jain & Narang, Kalyani Publishers, Vol. 1
6. S.N. Maheshwari, and. S. K. Maheshwari. Financial Accounting. Vikas Publishing House, New Delhi.
7. B.S. Raman, Financial Accounting Vol. I & II, United Publishers & Distributors.

Note: Latest edition of text books may be used.

B Com 2.4 : Fundamentals of MS-EXCEL

4 Hours per week

48 Hours

Course Out comes:

On successful completion of the course, the Students will be able to

- Navigate through Excel quickly and easily
- Create a simple, effective spreadsheet
- Use Excel formulas for automating repetitive math calculations
- Format text and arrange it alphabetically
- Format numbers into the currency
- Adjust column and row size quickly and easily
- Wet with the basics of Excel in an easy, stress-free way
- Apply Conditions using formulas and Functions
- Implement financial Accounting concepts in Spreadsheet

Module	Particulars	No. of Hours
Module 1	Introduction: Basics of MS-Windows–Desktop, Icon ,creating, saving, and using of different documents and applications, MS- Office: Installing, Customizing, and Using different applications and tools in MS-Office package, Basic so MS -Word, MS-Access & MS-Outlook.	4 Hours
Module 2	Introduction to MS-Excel: Spreadsheet Basics,NeedforSpreadsheets,Work-Book,Work–Sheet,PartsofaMS ExcelWork-Sheet-Programarea,Workarea,Contents Title-Bar,Manu Bar,ContentsofManuRibbons, Meaning of Cell- Cell address, Formula-Bar, Row-Numbers,Column-Letters,QuickAccesstoTool-Bar,OfficeButton,FloatingFrames, Adding WorkSheets, Tab ,Status-Bar .,and other features of Excel.	4Hours s

Module 3	Work-Sheet and Work-Book Operation: Selecting Cell and Range of cells, Merging Cells, Entering and Saving Data In the Cell, Named Cells, Need of Naming Cells, Entering, Storing, Copying Formula, Using different Arithmetic and logical Operators in Formula, Moving Cell with contents, Copying and Pasting of Cell and Cell Content, Freezing Cells Editing of Cell Contents, using Cell Formatting Options– Editing Cell Size (increasing Column and Row size of a cell), Text Alignment, using Border, Comments option usage in Cell, Editing and Deleting Comments, Fill, Formatting Fonts, Text Warping, Text Rotate, Using Auto-fit to Adjust Rows and Columns Using of Short-Cuts and Short-Cut Menu, Clear Contents in a Cell, Adding, Deleting and Copying Work-Sheet within a Work-Book, Renaming Floor Work-Sheet, Inserting Multiple Work-Sheet at a time, Formatting a Work-Sheet Automatically, Sorting Textual & Numerical DATA, Sort Dates or Times, Sort by Cell Color, Font Color, or icon, Sort by a custom list, Sort Rows, sort by more than column or row and other Issues in sorting	6 Hours
Module 4	Tables and Formatting: Creating a Table, Changing the look of a table, navigating in a Table, selecting parts of a Table, Adding, Deleting New Rows / Columns, moving a Table, working with the Total Row, Removing Duplicate rows from a table. Sorting and Filtering a table, Converting Table into Range. Formatting tools on the Home Tab, Mini Toolbar, Fonts, Text Alignment, Wrapping text to fit a cell, Colors and Shading, Borders and Lines, Miming Styles Conditional Formatting and Reporting: Format all Cells using two Color Scale, Format all Cells by using Data Bars quick formatting, Protecting, Protect a Workbook, UnProtect Work-Book, Protect Work-Sheet Data, Unprotect Work-Sheet data, Share a Work-Book and Proofing tools- Use a Shared Work-Book to Collaborate Spelling and Grammar Check, Referencing – Relative, Absolute, Mixed Referencing, Basic Functions Viz., SUM, AVERAGE, MAX, MIN, SQRT, TODAY, COUNT, COUNTIF, VAR, CHAR, AND, OR, NOT, VALUE, ROUND, Introduction To Chart Wizard	8 Hours
Module 5	Working with MS-Excel: Using Formulae to Find the roots of a Quadratic Equations, Prove LHS=RHS for Identities, Formula of Straight–line ($Y=MX+C$) to find the Slope of a straight–line, Regression Formula, Compound Interest, EMI Formula, Formulae used in calculating Banker Discount, Bankers Gain, True-Discount, Net Present Value, Sum of AP and GP, Break– Even Analysis, Using Formulas in Ratio Analysis (Balance Sheet Ratios). Using IF Condition, And using Multiple IF Conditioning.	20 Hours

Module 6	Preparing worked Work-Sheet for Print: Normal, Page layout, Page Break View, Choosing Printer, changing Page–Orientation, specifying paper size, Adjusting Page area, Margin and Orientation, Select a Paper Sources, Centering WorkSheet, Using Header and Footer, Inserting Page Breaks,Removing manual page Breaks,Printing Row and Column Title, Scaling Printed Output,Preventing Certain cells, Objects from being printed, Creating CustomViews of Worksheet,Creating PDF Files	6 Hours

Skill Developments Activities:

- Enter class data into rows and columns
- Create Draft Marks Cardin Spreadsheet
- Create Draft profit and Loss and Balance Sheet in Spreadsheet
- Create GST Invoice in Spreadsheet with Tax Rate
- Any other activities, which are relevant to the course.

References:

1. MicrosoftExcelLatestVersionInsideOut–MarkDogeandCraigStinson–PHILearningPrivate Limited, New Delhi– 110001.
2. Excel2013Bible;JohnWalkenbach,Wiley
3. Chandan Sengupta, Wiley Financial Analysis and Modeling using Excel and VAB: 4. Hector Guerre or Excel Data Analysis –Modeling and Simulation: ,Springer 5. Winston Microsoft Excel2013:Data Analysis and Business Modeling:, PHI 6. Bernd Held, Excel Functions and Formulas:, BPB Publications.

Fundamentals of Organisation Behaviour

4 Hours per week

48 Hours

COURSE OUTCOMES:

After completing the course, the student will be able to

1. Create awareness about how organizational behaviour works in an organization and its role and functions.
2. Develop insight with different theories of motivations and strategies to improve motivation in the workplace.
3. Understand group dynamics and demonstrate skills required for working in groups and team building
4. Understand the concepts of Personality and attitude, Perception and motivation,

COURSE CONTENTS:

Module	Particulars	No of Hrs
Module 1	Introduction to Organisational Behaviour: Meaning of Organizations –Importance of organizations- contributing disciplines to the Organizational Behavior- definitions and meaning of Organization Behaviour - Nature and characteristics of Organizational Behaviour- scope/ key elements of organizational behavior- OB Models- Importance of OB- role of managers in OB – Interpersonal, Informational, decisional roles, challenges & opportunities for OB- Limitations of organizational behavior.	12
Module 2	Foundations of Individual Behavior: Factors affecting Individual Behavior. Personality- Characteristics of Personality- Determinants of personality- Personality traits influencing OB. Attitudes - Features of Attitude- components of attitude- attitude formation major types of work-related attitudes. Job Satisfaction - Ways to Measure Job Satisfaction- Causes & Impacts of job satisfaction.	12

Module 3	Emotions, Perception and Learning: Emotions & Moods- Basic Set of Emotions- Sources of Emotions and Moods Emotional Labor- Emotional Intelligence - Elements of Emotional Intelligence OB Applications of Emotions and Moods. Perception- Factors influencing perception - Perceptual Process- Importance of Perception in OB-Perception and Individual Decision Making- Group Organisational decision-making Learning- Nature of learning- Factors affecting learning- components of learning process.	12

Module 4	Motivation and Group Dynamics: Motivation: Concept, importance and theories of motivation. Maslow's Theory of hierarchical needs, Hertzberg's two-factor Theory, McClelland's Theory of Needs, Vroom's Theory of Expectancy. Group Dynamics: Meaning of groups and group dynamics, Formation, Characteristics and Types of groups, Group cohesiveness - Factors influencing group cohesiveness - Group decision making process.	12

Skill Development:

1. Visit any organization and make a study on factors affecting perception.
2. Collect Bio-data of Motivational theory Proposers.
3. Visit nearby organization and analyse the Role of Managers.
4. Make a survey on measures followed by organization regarding Job Satisfaction
5. Any other activity relevant to the course.

Reference Books:

1. Organisation Behaviour An Evidence Approach – Fred Luthans McGraw Hill
2. Organisation Behaviour – Stephen P Robins Timorty A Judge
3. Organisation Behaviour by K. Ashwathappa
4. A Text Book of Organisational Behaviour -With Text and cases -CB Gupta- S Chand New Delhi.
5. Personnel Management (Text and Cases) C B Memoria and V.S.P. Rao- Himalaya Publishing House, New Delhi
6. Strategic Management and Organisation Behaviour _ Dr. Suman Shetty N, Hyderali, Dr. Ravi M .N., and Umesh Shetty, Professional Books Publishers, Hyderabad

Department of BSc Animation and Visual Effects

Course Title: Digital Marketing & Generative AI for Animation & Graphic Design

Academic Year: 2025-2026

Course Duration: 6 Semesters

Total Course Hours: 240 Hours (40 Hours/Semester)

Course Objectives:

- To equip students with a comprehensive understanding of digital marketing principles and strategies specifically tailored for the animation and graphic design industries.
- To provide hands-on experience in utilizing digital marketing tools and platforms to promote animation and design portfolios.
- To introduce students to the concepts and applications of Generative AI in creating animation and graphic design assets.
- To develop critical thinking, problem-solving, and analytical skills in the context of digital marketing for creative professionals.
- To prepare students for successful careers in the animation and design industry with a strong understanding of digital marketing and AI.

Syllabus:

Semester 1: Foundations of Digital Marketing & Introduction to AI in Design

- **Theory (3 Sessions):**
 - Introduction to Digital Marketing: Concepts, Evolution, and Importance in the Creative Industries
 - Digital Marketing Channels: Search Engine Optimization (SEO), Search Engine Marketing (SEM), Social Media Marketing (SMM), Email Marketing, Content Marketing, Influencer Marketing ¹
 - Introduction to Artificial Intelligence (AI): Basic Concepts, Types of AI, AI Applications in Design (e.g., AI art generators, design assistants)
- **Practical (3 Sessions):**
 - Introduction to Digital Marketing Tools: Google Analytics, Google Search Console, Social Media Management Tools
 - Basic SEO Techniques: Keyword Research, On-Page Optimization for Design Portfolios
 - Hands-on with AI Tools: Using AI art generators (Midjourney, DALL-E 2) to generate design concepts and inspiration

Semester 2: Search Engine Optimization (SEO) for Creatives & Natural Language Processing (NLP)

- **Theory (3 Sessions):**
 - Advanced SEO Techniques: Off-Page Optimization, Local SEO, Technical SEO for design portfolios and websites

- Content Marketing Strategies for Creatives: Creating compelling content (articles, blog posts, social media updates) related to animation and design
- Natural Language Processing (NLP): Fundamentals of NLP, Applications of NLP in design (e.g., image captioning, style transfer)
- **Practical (3 Sessions):**
 - On-Page and Off-Page SEO Implementation & Analysis for a personal design portfolio website
 - Creating and optimizing design-related content for online platforms
 - Basic NLP Projects: Image captioning using AI models

Semester 3: Social Media Marketing for Creatives & Machine Learning

- **Theory (3 Sessions):**
 - Social Media Marketing Strategies: Platform-specific strategies (Behance, Dribbble, Instagram, Pinterest) for designers and animators
 - Social Media Advertising: Creating effective social media ad campaigns for design services
 - Introduction to Machine Learning: Supervised, Unsupervised, and Reinforcement Learning, Machine Learning Applications in creative fields
- **Practical (3 Sessions):**
 - Social Media Marketing Campaign Planning & Execution for a design portfolio or a fictional creative project
 - Social Media Analytics & Reporting for design-related social media activities
 - Basic Machine Learning Projects: Using pre-trained models for image style transfer or generative design

Semester 4: Email Marketing & Deep Learning for Creative Applications

- **Theory (3 Sessions):**
 - Email Marketing Fundamentals: Email List Building, Email Campaign Design, Email Marketing Automation for designers and animators
 - Email Marketing Best Practices: Deliverability, Segmentation, A/B Testing for creative professionals
 - Deep Learning: Neural Networks, Deep Neural Networks (CNN, RNN, etc.), Applications of Deep Learning in animation and design (e.g., style transfer, character design)
- **Practical (3 Sessions):**
 - Email Marketing Campaign Creation & Execution for a design-related business or freelance services
 - Email Marketing Analytics & Reporting
 - Hands-on with basic Deep Learning models for creative applications (using pre-trained models or simple architectures)

Semester 5: Digital Marketing Analytics & Generative AI in Creative Workflows

- **Theory (3 Sessions):**
 - Digital Marketing Analytics: Website Analytics, Social Media Analytics, Campaign Performance Analysis for design and animation projects
 - Data Visualization and Reporting: Creating dashboards and reports for creative projects
 - Generative AI in Creative Workflows: AI-powered design tools, AI-assisted animation, AI in creative decision-making
- **Practical (3 Sessions):**

- Advanced Data Analysis using Google Analytics for a design-related website or online portfolio
- Creating Interactive Dashboards using data visualization tools to showcase design projects
- Exploring and experimenting with AI-powered design tools (e.g., Midjourney, DALL-E 2) for personal projects

Semester 6: Digital Marketing Trends & Capstone Project

- **Theory (3 Sessions):**
 - Emerging Trends in Digital Marketing: AI-powered marketing, Influencer Marketing, Voice Search, Virtual Reality/Augmented Reality in the context of creative fields
 - Digital Marketing Ethics and Legal Considerations: Data privacy, copyright, ethical use of AI in creative work
 - Career Paths in Digital Marketing for Animation and Design Professionals: Exploring job roles and career opportunities
- **Practical (3 Sessions):**
 - Capstone Project: Students will develop and execute a comprehensive digital marketing campaign for a fictional design studio or their own creative projects.
 - Portfolio Building: Creating a professional portfolio showcasing their design skills and digital marketing expertise.
 - Career Guidance and Placement Assistance: Resume and interview preparation, industry networking opportunities

Note:

- This syllabus is designed to be a comprehensive guide and may be adjusted based on the specific requirements and resources of the department.
- Practical sessions will involve hands-on exercises, case studies, and project work using relevant tools and technologies.
- Guest lectures from industry professionals (designers, animators, digital marketers) are highly recommended to provide students with real-world insights.

This syllabus emphasizes the unique needs of students in the Animation and Visual Effects department by integrating digital marketing concepts with their creative skills. It aims to equip them with the knowledge and skills necessary to thrive in the evolving digital landscape of the creative industries.

Teacher Eligibility for "Digital Marketing & Generative AI for Animation & Graphic Design"

To effectively teach this specialized course, instructors should possess a strong blend of academic and industry expertise. Here are some key eligibility criteria:

1. Educational Qualifications:

- **Master's Degree:** A Master's degree in Digital Marketing, Marketing Communications, Mass Communication, Animation, Graphic Design, or a related field is highly preferred.

- **Relevant Bachelor's Degree:** A Bachelor's degree in a relevant field such as Animation, Graphic Design, Visual Communication, Computer Science, or a related field is essential.

2. Industry Experience:

- **Professional Experience:** At least 2-3 years of professional experience in digital marketing, social media marketing, or a related field within the creative industry is highly desirable.
- **Hands-on Experience:** Practical experience with digital marketing tools and platforms (Google Analytics, Social Media Management Tools, SEO/SEM tools) is crucial.
- **Experience with AI Tools:** Familiarity with AI-powered design tools (Midjourney, DALL-E 2), AI-assisted animation tools, and AI-driven marketing platforms is essential.

3. Technical Skills:

- **Proficiency in Design Software:** Strong proficiency in design software such as Adobe Creative Suite (Photoshop, Illustrator, After Effects) is highly recommended.
- **Technical Skills:** Excellent computer skills, including proficiency in using operating systems, internet browsing, and online communication tools.
- **Data Analysis Skills:** Basic data analysis skills and familiarity with data visualization tools are beneficial.

4. Pedagogical Skills:

- **Excellent Communication & Presentation Skills:** Ability to effectively communicate complex concepts to students in a clear and engaging manner.
- **Teaching Experience:** Prior teaching experience (preferred, but not always mandatory) is a plus.
- **Mentorship Skills:** Ability to guide and mentor students, provide constructive feedback, and foster their creative growth.

5. Other Desirable Qualities:

- **Passion for Digital Marketing and AI:** A genuine interest in the field of digital marketing and its applications in the creative industries.
- **Continuous Learning:** A commitment to continuous learning and staying updated with the latest trends and technologies in digital marketing and AI.
- **Industry Connections:** Strong professional networks within the digital marketing and creative industries.

Program Outcomes – BCA (AI/ML) – 3-Year Degree

1. **Disciplinary Knowledge**

Demonstrate a strong foundation in core areas of Computer Science, with the ability to apply theoretical principles to design and develop effective solutions for problems of varying complexity.

2. **Problem Solving Skills**

Enhance logical reasoning and analytical capabilities, underpinned by mathematical competence, to identify, formulate, and solve computational problems using sound knowledge of data structures and algorithms.

3. Design and Development of Solutions

Develop algorithmic solutions to real-world problems, incorporating foundational knowledge in statistics and optimization. Apply various design methodologies and strategic thinking to address complex challenges.

4. Programming Proficiency

Exhibit competence in computer programming across diverse application domains, with in-depth understanding of multiple programming paradigms and languages.

5. Application and System Development

Demonstrate the ability to design, develop, and implement software applications by leveraging a solid understanding of computer application systems to address practical and domain-specific problems.

6. Modern Tool Usage

Select and effectively use modern tools, technologies, and platforms for modeling, prediction, data analysis, and solution development, including mobile application development and AI/ML tools.

7. Communication Skills

Develop and exhibit effective communication skills, both oral and written, essential for technical documentation, teamwork, and professional interactions.

8. Project Management and Execution

Gain practical experience in managing and executing projects, fostering the ability to independently initiate and lead projects by identifying and addressing existing gaps.

9. Professional Ethics and Societal Impact

Adhere to ethical standards in computing practices, understanding the societal and environmental impacts of technology-driven solutions, and acting with integrity in professional environments.

10. Pursuit of Higher Education

Develop a passion and readiness for advanced studies and research in Computer Science, with particular emphasis on emerging areas like Artificial Intelligence and Machine Learning.

ALVA'S College (Autonomous)

Suggested programme structure for the Under Graduate Programmes

BCA(A.I&M.L)

Semester	Course 1	Course 2	Course 3	Elective / Optional	Course	Language	Compulsory	Total Credit	Total Working hour
I	5 (3T+2P)	5 (3T+2P)	5 T			3+3	2	23	4+4+4+4+5+4+4+2=31
II	5 (3T+2P)	5 (3T+2P)	5T			3+3	2	23	4+4+4+4+5+4+4+2=31
III	5 (3T+2P)	5 (3T+2P)	5T	2		3+3		23	4+4+4+4+5+4+4+2=31
IV	5 (3T+2P)	5 (3T+2P)	5T	2		3+3	2	25	4+4+4+4+5+2+4+4+2=33
V	8[(2x3T)+2P]]	8[(2x3T)+2P]]	8[(2x3T))+2P]				2	26	3+3+4+3+3+4+3+3+4+2=32
VI	3T	3T	3T		3T	Project work 12		24	3+3+3+3+24=36
									144

Note:

- **Course1 and Course2: I to IV Semester: Theory 3 credit=4 contact hours & Practical 2 credit=4 contact hours**
- **Course3: I to IV Semester: Theory 5 credit=5 contact hours**
- **Course1, Course2 and Course3: V and VI Semester: Theory 3 credit=3 contact hours & Practical 2 credit=4 contact hours**

- **Elective/Optional: 2 credit=2 contact hours**
- **Languages: 3 credit=4 contact hours**
- **Compulsory: 2 credit=2 contact hours**

CURRICULUM STRUCTURE FOR I TO VI SEMESTER BCA- ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

Semester I								
S l . N o	Cou rse Co de	Title of the Course	Category of Course s	Teachi ng Hours per Week	S E E	IA	Tot al Ma rk s	Credits
1		Language-I	Lang	4	80	20	100	3
2		Language-II	Lang	4	80	20	100	3
3	BCA – AIML- 1.1	Fundamentals of Information Technology	Core	4	80	20	100	3
4	BCA - AIML - 1.2	Problem Solving using C	Core	4	80	20	100	3
5	BCA - AIML - 1.3	Computational Mathematics	Core	5	80	20	100	5
6	BCA- AIML - 1.4	Fundamentals of Information Technology Lab	Practical	4	40	10	50	2
7	BCA - AIML – 1.5	C Programming Lab	Practical	4	40	10	50	2
8		Constitution/ Values	Compulsory	2	40	10	50	2
Sub - Total				31	520	130	650	23

Semester II								
S l . N o	Cou rse Co de	Title of the Course	Category of Course s	Teachi ng Hours per Week	S E E	IA	Tot al Ma rk s	Credits
1		Language-I	Lang	4	80	20	100	3
2		Language-II	Lang	4	80	20	100	3
3	BCA - AIML – 2.1	Data Structure using C	Core	4	80	20	100	3
4	BCA- AIML –2.2	Database Management System	Core	4	80	20	100	3
5	BCA- AIML –2.3	Computer Architectur e	Core	5	80	20	100	5
6	BCA - AIML – 2.4	Data Structures Lab	Practical	4	40	10	50	2
7	BCA - AIML – 2.5	Database Management System Lab	Practical	4	40	10	50	2
8		Constitution/ Values	Compulsory	2	40	10	50	2
Sub - Total				31	520	130	650	23

Semester III								
S l . N o	Cou rse Co de	Title of the Course	Category of Course s	Teac hing Hour s per Week	SEE	IA	Tot al Mar ks	Credits
1		Language-I	Lang	4	80	20	100	3
2		Language-II	Lang	4	80	20	100	3
3	BCA - AIML - 3.1	Object Oriented Programming using Java	Core	4	80	20	100	3
4	BCA- AIML - 3.2	Operating Systems	Core	4	80	20	100	3
5	BCA- AIML- 3.3	Computer Networks	Core	5	80	20	100	5
6	BCA- AIML- 3.4	Object Oriented Programming Lab	Practical	4	40	10	50	2
7	BCA- AIML- 3.5	Operating Systems Lab	Practical	4	40	10	50	2
8	BCA- AIML- 3.6	A) Digit al Marketi ng B) Web Content Management System C) DEVOPS	Elective	2	40	10	50	2
Sub - Total				31	520	130	650	23

Semester IV								
S l . N o	Cou rse Co de	Title of the Course	Category of Course s	Teac hing Hour s per Week	SEE	IA	Tot al Mar ks	Credits
1		Language-I	Lang	4	80	20	100	3
2		Language-II	Lang	4	80	20	100	3
3	BCA – AIML- 4.1	Artificia l Intelligenc e-I	Core	4	80	20	100	3
4	BCA- AIML - 4.2	Python Programming	Core	4	80	20	100	3
5	BCA – AIML- 4.3	Software Engineering	Core	5	80	20	100	5
6	BCA- AIML- 4.4	Artificial Intelligence-I Lab	Practical	4	40	10	50	2
7	BCA- AIML- 4.5	Python Programming Lab	Practical	4	40	10	50	2
8	BCA – AIML- 4.6	A) Cloud Computing B) Object Oriented Analysis and Design C) Digital Image Processing	Elective	2	40	10	50	2
9	BCA – AIML- 4.7	Internet Basics	Compulsory	2	40	10	50	2
Sub - Total				33	640	160	800	25

Semester V								
S l . N o	Cou rse Co de	Title of the Course	Catego ry of Courses	Teachin g Hours per Week	SEE	IA	Tot al Mar ks	Credits
1	BCA - AIML – 5.1	Machine Learning Techniques	Core	3	80	20	100	3
2	BCA- AIML – 5.2	Web Development	Core	3	80	20	100	3
3	BCA - AIML – 5.3	Data Analytics Using R	Core	3	80	20	100	3
4	BCA - AIML – 5.4	Internet Of Things	Core	3	80	20	100	3
5	BCA- AIML – 5.5	Artificial Intelligence -II	Core	3	80	20	100	3
6	BCA- AIML – 5.6	Natural Language Processing	Core	3	80	20	100	3
7	BCA- AIML – 5.7	Web Develop ment Lab	Practical	4	40	10	50	2
8	BCA- AIML – 5.8	Data Analytics Lab	Practical	4	40	10	50	2
9	BCA- AIML – 5.9	Machine Learning and IOT Lab	Practical	4	40	10	50	2
10	BCA- AIML- 5.10	AI Tools and Techniques	Compuls ory	2	40	10	50	2
Sub - Total				32	640	160	800	26

Semester VI								
S l . N o	Cou rse Co de	Title of the Course	Catego ry of Courses	Teachin g Hours per Week	SEE	IA	Tot al Ma rk s	Credits
1	BCA-AIML - 6.1	Artificial Neural Network	Core	3	80	20	100	3
2	BCA-AIML - 6.2	Deep Learning	Core	3	80	20	100	3
3	BCA-AIML - 6.3	Principles of Cyber Security	Core	3	80	20	100	3
3	BCA-AIML - 6.4	Computer Vision	Core	3	80	20	100	3
4	BCA-AIML - 6.5	Project Work	Proj ect Wo rk	24	300	100	400	12
Sub - Total				36	620	180	800	24

SEMESTER - I

Program Name	BCA-AIML	Semester	I
Course Title	Fundamentals of Information Technology (Theory)		
Course Code:	BCA- AIML -1.1	No.of Credits	03
Contact hours	4 Hours per Week	Duration of SEA/Exam	3 Hours
Formative Assessment Marks	20	Summative Assessment Marks	80

Course Outcomes (COs)

Upon successful completion of this course, students will be able to:

- **Comprehend Computer Fundamentals**
Understand the basic concepts and architecture of computer systems, including their functions and operations.
- **Identify System Components**
Recognize and describe the various hardware and software components that constitute a computer system.
- **Understand Input and Output Devices**
Gain knowledge of different types of input and output devices, their roles, and functionalities in a computing environment.
- **Demonstrate Device Functionality**
Illustrate the operational principles of peripheral devices connected to a computer system.
- **Explain Programming Language Generations**
Understand and explain the evolution of programming languages across different generations, highlighting their features and applications.
- **Explore MS Office Applications**
Acquire practical skills in using Microsoft Office 2007 tools, including Word, Excel, PowerPoint, and Access, for documentation, data management, presentation, and productivity tasks.

Unit	Description	Hours
1	Computer Basics: Introduction, Characteristics computers, Evolution computers, Generation of computers, Classification of computers, the computer system, Application of computers. Computer Architecture: Introduction, Central processing unit- ALU, Registers, Control unit, system bus, main memory unit, cache memory, communication between various units of a computer system. Components inside a computer system – System case, Power supply, Mother board, BIOS, Ports and Interfaces, Expansion card, Ribbon cable, Memory chips, Processors	13

2	Computer memory and storage : Introduction, memory representation, memory hierarchy, Random access memory, Types of RAM, Read-only memory, Types of ROM, RAM, ROM and CPU interaction. Secondary Storage: Types of secondary storage device - Magnetic tape, magnetic disk, Floppy disk, Hard disk, Advantages and disadvantages of magnetic disk, Computer Software: Introduction, categories of software, system software, Operating Systems, device drivers, language translators, System Utility, Application Software Operating Systems: Introduction, Functions of an operating System, Classification of Operating Systems	13
3	Input devices: Introduction, Types of input devices, Keyboard, Mouse, Introduction to Track ball, Joystick, light pen, Touch screen and track pad. Speech recognition, digital camera, webcam, flat bed scanner, Output devices: Types of output, Classification of output devices, Printers- Dot matrix, drum printer, Ink jet, Laser, Hydra, Plotter, Monitor- CRT, Displaying graphics on CRT, Colour display on CRT, LCD, Differences between LCD and CRT Computer programming languages: Introduction, Developing a program, Program development cycle, Types of programming languages, generation of programming languages, Features of a good programming language.	13

4	Word processing software: Word environment, using files and folders ,working with text, working with tables ,checking spelling and grammar, printing document Spreadsheet software: Excel environment, formatting and Copying formulas, working with rows and columns, additional features and charting Presentation software: Introduction, PowerPoint environment, creating a new presentation, working with different views, using masters, adding animation, adding transition. Microsoft Access: Access environment, Database objects.	13
Text Book: 1. ITL Education Solution Limited, Introduction to Information Technology, Pearson- Second Edition. Reference Books: 1. A K SHARMA, Computer Fundamentals and Programming in C, Universities Press, 2nd edition, 2018 2. Peter Norton, Introduction to Computers, 7th edition, Tata McGraw Hill Publication, 2011 3. Anita Goel, Computer Fundamentals, Pearson Education, 2011.		

Pedagogy: Lecture/ PPT/ Videos/ Animations/ Role Plays/ Think-Pair-Share/ Predict-Observe- Explain/ Demonstration/ Concept mapping/ Case Studies examples/ Tutorial/ Activity/ Flipped Classroom/ Jigsaw/ Field based Learning/ Project Based Learning/ Mini Projects/ Hobby Projects/ Forum Theatre/ Dance/ Problem Based Learning/ Game Based Learning/ Group Discussion/ Collaborative Learning/ Experiential Learning / Self Directed Learning etc.

Program Name	BCA -AIML	Semester	I
Course Title	Problem Solving using C (Theory)		
Course Code:	BCA –AIML- 1.2	No.of Credits	03
Contact hours	4 Hours per Week	Duration of SEA/Exam	3 Hours
Formative Assessment Marks	20	Summative Assessment Marks	80

Course Outcomes (COs)

Upon successful completion of this course, students will be able to:

- **Operate Desktop Computers Efficiently**
Confidently use desktop computers to perform basic computational and productivity-related tasks.
- **Understand System Components and Operating Systems**
Explain the functioning of hardware and software components, and understand the role and significance of operating systems.
- **Demonstrate Foundational IT Concepts**
Describe the basics of programming languages, number systems, peripheral devices, networking, multimedia, and internet technologies.
- **Analyze and Trace C Programs**
Read, interpret, and trace the execution flow of programs written in the C programming language.
- **Develop Programs in C**
Write syntactically correct and logically structured C programs to solve defined computational problems.
- **Implement Array Operations and I/O in C**
Perform input/output operations and manipulate data using arrays within C programs.

Unit	Description	Hours

1	Computer Programming and Languages – Introduction, Algorithm, Flowchart, Program Control Structures, Programming Paradigms, Programming Languages. Introduction to C: Overview of C Program, Importance of C Program, Basic structure of a C-program, Programming style, Execution of C Program. Constants, Variables & Data types: Character set, C token, Keywords & identifiers, Constants, Variables, data types, Declaration of variables, Declaration of storage class, Assigning values to variables, defining symbolic constants.	13

2	Operators and Expression: Arithmetic, Relational, logical, assignment, increment & decrement, conditional, bit wise & special operators, Arithmetic expressions, Evaluation of expressions, Precedence of arithmetic operators, type conversions in expressions, operator precedence and associativity, built in mathematical functions. Managing Input and Output operations: Reading a character, Writing a Character, formatted input-inputting integer numbers, inputting real numbers, inputting character strings, reading mixed-data types, formatted output-output of integer numbers, output of real numbers, printing of mixed data types. Decision Making and Branching: Decision making with if statement, simple if statement, the if else statement, nesting of if ... else statements, the else if ladder, the switch statement, the?: operator, the go to statement.	13

3	Decision making and looping: The while statement, the do statement, for statement, jumps in loops Arrays: Introduction, one dimensional arrays, declaration and initialization of one dimensional arrays, two dimensional arrays, initializing two dimensional arrays. Handling of Strings: Declaring & initializing string variables, reading strings from terminal, writing strings to screen, Arithmetic operations on characters, Putting strings together, Comparison of two strings, String Handling functions, table of strings. User defined functions: Need for user defined functions, Declaring, defining and calling functions return values and their types, Function calls, Function declaration, Categories of functions: With/without arguments, with/without return values. Recursive functions. The scope, visibility and lifetime of variables.	13
4	Structures and union: Defining a structure, Declaring structure variables, structure initialization, copying and comparing structure variables, operations on individual members, arrays of structures, arrays within structures, Unions. Pointers: Understanding pointers, initialization of pointer variables, accessing a variable through its pointer, chain of pointers, pointer expressions, pointer increments and scale factor, pointers and arrays.	13
	File Management- Defining and Opening a file, closing a file, Input/Output operations on files, Error handling during I/O operations	

Text Books:

1. Introduction to Information Technology ITL education solution Ltd, Second Edition
2. E Balagurusamy, Programming in ANSI C, 7th Edition, Tata McGraw Hill.

Reference Books:

1. Deitel, P., & Deitel, H. (2012). **C How to Program** (7th ed.). Prentice Hall.
2. Kanetkar, Y. (2016). **Let Us C** (15th ed.). BPB Publications.
3. Kernighan, B. W., & Ritchie, D. M. (1988). **The C Programming Language** (2nd ed.). Prentice Hall.
4. Schildt, H. (2017). **C: The Complete Reference** (4th ed.). McGraw Hill Education.
5. Kochan, S. G. (2014). **Programming in C** (4th ed.). Addison-Wesley.
6. K.R. Venugopal, Sudeep R Prasad, **Programming with C**, 4th Edition, Tata McGraw-Hill Education.

Pedagogy: Lecture/ PPT/ Videos/ Animations/ Role Plays/ Think-Pair-Share/ Predict-Observe- Explain/ Demonstration/ Concept mapping/ Case Studies examples/ Tutorial/ Activity/ Flipped Classroom/ Jigsaw/ Field based Learning/ Project Based Learning/ Mini Projects/ Hobby Projects/ Forum Theatre/ Dance/ Problem Based Learning/ Game Based Learning/ Group Discussion/ Collaborative Learning/ Experiential Learning / Self Directed Learning etc.

Program Name	BCA -AIML	Semester	I
Course Title	Computational Mathematics(Theory)		
Course Code:	BCA –AIML- 1.3	No.of Credits	05
Contact hours	5 Hours per Week	Duration of SEA/Exam	3 Hours
Formative Assessment Marks	20	Summative Assessment Marks	80

Course Outcomes (COs)

Upon successful completion of this course, students will be able to:

- **Apply Logic and Quantifiers**
Analyze and solve problems involving logical connectives, predicates, and quantifiers in various contexts.
- **Solve Systems Using Matrices**
Demonstrate basic understanding of matrices and solve systems of linear equations using Cramer's Rule.
- **Understand Eigenvalues and Their Applications**
Explain the concept of eigenvalues and their significance in matrix operations.
- **Apply Concepts of Differentiation**
Understand the principles of derivatives and apply differentiation techniques to solve mathematical and real-world problems.
- **Understand Mathematical Reasoning**
Develop foundational skills in mathematical reasoning, including concepts of sets and functions.

Unit	Description	Hours

1	Logarithms: Introduction, Definition, Laws of operations, change of base. Binomial theorems: Introduction, Binomial theorem, Position of terms. Analytical geometry: Introduction, directed line, midpoint, distance between two points, Section formula, external division, coordinates of a centroid, Area of a triangle. The straight line: slope of a straight line, different forms of equations of the straight line. Circle: The equation of a circle, different forms of circles, General equation of the circle, equation of tangent and normal to the circle.	15

2	Matrix Algebra: Definition, types of matrices, algebra of matrices – addition of matrices, subtraction of matrices, multiplication of matrices, determinant of a matrix, Adjoint of a matrix, orthogonal and unitary matrix, rank of a matrix, echelon form of a matrix, normal form of a matrix, equivalence of matrices. Inverse of matrix. Solutions of Linear equations: Matrix method, Cramer's rule. Arithmetic progression: Definition, formula for nth term, sum to n terms, Arithmetic mean, problems. Geometric progression: Definition, formula for nth term, sum to n terms, geometric mean, problems.	15

3	Mathematical logic: Introduction, statements, Connectives, negation, conjunction, disjunction, statement formulas and truth tables, conditional and bi Conditional statements, tautology, contradiction, equivalence of formulas, duality law, Predicates and Quantifiers, arguments, Joint Daniel. Sets: Definition, notation, inclusion and equality of sets, the power set, Operations on sets, Venn diagram, ordered pairs, and n-tuples, Cartesian product. Relations: Introduction, properties of a binary relation in a set, Relation matrix and graph of a relation, equivalence relations, compatibility relations, composition of Binary relation. Functions: Definition and introduction, types of functions, composition of functions, inverse functions.	15
4	Counting: Basics of counting, Pigeonhole principle, Permutation and combination, Generalized. Permutations and Combinations: Generating permutation and combination, inclusion and exclusion. Graphs: Graphs and Graph models, Graph Terminology and Special Types of Graphs, Representing Graphs and Graph Isomorphism, Connectivity, Euler and Hamilton Paths, Shortest- Path Problems, Planar Graphs, Graph Colouring.	15

	Trees: Directed tree, leaf node, branch node, ordered tree, degree of a node, forest, descendent, m-ary tree, conversion of directed tree into a binary tree Advanced Counting Techniques: Modelling with Recurrence Relations, Solving Linear Recurrence Relation, Divide and Conquer Algorithms and Recurrence Relations, Generating Functions, Inclusion-Exclusion Principle, Derangements.	

Text Books:

1. D C Sancheti and V K Kapoor, Business Mathematics, Sultan Chand & Sons, 2011
2. P R Vittal, Business Mathematics and Statistics, Margham Publications, Chennai.
3. J P Trembley and R Manohar, Discrete Mathematical Structures, McGraw Hill Education Private Limited, New Delhi.
4. Kenneth H Rosen, Discrete Mathematics and Its Applications., Seventh edition, 2012
5. C. L. Liu, D. P, Mohapatra, Elements of Discrete Mathematics, 4th Edition McGraw Hill Education Private Limited, New Delhi.

Pedagogy: Lecture/ PPT/ Videos/ Animations/ Role Plays/ Think-Pair-Share/ Predict-Observe- Explain/ Demonstration/ Concept mapping/ Case Studies examples/ Tutorial/ Activity/ Flipped Classroom/ Jigsaw/ Field based Learning/ Project Based Learning/ Mini Projects/ Hobby Projects/ Forum Theatre/ Dance/ Problem Based Learning/ Game Based Learning/ Group Discussion/ Collaborative Learning/ Experiential Learning / Self Directed Learning etc.

Program Name	BCA -AIML	Semester	I
Course Title	Fundamentals of Information Technology Lab		
Course Code:	BCA –AIML-1.4	No.of Credits	02
Contact hours	4 Hours per Week	Duration of SEA/Exam	3 Hours
Formative Assessment Marks	10	Summative Assessment Marks	40

PART-A: MS WORD

1. Prepare a document using different formatting tools

Highlights of the National Education Policy (NEP) 2020



Note4Students

From UPSC perspective, the following things are important :

Prelims level : National Education Policy

Mains level : Need for imbuing competitiveness in Indian education system

New Policy aims for **universalization of education** from pre-school to secondary level with 100 % Gross Enrolment Ratio (GER) in school education by 2030. NEP 2020 will bring 2 crores out of school children back into the mainstream through the open schooling system.

- ❖ The current 10+2 system to be replaced by a **new 5+3+3+4 curricular structure** corresponding to ages 3-8, 8-11, 11-14, and 14-18 years respectively. **This will bring the hitherto uncovered age group of 3-6 years under the school curriculum, which has been recognized globally as the crucial stage for the development of mental faculties of a child.**
- ❖ The new system will have 12 years of schooling with three years of Anganwadi/ pre-schooling.
 - Emphasis on Foundational Literacy and Numeracy, no rigid separation between academic streams, extracurricular, vocational streams in schools; Vocational Education to start from Class 6 with Internships
 - Teaching up to at least Grade 5 to be in mother tongue/ regional language. No language will be imposed on any student.
- Assessment reforms with **360° Holistic Progress Card**, tracking Student Progress for achieving Learning Outcomes
- A new and comprehensive National Curriculum Framework for Teacher Education, NCFTE 2021, will be formulated by the NCTE in consultation with NCERT.
- By 2030, the minimum degree qualification for teaching will be a 4-year integrated B.Ed. degree.
- Gross Enrolment Ratio in higher education to be raised to **50% by 2035; 3.5 crore seats to be added in higher education.**
- The policy envisages broad-based, multi-disciplinary, holistic Under Graduate Program with flexible curricula, creative combinations of subjects, integration of vocational education and multiple entries and exit points with appropriate certification.
- **Academic Bank of Credits to be established to facilitate Transfer of Credits**

Multidisciplinary Education and Research Universities (MERUs), at par with IITs, IIMs, to be set up as models of best multidisciplinary education of global standards in the country.

Affiliation of colleges is to be **phased out in 15 years** and a stage-wise mechanism is to

be established for granting graded autonomy to colleges.

Over a period of time, it is envisaged that every college would develop into either an Autonomous degree-granting College or a constituent college of a university.

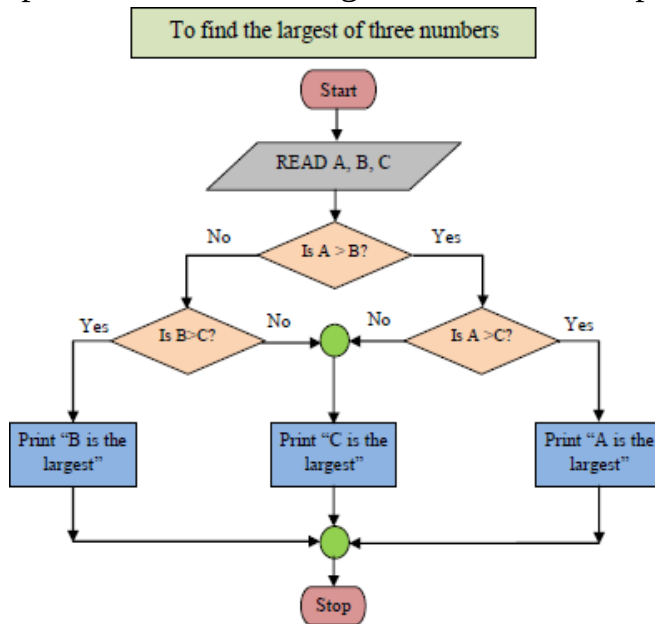
$$\frac{df}{dt} = \lim_{h \rightarrow 0} \frac{f(t+h) - f(t)}{h}$$

$$(a+b)^2 = a^2 + 2ab + b^2$$

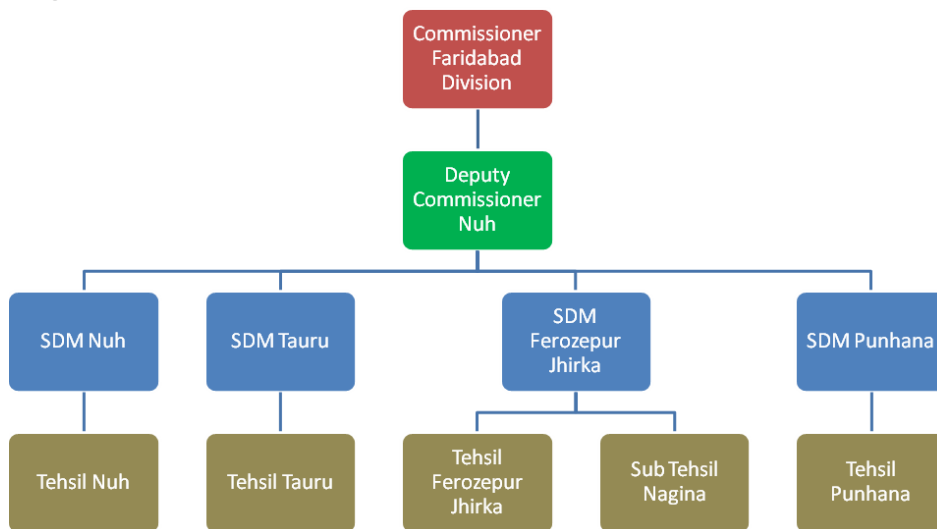
$$(a-b)^2 = (a+b)^2 - 4ab$$

$$a^2 + b^2 = (a-b)^2 + 2ab$$

2. Prepare a document using SmartArt and Shapes tools



Organization Chart – Administration Faridabad Division



3. Prepare a document with table to store sales details of a company for different quarters and calculate total, average and find maximum, minimum sales value.

Branch Code	Branch	Sales in Quarters				Total	Avg
		1	2	3	4		
A101	Mangalore	354690	244610	383290	413670		
A102	Udupi						
Total (Across Branches)							
Average (Across Branches)							
Highest Sales (Across Branches)							
Lowest Sales (Across Branches)							

TIME TABLE

Class : I BCA					Room No. 206		
Day	I	II	III	IV		V	VI
Monday					LUNCH BREAK		
Tuesday							
Wednesday							
Thursday							
Friday							
Saturday						***	

4. Prepare interview call letters for five candidates describing about the company and instructions about the interview. Use Mail merge feature

Interview call Letter Format

Date:

[Name of the candidate]

[Address]

Dear [name of the candidate]

This is to the reference of your application for the job [name of the job] indicating interest in seeking employment in our organisation. We thank you for the same.

We would like to inform you that your profile is being shortlisted for the job role and is best suited for it. Therefore, we would like to take a face to face interview with you on [date of interview] at [venue details].

We hope that the venue is suitable for you. If not please get in touch with us, so that we can arrange the date and venue according to your availability.

The company will reimburse you all the expenses incurred by you for this interview. This letter has an attachment in which you need to fill the details and carry it along on the date of interview. Please carry your CV also along with you.

Kindly confirm your availability for the date and venue. If there are any changes to be done, please contact us at phone number: [999xxxx999] and email id: abcnd@mail.com.

We look forward to seeing you.

Regards,

Name of the Manager

Designation Name

Company name

PART-B: MS POWERPOINT

1. Create a presentation (minimum 5 slides) about your college. It should contain images, chart, Bulleted text... The slides should be displayed automatically in a loop.
2. A simple quiz program. Use hyperlinks to move to another slide in the presentation to display the result and correct answer/wrong answer status. Use at least four questions.

[Navigation must be done by hyperlink]

3. Create a presentation for a business proposal (minimum 5 slides).
 - Slides must include company logo in header
 - A title slide with table of contents
 - financial data of the company in the table
 - Company sales and profit in charts
 - Make use of animation and transition
4. Create a presentation for a college project (minimum 5 slides).
 - Master slide
 - Add comments for each slide
 - Add Audio and video to the slide
 - Add header and footer.
 - Add source citation
 - Make use of animation and transition

[Presentation must include title slide, Module Design, Chart, references]

PART-C: MS EXCEL

(Note: Give proper titles, column headings for the worksheet. Insert 10 records for each exercise in such a way to get the result for all the conditions. Format the numbers appropriately wherever needed).

1. Create a worksheet to maintain student information such as *RollNo, Name, Class, Marks in three subjects* of 10 students. Calculate total marks, average and grade. Find grade for Distinction, First class, Second class, Pass and Fail using normally used conditions.
- Using custom sort, sort the data according to class: - Distinction first, First Class next,

and so on. Within each class, average marks should be in descending order.

- Also draw the Column Chart showing the RollNo versus Average scored.

(Note: Worksheet creation and formatting 2 marks, calculations: 3 marks, sorting: 2 marks, chart: 3 marks)

2. Prepare a worksheet to store details of electricity consumed by customers. Details are Customer No, Customer Name, Meter No, Previous meter reading, Current meter reading of 10 customers. Calculate total number of units consumed and total amount to be paid by each consumer using following conditions:

- If the unit consumed is up to 30, charge is 100.
- 31 to 100 units, 4.70 per unit
- 101 to 200 units, 6.25 per unit
- Above 200 units, 7.30 per unit.
- Use Data validation to see that current reading is more than previous reading.
- Arrange the records in the alphabetic order of names.
- Filter the records whose bill amount is more than Rs.1500.

(Note: Worksheet creation and formatting 2 marks, Data validation: 2 marks, calculations: 2 marks, sorting: 2 marks, filtering: 2 marks)

3. Create an Employee worksheet having EmpNo, EmpName, DOJ, Department, Designation and Basic Pay of 8 employees. Calculate DA, HRA, Gross Pay, Profession Tax, Net Pay, Provident Fund as per the rule:

- DA = 30% of basic pay
- HRA = 10% of basic pay if basic pay is less than 25000, 15% of basic pay otherwise.
- Gross = DA + HRA + Basic pay
- Provident fund = 12% of Basic pay or Rs.2000, whichever is less.
- Profession Tax = Rs.100 if Gross pay is less than 10000, Rs.200 otherwise.
- NetPay = Gross - (Professional tax + Provident Fund)
- Using the Pivot table, display the number of employees in each department and represent it using a Pie chart.

(Note: Worksheet creation and formatting 2 marks, calculations: 3 marks, Pivot table: 3 marks, Chart: 2 marks)

4. Create a table COMMISSION containing the percentage of commission to be given to salesmen in different zones as follows:

Zone	Percentage
South	10
North	12.5
East	14
West	13

Create another table SALES in the same worksheet to store the salesman name, zone name, place, name of the item sold, rate per unit, quantity sold. Calculate total sales amount of each salesman. Referring to the COMMISSION table, write the formula to compute the commission to be given. (Hint: Use if function and absolute cell addresses)

Using advanced filtering shows the result in other parts of the worksheet.

- Show the records of various zones separately.
- Show the records of only East and West zones.
- Display the details of the items sold more than 50, in South or North zones.

(Note: Worksheet creation and formatting: 2 marks, calculations: 2 marks, filtering: 6 marks)

PART-D: MS ACCESS

1. Create Employee database and table Emp using MS ACCESS with following Structure

Emp no	Ename	Designation	Dep tno	DOJ	Basic Salary
101	RAMESH	MANAGER	10	10/10/2000	25000
102	SMITHA	CLERK	12	12/5/1999	15000
103	DEVIKA	ATTENDER	10	11/9/2001	12000
104	RAJESH	HR	15	15/4/2000	12000
105	GIRISH	SUPERVISOR	12	6/11/2005	18000
106	SATHYA	DRIVER	16	11/9/2001	11000
107	MANOJ	SWEEPER	10	22/6/2006	8000
108	BHOOMIKA	SECURITY	15	12/5/1999	10500
109	KIRAN	CLERK	14	11/9/2001	15000
110	PRATHIKSHA	SUPERVISOR	10	8/8/2005	18000

Perform following operation

- a) List all the Employees Who are working in Dept no.10
- b) List all the Employees who get less than 20000 Salary
- c) Update Salary by adding the increments as per the following:-
 - i. 10% Increment in Basic Salary who get < 20000
 - ii. 5% Increment in Basic Salary who get >=20000.

2. Create the “ Order” database and a table “Order Dtl” having following records:

Order No	Order Date	Order Item	Order Qty	Order Price	Client Code	Delivery Type	Order Status
1011	12/02/2015	LED Monitors	100	750000	1025	Road	Delivered
1012	12/03/2015	CPU	12	500000	1026	SHIP	Not Delivered
1005	15/02/2014	Keyboard	80	48000	1027	Road	Delivered
1010	02/02/2016	LED Monitors	30	64000	1028	Flight	Delivered
1016	19/4/2015	Scanner	40	35000	1029	Road	Delivered
1009	9/05/2018	LED Monitors	25	125000	1030	Flight	Not Delivered
1008	13/8/2017	CPU	25	450000	1031	SHIP	Delivered
1014	1/7/2018	Printer	50	90000	1032	Road	Not Delivered

Execute following Query

- a. Display all the Order No. which have not been yet Delivered.
- b. Display all the Orders of LED Monitor and CPU.
- c. Display all the Orders of LED Monitor and CPU which are not have been delivered yet.

3.Create a “Stock” database having “Inventory” table:

Item Code	Item Name	Opening Stock(Qty)	Purchase(Qty)	Sale (Qty)	Closing Stock(Qty)	Remark
101	MONITOR	100	25	35		
102	PRINTER	75	40	15		
103	SCANNER	120	30	20		
104	CPU	50	35	10		
105	KEYBOARD	105	45	55		

Perform the followings:

- Calculate the closing stock of each item (Closing Stock = Opening Stock + Purchase – Sales)
- Display all the Items which has closing stock < 100
- If closing stock is less than 100 then set the remark as “Re-Order Level” otherwise “Enough Stock”.

Evaluation Scheme for Lab Examination:

Assessment Criteria		
Program-1	MS WORD	8 Marks
Program-2	MS POWERPOINT	7 Marks
Program-3	MS EXCEL	10
Program-4	MS ACCESS	10
Practical Record		05 Marks
Total		40 Marks

Program Name	BCA-AIML	Semester	I
Course Title	C Programming Lab		
Course Code:	BCA-AIML-1.5	No.of Credits	02
Contact hours	4 Hours per Week	Duration of SEA/Exam	3 Hours
Formative Assessment Marks	10	Summative Assessment Marks	40

PART – A

1. Program to find the roots of quadratic equation using else if ladder.
2. Program to read two integer values & a operator as character and perform basic arithmetic operations on them using switch case (+, -, *, / operations)
3. Program to reverse a number and find the sum of individual digits. Also check for palindrome.
4. Program to calculate and display the first ‘n’ Fibonacci numbers
5. Program to find given number is a prime or not.
6. Program to count occurrences of each character in a given string.
7. Program to read string with alphabets, digits and special characters and convert upper case letters to lower case and vice a versa and retain the digits and special characters as it is.
8. Program to search for number of occurrences of number in a list of numbers using one-dimensional array also display its positions.

PART-B

1. Program to find the largest and smallest elements with their position in a one-dimensional array.
2. Program to read ‘n’ integer values into a single dimension array and arrange them in ascending order using bubble sort method.
3. Menu driven Program to perform addition and multiplication of two Matrices
4. Program to find nCr and nPr using recursive function to calculate factorial.

5. Program to read a string and count number of letters, digits, vowels, consonants, spaces and special characters present in it using user defined function

6. Program sort a list of strings in ascending order using Pointers
7. Program to enter the information of a student like name, register number, marks in three subjects into a structure and display total, average and grade Display details in a neat form
8. Write a menu driven program to
 - a. Create a text file
 - b. Append the contents of a text file to another existing file by accepting filenames
 - c. Display the content of entered filename
 - d. Exit

Create two text files during the execution of the program. Display their contents. Perform Appending. Display the contents again. Always check for the existence of the inputted file names.

Evaluation Scheme for Lab Examination:

Assessment Criteria		
Program-1	PART-A Writing:7 Marks Execution:8 Marks	15 Marks
Program-2	PART-B Writing:10 Marks Execution:10 Marks	20 Marks
Practical Record		05 Marks
Total		40 Marks

SEMESTER- II

Program Name	BCA-AIML	Semester	II
Course Title	Data Structure using C(Theory)		
Course Code:	BCA-AIML-2.1	No.of Credits	03
Contact hours	4 Hours per Week	Duration of SEA/Exam	3 Hours
Formative Assessment Marks	20	Summative Assessment Marks	80

Course Outcomes (COs):

Upon successful completion of this course, students will be able to:

- **Understand and Represent Data Structures**
Describe the representation and use of arrays, records, linked structures, stacks, queues, trees, and graphs in memory.
- **Implement Data Structures in Programs**
Develop programs that effectively utilize arrays, linked lists, stacks, queues, trees, and graphs to solve computational problems.
- **Apply Traversal and Recursion Techniques**
Demonstrate various tree traversal methods and apply recursive techniques to solve algorithmic problems.
- **Evaluate Data Structure Performance**
Compare alternative implementations of data structures in terms of memory usage and computational efficiency.
- **Analyze Algorithm Efficiency**
Discuss and evaluate the performance of key algorithms for sorting, searching, and hashing.

Unit	Description	Hours
1	Introduction to data structures: Introduction, Basic terminology; Elementary Data Organization, Data Structures, Data Structure Operations Introduction to Algorithms, Preliminaries: Introduction, Algorithmic notations, Control structure. Arrays: Basic Concepts – Definition, Declaration,	13

	Initialization, Operations on arrays, Types of arrays, Representation of Linear Arrays in memory, traversing linear arrays, Inserting and deleting elements.	

	Searching: Definition, Sequential Search, Binary search Sorting: Selection sort, Bubble sort, Insertion sort	
2	Multidimensional arrays- Two-Dimensional Arrays Representation of two- dimensional arrays, Sparse matrices. Recursion: Definition; Recursion Technique Examples – Factorial, Fibonacci sequence, Towers of Hanoi. Stacks: Basic Concepts –Definition and Representation of stacks- Array representation of stacks, Operations on stacks, Applications of stacks, Infix, postfix and prefix notations, Conversion from infix to postfix using stack, Evaluation of postfix expression using stack, Application of stack in function calls. Queues: Basic Concepts – Definition and Representation of queues- Array representation of Queues, Types of queues - Simple queues, Circular queues, Double ended queues, Priority queues, Operations on queues	13
3	Dynamic memory management: Memory allocation and de-allocation functions - malloc, calloc, realloc and free. Linked list: Basic Concepts – Definition and Representation of linked list, Types of linked lists - Singly linked list, Doubly linked list, Header linked list, Circular linked list, Representation of Linked list in Memory; Operations on Singly linked lists– Traversing, Searching, Insertion, Deletion, Memory allocation, Garbage collection Linked representation of stack: Stack operations using linked list	13

	Linked representation of Queue: Queue operations using linked list	
4	Trees: Definition, Tree terminologies –node, root node, parent node, ancestors of a node, siblings, terminal & non-terminal nodes, degree of a node, level, edge, path, depth Binary tree: Type of binary trees - strict binary tree, complete binary tree, binary search tree; Array representation of binary tree, Traversal of binary tree- preorder, inorder and postorder traversal Graphs: Terminologies, Matrix representation of graphs; Traversal: Breadth First Search and Depth first search.	13

Text Books:

1. Seymour Lipschutz, “Data Structures with C”, Schaum’s Outline, Tata McGraw Hill, 2011.
2. Anany Levitin: “Introduction to The Design & Analysis of Algorithms”

Reference Books:

1. Ellis Horowitz and Sartaj Sahni, Fundamentals of Data Structures, Computer Science Press, 1982.
2. Aaron M. Tenenbaum, Data structures using C, First Edition, Pearson Education
3. Kamathane, Introduction to Data structures, Pearson Education, 2004
4. Y. Kanitkar, Data Structures Using C, Third Edition, BPB
5. Padma Reddy: Data Structure Using C, Revised Edition 2003, Sai Ram Publications.
6. Sudipa Mukherjee, Data Structures using C – 1000 Problems and Solutions, McGraw Hill Education, 2007

Pedagogy: Lecture/ PPT/ Videos/ Animations/ Role Plays/ Think-Pair-Share/ Predict-

Observe- Explain/ Demonstration/ Concept mapping/ Case Studies examples/ Tutorial/ Activity/ Flipped Classroom/ Jigsaw/ Field based Learning/ Project Based Learning/ Mini Projects/ Hobby Projects/ Forum Theatre/ Dance/ Problem Based Learning/ Game Based Learning/ Group Discussion/ Collaborative Learning/ Experiential Learning / Self Directed Learning etc.

Program Name	BCA-AIML	Semester	II
Course Title	Database Management System(Theory)		
Course Code:	BCA-AIML-2.2	No.of Credits	03
Contact hours	4 Hours per Week	Duration of SEA/Exam	3 Hours
Formative Assessment Marks	20	Summative Assessment Marks	80

Course Outcomes (COs):

Upon successful completion of this course, students will be able to:

- **Understand Core Database Concepts**
Demonstrate foundational knowledge of database systems, including their architecture and functionality.
- **Design Relational Databases**
Create effective database designs using Entity-Relationship (ER) modeling and apply normalization techniques to ensure data integrity.
- **Construct and Execute SQL Queries**
Write and optimize complex SQL queries for data retrieval, manipulation, and reporting.
- **Work with NoSQL Databases Using MongoDB**
Design and implement databases using MongoDB, including operations such as data modeling, CRUD operations, indexing, and aggregation.
- **Explain Transaction and Concurrency Control**
Describe key concepts of transaction management, concurrency control, and database recovery mechanisms to ensure consistency and reliability.

Unit	Description	Hours
1	Database Architecture: Introduction to Database system applications. Characteristics, Database schema, Database architecture E-R Model: E-R Model Concepts: Entity, Entity types, Entity sets, Attributes, Types of attributes, key attribute, and domain of an attribute. Relationships between the entities. Relationship types, Roles and structural constraints, degree and cardinality ratio of a relationship. Weak entity types, E -R diagram. Relational Data Model: Relational model concepts. Characteristics of relations.	13

2	INTERACTIVE SQL:Table fundamentals, oracle data types, CREATE TABLE command, Inserting data into table, Viewing Data in the table, sorting data in a table, Creating a table from a table, Inserting data into a table from another table, Delete operations, Updating the contents of a table, Modifying the structure of tables, Renaming tables, destroying tables, displaying table structure. DATA CONSTRAINTS :Types of data constraints, IO constraints-The PRIMARY KEY constraint, The FOREIGN KEY constraint, The UNIQUE KEY constraint, Business Rule Constraints- NULL value concepts, NOT NULL constraints, CHECK constraint, DEFAULT VALUE concepts. COMPUTATIONS ON TABLE DATA: Arithmetic Operators, Logical Operators, Range Searching, Pattern Matching,	13

	Oracle Table – DUAL, Oracle Function- Aggregate Function. GROUPING DATA FROM TABLES IN SQL, Group By clause, Having clause, subqueries, JOINS, Using the UNION, INTERSECTION, MINUS clause	
3	Functional dependencies and Normalization: Functional dependencies. Normalization. First normal form, Second normal form, Third normal form. Boyce-Codd normal form. No SQL Data Management: Introduction to NoSQL, aggregate data models, aggregates, key-value and document data models; relationships, graph databases, schemeless databases, materialized views, distribution models, sharding; master-slave replication; peer-peer replication; sharding and replication; consistency; relaxing consistency; version stamps	13
4	NoSQL With MongoDB: Introduction to MongoDB, Overview of MongoDB and NoSQL databases, Installing and setting up MongoDB, Introduction to BSON (Binary JSON) data format, CRUD Operations in MongoDB, Querying Data in MongoDB, Querying data using find() method , Query operators and	13

	expressions in MongoDB, Data Modeling and Schema Design, Indexing and Performance Optimization, Aggregation Framework, Replica Sets, Backup and Restore, Deployment Strategies ,Deployment options for MongoDB (on-premises, cloud) ,Best practices for deploying MongoDB in production ,Continuous Integration and Continuous Deployment (CI/CD) pipelines.	

Text Books:

1. Ramez Elmasri and Shamkanth B.Navate, Fundamentals of Database Systems, 7th Edition, Pearson Education
2. Ivan Bayross, SQL/PL/SQL- the Programming language of Oracle, 2nd Revised edition (or 4th revised Ed), BPB Publications

Reference Books:

1. An Introduction to Database Systems, Bipin Desai, Galgotia Publications, 2010.
2. Introduction to Database System, C J Date, Pearson, 1999.
3. Database Systems Concepts, Abraham Silberschatz, Henry Korth, S.Sudarshan, 6th Edition, McGraw Hill, 2010.
4. Database Management Systems, Raghu Rama Krishnan and Johannes Gehrke, 3rd Edition, McGraw Hill, 2002

Pedagogy: Lecture/ PPT/ Videos/ Animations/ Role Plays/ Think-Pair-Share/ Predict-Observe- Explain/ Demonstration/ Concept mapping/ Case Studies examples/ Tutorial/ Activity/ Flipped Classroom/ Jigsaw/ Field based Learning/ Project Based Learning/ Mini Projects/ Hobby Projects/ Forum Theatre/ Dance/ Problem Based Learning/ Game Based Learning/ Group Discussion/ Collaborative Learning/ Experiential Learning / Self Directed Learning etc.

Program Name	BCA-AIML	Semester	II
Course Title	Computer Architecture(Theory)		
Course Code:	BCA-AIML-2.3	No.of Credits	05
Contact hours	5 Hours per Week	Duration of SEA/Exam	3 Hours
Formative Assessment Marks	20	Summative Assessment Marks	80

Course Outcomes (COs)

Upon successful completion of this course, students will be able to:

- **Apply Number Systems and Complements**
Use different number systems and complement methods in digital logic design and computation.
- **Understand Canonical Forms in Boolean Logic**
Recognize the role of canonical forms in simplifying Boolean expressions and optimizing digital circuits.
- **Minimize Boolean Functions**
Simplify Boolean functions using various techniques such as Boolean algebra, Karnaugh maps, and the Quine–McCluskey (tabulation) method.
- **Design and Analyze Logic Circuits**
Analyze and design both combinational and sequential circuits following standard digital design methodologies.
- **Implement Finite State Machines**
Design finite state machines using algorithmic state machine (ASM) charts and build basic projects incorporating flip-flops and sequential logic components

Unit	Description	Hours
1	Digital computers and Digital system: Introduction to Number system, Decimal number, Binary number, Octal and Hexadecimal numbers, Number base conversion, Complements, Binary codes, Binary arithmetic's, Addition , Subtraction in the 1's and 2's complements system, Subtraction in the 9's and 10's complement system. Boolean Algebra: Basic definitions, Axiomatic definition of Boolean algebra, Basic theorems and properties of Boolean algebra, Venn diagram.	15
2	Digital logical gate: Boolean functions, Canonical and Standard forms, other logic operations, Digital logic gates, Universal gate. Simplification of Boolean function: The map method, Two and three variable maps, Four-variable maps, Don't care conditions,	15

	Product of sum Simplification, NAND implementation, NOR implementation. Implementation of EX-OR, EX-NOR using NAND and NOR gate	
3	Combinational Logic: Introduction, Design Procedure, Half adder, Full adder, half Subtractor, Full Subtractor, Binary parallel adder, BCD adder. Combinational logic with MSI and LSI: Code converter, Exclusive-OR and Equivalence functions. Magnitude comparator, Decoders, Encoders, Multiplexers, Demultiplexers	15
4	Sequential Logic: Introduction, Flip flops, RS-FF ,D-FF, T-FF, and JK-FF, Triggering of flip-flops, Master slave Flip flop, state table, and State diagram. State equations, Flip Flop excitation tables, Sequential circuits design. Registers, Counters: Synchronous Counter Design using RS, JK, D & T flip flops. Ripple counters Introduction, Registers, Shift registers, Timing sequences, Bidirectional shift register.	15

Text Book:

1. M.Morris Mano,Digital Logic and Computer design, PHI, 2015

Reference Books:

1. Thomas L Floyd, Digital Fundamentals, 10th Edition, Pearson, 2011.
2. Thomas. C. Bartee, Digital Computer Fundamentals, 6th edition, TMH.

Pedagogy: Lecture/ PPT/ Videos/ Animations/ Role Plays/ Think-Pair-Share/ Predict-Observe- Explain/ Demonstration/ Concept mapping/ Case Studies examples/ Tutorial/ Activity/ Flipped Classroom/ Jigsaw/ Field based Learning/ Project Based Learning/ Mini Projects/ Hobby Projects/ Forum Theatre/ Dance/ Problem Based Learning/ Game Based Learning/ Group Discussion/ Collaborative Learning/ Experiential Learning / Self Directed Learning etc.

Program Name	BCA-AIML	Semester	II
Course Title	Data Structures Lab		
Course Code:	BCA-AIML-2.4	No.of Credits	02
Contact hours	4 Hours per Week	Duration of SEA/Exam	3 Hours
Formative Assessment Marks	10	Summative Assessment Marks	40

PART-A

1. Program to sort the given list using selection sort technique.
2. Program to sort the given list using insertion sort technique
3. Program to solve Tower of Hanoi using Recursion
4. Program to reverse String using Stack
5. Program to implement Stack operations using arrays.
6. Program to implement Queue operations using arrays.
7. Program to implement dynamic array. Find the smallest and largest element.

PART-B

1. Program to search an element using recursive binary search technique.
2. Program to implement circular queue using array.
3. Program to implement Stack operations using linked list.
4. Program to implement Queue operations using linked list.
5. Program to evaluate postfix expression.
6. Program to perform insert node at the end, delete a given node and display contents of a single linked list.
7. Menu driven program for the following operations on Binary Search

Tree(BST) of Integers

(a) Create a BST of N Integers

(b) Traverse the BST in Inorder, Preorder and Post Order.

Evaluation Scheme for Lab Examination:

Assessment Criteria		
Program-1	PART-A Writing:5 Marks Execution:3 Marks	15 Marks
Program-2	PART-B Writing:8 Marks Execution:4 Marks	20 Marks
Practical Record		05 Marks
Total		40 Marks

Program Name	BCA-AIML	Semester	II
Course Title	Database Management System Lab		
Course Code:	BCA-AIML-2.5	No.of Credits	02
Contact hours	4 Hours per Week	Duration of SEA/Exam	3 Hours
Formative Assessment Marks	10	Summative Assessment Marks	40

PART A

1. Create a table EMPLOYEE using SQL command to store details of employees such as EMPNO, NAME, DESIGNATION, DEPARTMENT, GENDER and SALARY. Specify Primary Key and NOT NULL constraints on the table.

Allow only 'M' or 'F' for the column GENDER.

DEPARTMENT can be SALES, ACCOUNTS, IT.

Choose DESIGNATION as CLERK, ANALYST, MANAGER, ACCOUNTANT and SUPERVISOR that depends on department

- a) Display EMPNO, NAME and DESIGNATION of all employees whose name ends with RAJ.
- b) Display the details of all female employees who is earning salary within the range 20000 to 40000 in SALES or IT departments.
- c) List the different DEPARTMENTs with the DESIGNATIONs in that department.
- d) Display the department name, total, average, maximum, minimum salary of the DEPARTMENT only if the total salary given in that department is more than 30000.
- e) List the departments which have more than 2 employees.

2. Create a table CLIENT to store CLIENT_NO, NAME, ADDRESS, STATE, BAL_DUE. Client no must start with 'C'. Apply the suitable structure for the columns. Specify Primary Key and NOT NULL constraints on the table.

Insert 10 records.

Write the following SQL queries:

- a) From the table CLIENT, create a new table CLIENT1 that contains only CLIENT_NO and NAME, BAL_DUE from specified STATE. Accept the state during run time.
- b) create a new table CLIENT2 that has the same structure as CLIENT but with no records. Display the structure and records.
- c) Add a new column by name PENALTY number (10, 2) to the CLIENT.
- d) Assign Penalty as 10% of BAL_DUE for the clients C1002, C1005, C1009 and for others 8%. Display Records.

- e) Change the name of CLIENT1 as NEW_CLIENT.
- f) Delete the table CLIENT2.

3. Create a table BOOK using SQL command to store Accession No, TITLE, AUTHOR, PUBLISHER, YEAR, PRICE. Apply the suitable structure for the columns. Specify Primary Key and NOT NULL constraints on the table. Insert 10 records.

Write the following SQL queries:

- a) List the details of publishers having 'a' as the second character in their names.
- b) Display Accession No., TITLE, PUBLISHER and YEAR of the books published by the specified author before 2010 in the descending order of YEAR. Accept author during run time.
- c) Modify the size of TITLE to increase the size 5 characters more.
- d) Display the details of all books other than Microsoft press publishers.
- e) Remove the records of the books published before 1990.

1. Create a table SALES with columns SNO, SNAME, MANAGER_NAME, JOIN_DATE, DATE_BIRTH, SALARY, SALES_AMOUNT and COMMISSION. Minimum age for joining the company must be 18 Yrs. Default value for Commission should be 0. Apply the suitable structure for the columns. Specify Primary Key and NOT NULL constraints on the table. Insert 10 records with data except commission.

Manager of Manager can be NULL.

Write the following SQL queries:

- a) Display the details of Sales Persons whose salary is more than Average salary in the company.
- b) Update commission as 20% of Sales Amount.
- c) Display SNO, SNAME, MANAGER_NAME, SALARY, COMMISSION, MANAGER_SALARY of the sales persons getting sum of salary and commission more than salary of manager.(Self join)
- d) Display the records of employees who finished the service of 10years.

2.Create a table Sales_Details with the columns SNO, MONTH, TARGET and QTY_SOLD to store the Sales Details of one year. Specify the composite primary key to the columns SNO and MONTH. TARGET and SALES must be positive numbers.

Write the following SQL queries:

- a. Display the total sales by each sales person considering only those months sales where target was reached.
- b. If a commission of RS.50 provided for each item after reaching target, calculate and display the total commission for each sales person.
- c. Display the SNO of those who never reached the target.
- d. Display the SNO, MONTH and QTY_SOLD of the sales persons with SNO S0001 or S0003

2. Create the following tables by identifying primary and foreign keys. Specify the not null property for mandatory keys.

SUPPLIERS (SUPPLIER_NO, SNAME, SADDRESS, SCITY)

COMPUTER_ITEMS (ITEM_NO, SUPPLIER_NO, ITEM_NAME, IQANTITY)

Consider three suppliers. A supplier can supply more than one type of items.

Write the SQL queries for the following

- a. List *ITEM* and *SUPPLIER* details in alphabetical order of city name and in each city decreasing order of *IQANTITY*.
 - b. List the name, city, and address of the suppliers who are supplying keyboard.
 - c. List the supplier name, items supplied by the suppliers 'Cats' and 'Electrotech'.
 - d. Find the items having quantity less than 5 and insert the details of supplier and item of these, into another table *NEWORDER*.
3. Create table *STUDENT_PROFILE* includes Rollno, name, class, *ECCC* (Extra-Co curricular he belongs to such as *SPORTs*, *NSS* etc.) and another table *MARKS_REPORT* includes Rollno, *Internal_Test*, *Marks1*, *Marks2*, *Marks3* and *ECCC_marks*.

Constraints

- *Internal_Test* can be either 1 or 2.
- Each mark can be 0-100. Absence in the test can be entered as -1.
- Consider at least 3 classes.

Apply suitable data type and constraints to each column.

Insert 5 students marks report in the both the tests.

Write the following SQL queries:

- a) Find number of students failed class-wise.
- b) Display the complete details of the students secured distinction (Percentage ≥ 70) in I BCA.
- c) Display class and highest total marks in second internals in each class.
- d) Display the student name with rollno and class of those who passed in I internals and failed in II internals. (use SET operator)

PART B

MongoDB Practical Questions

1. CRUD Operations in MongoDB

Create a collection named *students* and insert at least 10 documents with the following fields:

- name (string)
- age (integer)
- department (string)
- courses (array of strings)

Perform the following operations:

- Update the department of one student.
- Delete the student document where age is less than 20.

- Retrieve all student documents.

2. Querying Data with Logical and Comparison Operators

Using the students collection, write a query to find all students who:

- Belong to the CSE department AND
- Have age greater than 20 OR
- Are enrolled in the course "DBMS".

Use appropriate MongoDB logical and comparison operators (\$and, \$or, \$gt, \$in, etc.).

3. Data Aggregation using Aggregation Pipeline

Given a collection named orders with the following fields:

- order_id (string)
- customer (string)
- total (number)
- status (string)

Perform the following:

- Group orders by the customer field.
- Calculate the total amount spent by each customer.
- Sort the result in descending order of total amount.

Use appropriate aggregation pipeline stages like \$group, \$sum, and \$sort.

4. Indexing and Performance Optimization

Task:

- Create an index on the email field in a collection named users.
- Explain how indexing enhances query performance.
- Demonstrate a query that uses this index to retrieve user information efficiently.

5. Data Modeling and Schema Design

Design a schema for a blogging platform with:

- A posts collection containing title, content, and author_id.
 - A comments structure (choose whether to embed within posts or reference from another collection).

Explain your choice of embedding vs referencing with justification in terms of performance and access patterns.

6. Sharding – Configuring a Sharded Cluster

Task:

- Configure a sharded cluster with at least two shards.
- Use a products collection with fields: product_id, category, price.
- Select an appropriate shard key and explain your reasoning (e.g., based on read/write distribution, cardinality).

Demonstrate insertion of sample data and show sharded data distribution.

7. Data Security – Authentication and Role-Based Access Control

Task:

- ☐ Create a user with the following credentials and permissions:
 - o Username: salesUser
 - o Password: secure123
 - o Database Access: sales (readWrite access only)

Evaluation Scheme for Lab Examination:

Assessment Criteria		
Program-1	PART-A Writing:5 Marks Execution:3 Marks	15 Marks
Program-2	PART-B Writing:8 Marks Execution:4 Marks	20 Marks
Practical Record		05 Marks
Total		40 Marks

Questions Paper for Pattern Core Subjects

Duration:3 Hours

Max.Marks:80

Note: Answer any ten Questions from Part-A. And one full Questions from each unit in Part-B

Part-A

1.

10*2=20

- a.
- b.
- a.
- b.
- c.
- d.
- e.
- f.
- g.
- h.
- i.
- j.

Part-B

UNIT-I, II, III, IV

Each unit contains two main questions and it carries 15 Marks. Each main question contains 2 or more sub questions.

4*15=60

UNIT-I

2.

- a.
- b.
- c.

3.

- a.
- b.
- c

Syllabus framed under State Education Policy-2025

SANSKRIT LANGUAGE

BA/BSW/BHRD/BVA/B.Sc/FND/BHS/BFD

BID/BHM/BSA/BFT/BCS/B.Com/ BCA/BBA

I & II semesters

Course pattern and scheme of examination for all UG Courses

CHAIRPERSON

Dr. Vinayak Bhat Gaalimane

**BOARD OF STUDIES IN SANSKRIT ALVA'S COLLEGE (Autonomous),
MOODUBIDIRE**

Sundari Ananda Alva Campus -574277

ALVA'S COLLEGE(AUTONOMOUS), MOODUBIDIRE

STATE EDUCATION POLICY 2025

Board Of Studies in Sanskrit SYLLABUS FOR SANSKRIT LANGUAGE

UNDER GRADUATE COURSES SEMESTER SCHEME 2025-26 ONWARDS

I Semester : BA/BSW/HRD/BVA		
Sanskrit Language Paper- I Title – Sanskrit Prose and Grammar Maximum Marks:100		
1	Introduction to Sanskrit Prose – Selected portions from Sanskrit Prose compositions – 40 Hours. 1. Shishyopadeshaha – 5 Hrs 2. Dve Kathe - Vrukshaha Kvaasti, Puritam Kena Puryate - 5 Hrs 3. Anushasanaparva – 5 Hrs 4. Raktamukhavanaraha – 6 Hrs 5. Aarshaparampara - Dadhichi, Chavana, Atri - 4 Hrs 6. Bharatiya Samskrutehe Parichayaha - 5 Hrs 7. Yogeshwaroktaha SarvatomukhaVikasaha – 5 Hrs 8. Adhunik Jnana Parampara : MaharshiDayanandaha, Vidyaranyaha, MaharshiDevarataha - 5 Hrs	65
2	Grammar – 8 Hours 1. Identifying Sandhi 2. Identifying Samasa 3. Karaka 4. Prayoga 5. Subanta/Shabda Parichaya	15
3	Internal Assessment Tests, Seminars, Assignments, Shloka Pathanam	20
4	Teaching hours/week - 4 Total Teaching Hours – 48 CREDITS–3	

Duration of Examination – 3 Hrs Maximum Marks - 80			
1	Translation and Explanation of Gadya	2 of 3	2X5=10
2	Reference to context	5 of 7	5X3=15
3	Essay Type Questions	4 of 6	4X8=32
4	Short notes (To be answered in Sanskrit only)	2 of 4	2X4=08
5	Grammar (To be answered in Sanskrit only)	15 of 20	15x1=15
	a) Choosing the right Sandhi b) Choosing the right Samasa c) Choosing the right Karaka d) Change of Voice e) Shabda Parichaya		
			Total Marks - 80

Objectives :

- **Language Acquisition** : Develop proficiency in reading, writing and speaking Sanskrit.
- **Literary Appreciation** : Gain knowledge of classical Sanskrit literature, including prose, and dramatic works. Students will learn to appreciate the development of Sanskrit literature and analyze key themes and issues depicted in texts like the Ramayana, Mahabharata, Upanishad, Panchatantra, Kadambari etc
- **Cultural and Historical Understanding** : Developing an understanding of Indian history, philosophy and culture as reflected in Sanskrit literature.
- **Grammar** : Understanding and applying the rules of Sanskrit grammar, including morphology, syntax and sentence structure.

Learning Outcomes :

- This course aims to get the students acquainted with Classical Sanskrit Prose Literature along with Modern Sanskrit Literature. It intends to give an understanding of literature, through which students will be able to understand and interpret the Sanskrit text.
- Texts from Ramayana, Mahabharata, Upanishad, Panchatantra, Kadambari etc to enrich the imaginative and creative abilities of the students.
- The study of Ancient Indian Literature would enable students gain moral values and life values which can be incorporated into their daily lives.
- The course also seeks to help the students negotiate the text independently with the help of proficiency in Sanskrit Language and Grammar. Grammar is an integral part of a language class, where in students are trained to speak and write in Sanskrit with out errors.
- This semester focuses on Sandhi, Samasa, Karaka, Shabda Parichaya and Change of Voice.

Prescribed Textbook :

1. **Kalaasourabham 1 – Gadyavibhagaha (Along with the translation and question bank),**

Published by ALVA'S COLLEGE (Autonomous), MOODUBIDIRE

Reference books:

1. Upanishad Bhavadhare	- Swami Somanathananda
2. Katha Maalika	- Vidwan Umakanta Bhatta, Kerekai, Shirasi
3. Bharatiyadarshana	- Dr. K. Krishnamurthy and N. Ranganatha Sharma

4. <i>Panchatantram</i>	- <i>Vishnusharma</i>
5. ಬುಷಿಮುನಿಗಳ ಪರಿಚಯ	- Dr. S. Hemalatha, Rashrothana Sahitya - Banglore
6. <i>Shrutishobha</i>	- <i>Dr. Jamuna Pathak, Vedavijnana Gurukulam, Channenahalli</i>
7. <i>Samskruta Nibandha Makaranda</i>	- <i>Dr. Vijayashankara Pandey, Chaukamba Varanasi Publicaton</i>

II Semester : BA/ BSW/HRD/BVA

Sanskrit Language Paper - 2

Title –Sanskrit Poetry and Grammar

Maximum Marks:100

1	Introduction to Sanskrit Poetry – Selected portions from Sanskrit Poetic compositions – 40 Hours 1. Aikamatyasooktam – 5 Hrs 2. Subhashitani - 15 – 5 Hrs 3. Ramagunavarnanam – 5 Hrs 4. Yudhisthirakruta Sooryastutihi – 6 Hrs 5. Kalidasasya Namrata – 4 Hrs 6. Sri Gurustavaha – 5 Hrs 7. Nityopayuktashlokaha - 20 – 5 Hrs 8. Chanakyaneetihi – 5 Hrs	65
2	Grammar – 8 Hours 1. Krudanta 2. Taddhita 3. Samasa 4. Kriyapada 5. Subanta	15
3	Internal Assessment Tests, Seminars, Assignments, Shloka Pathanam	20
4	Teaching hours per week – 4 Total Teaching Hours - 48 CREDITS –3	

Scheme of Examination Duration of Examination – 3 Hours

Max. Marks – 80

1	Translation and Explanation of Shlokas	2 of 3	2X5=10
2	Referencetocontext	5 of 7	5X3=15
3	Essay Type Questions	4 of 6	4X8=32
4	Short notes (To be answered in Sanskrit only)	2 of 4	2X4=08
5	Grammar (To be answered in Sanskrit only) a) Krudanta b) Taddhita c) Identification of Samasa d) Kriyapada e) Subanta	15 of 20	15x1=15
			Total Marks – 80

Objectives :

- The primary objective of studying Sanskrit poetry is to develop an understanding and appreciation of classical Indian literary tradition, including its artistic, cultural and historical aspects.
- Gain a comprehensive understanding of the history, structure and various forms of Sanskrit poetry.
- Improve memory and concentration through the memorization of Subhashitas, Itihasakavya and Mahakavya and the analysis of their meanings.
- Enhance competence in chaste classical Sanskrit, including grammar, Vocabulary and Syntax.

Learning Outcomes:

- This course aims to get the students acquainted with Classical Sanskrit Poetry. It intends to give an understanding of literature, through which students will be able to understand the poetic nuances. They develop the ability to use language in a descriptive way.
- The study of Ancient Indian Literature would enable students gain moral values and life values which can be incorporated into their daily lives.
- This course helps students to know about Subhashitas, Itihasakavya, Mahakavyaetc and the various Chandas used in Sanskrit Poetry.
- The course also seeks to help the students negotiate the text independently with the help of proficiency in Sanskrit Language and Grammar. Grammar is an integral part of a language class, where in students are trained to speak and write in Sanskrit without errors.
- This semester focuses on Krudanta, Kriyapada, Taddhita, Subanta and Samasa.

Prescribed Textbook:

1. *Kalaasourabham 2 – Padyavibhagaha (Along with the translation and question bank)*, Published by ALVA'S COLLEGE(Autonomous), MOODUBIDIRE

Reference books:

1. *Rigveda Samhita* - Venkata Rao, Jaya Chamarajendra Wadiyar Bahadur(Jangamawadi Math, Library collection)
2. *Subhashita Ratna Bhandagaram* - Enlarged and re-edited with sources etc by Rama Narayana Acharya 'Kavyatirtha'
3. *Shreemad Valmiki Ramayanam*
4. *SrimanMahabharatam : Vanaparva-Adhyaya 3* - Bharata Darshana Prakashana
5. *Raghuvamshaha* - Mahakavyam of Mahakavi Kalidasa
6. *Chandasvati* - Dr. Madhusudhan Adiga, Shanmasa Padmapatrika, Chandasvati Prakashanam, Kerekai

STATE EDUCATION POLICY 2025

Board Of Studies in Sanskrit SYLLABUS FOR SANSKRIT LANGUAGE

UNDER GRADUATE COURSES SEMESTER SCHEME 2025-26 ONWARDS

I Semester: B.Com/BBA		
Sanskrit Language Paper- I Title – Sanskrit Prose and Grammar Maximum Marks: 100		
1	Introduction to Sanskrit Prose – Selected portions from Sanskrit Prose compositions – 40 Hours. 1. Snatakopadeshaha – 5 Hrs 2. Seetasvayamvaraha – 5 Hrs 3. Pashupatastrasampadanam – 5 Hrs 4. Chandrabhoopatihi – 6Hrs 5. Rishiparampara : Sandipini, Dhanvantari, Bodhayana – 4 Hrs 6. Upanishatkatha : Upamanyu - Nachiketa - 5 Hrs 7. Dve Kathe - Kim Naama Dhanam, Kopaha Tapo Hanti - 5 Hrs 8. Adhunik Rishiparampara : Sri Shankaracharya, Sri Ramanujacharya, Sri Madhvacharya - 5 Hrs	65
2	Grammar – 8 Hours 1. Identifying Sandhi 2. Identifying Samasa 3. Karaka 4. Prayoga 5. Subanta/Shabda Parichaya	15
3	Internal Assessment Tests, Seminars, Assignments, Shloka Pathanam	20
4	Teaching hours/week–4 Total Teaching Hours - 48 CREDITS –3	

Scheme of Examination			
Duration of Examination – 3 Hours Maximum Marks - 80			
1	Translation and Explanation of Gadya	2 of 3	5X2=10
2	Reference to context	5 of 7	5X3=15
3	Essay Type Questions	4 of 6	4X8=32
4	Short notes (To be answered in Sanskrit only)	2 of 4	2X4=08
5	Grammar (To be answered in Sanskrit only) a) Choosing the right Sandhi b) Choosing the right Samasa c) Choosing the right Karaka d) Change of Voice e) Shabda Parichaya	15 of 20	15x1=15
			Total Marks –80

Objectives :

- **Language Acquisition** : Develop proficiency in reading, writing and speaking Sanskrit.
- **Literary Appreciation** : Gain knowledge of classical Sanskrit literature, including prose, and dramatic works. Students will learn to appreciate the development of Sanskrit literature and analyze key themes and issues depicted in texts like the Ramayana, Mahabharata, Upanishad, Panchatantra, Kadambari etc
- **Cultural and Historical Understanding** : Developing an understanding of Indian history, philosophy and culture as reflected in Sanskrit literature.
- **Grammar** : Understanding and applying the rules of Sanskrit grammar, including morphology, syntax and sentence structure.

Learning Outcomes :

- This course aims to get the students acquainted with Classical Sanskrit Prose Literature along with Modern Sanskrit Literature. It intends to give an understanding of literature, through which students will be able to understand and interpret the Sanskrit text.
- Texts from Ramayana, Mahabharata, Upanishad, Panchatantra, Kadambari etc to enrich the imaginative and creative abilities of the students.
- The study of Ancient Indian Literature would enable students gain moral values and life values which can be incorporated into their daily lives.
- The course also seeks to help the students negotiate the text independently with the help of proficiency in Sanskrit Language and Grammar. Grammar is an integral part of a language class, where in students are trained to speak and write in Sanskrit with out errors.
- This semester focuses on Sandhi, Samasa, Karaka, Shabda Parichaya and Change of Voice.

Prescribed Textbook:

1. *Vanijyasourabham 1 - Gadyavibhagaha (Along with the translation and question bank)*, Published by ALVA'S COLLEGE(Autonomous), MOODUBIDIRE

Referencebooks:

1. Upanishad Bhavadhare	-	Swami Somanathananda
2. Gadya Ramayanam	-	Shivadatta Thripathi
3. Gadya Bharatam	-	Shivadatta Thripathi

4. <i>Panchatantram</i>	-	<i>Vishnusharma</i>
5. ಖಷಿಮುನಿಗಲ ಪರಿಚಯ	-	Dr. S. Hemalatha, Rashrothana Sahitya – Bangalore
6. <i>Katha Maalika</i>	-	<i>Vidwan Umakanta Bhatta, Kerekai, Shirasi</i>

II Semester : B.Com/BBA

Sanskrit Language Paper - 2

Title –Sanskrit Poetry and Grammar

Maximum Marks:100

1	Introduction to Sanskrit Poetry – Selected portions from Sanskrit Poetic compositions – 40 Hours 1. Pracheena Sahakara Sootram – 5 Hrs 2. Saduktayaha – 15 – 5 Hrs 3. Adityahrudayam – 5 Hrs 4. Viduraneetihi – 6 Hrs 5. Parvatyaaha Ugram Tapaha – 4 Hrs 6. Nityasmarama-sooktayaha – 5 Hrs 7. Samskrutakavyani - 5 Hrs 8. Mahakavi Prashamsanam - 5 Hrs	65
2	Grammar – 8 Hours 1. Krudanta 2. Taddhita 3. Samasa 4. Kriyapada 5. Subanta	15
3	Internal Assessment Tests, Seminars, Assignments, Shloka Pathanam	20
4	Teaching hours/week–4 Total Teaching Hours- 48 CREDITS –3	

Scheme of Examination Duration of Examination – 3 Hours

Maximum Marks - 80

1	Translation and Explanation of Shlokas	2 of 3	2X5=10
2	Reference to context	5 of 7	5X3=15
3	Essay Type Questions	4 of 6	4X8=32
4	Short notes (To be answered in Sanskrit only)	2 of 4	2X4=08
5	Grammar (To be answered in Sanskrit only) a) Krudanta b) Taddhita c) Identification of Samasa d) Kriyapada e) Subanta	15 of 20	15x1=15
			Total Marks - 80

Objectives :

- The primary objective of studying Sanskrit poetry is to develop an understanding and appreciation of classical Indian literary tradition, including its artistic, cultural and historical aspects.
- Gain a comprehensive understanding of the history, structure and various forms of Sanskrit poetry.
- Improve memory and concentration through the memorization of Subhashitas, Itihasakavya and Mahakavya and the analysis of their meanings.
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Learning Outcomes:

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- This semester focuses on Krudanta, Kriyapada, Taddhita, Subanta and Samasa.

Prescribed Text book:

1. *Vanijyasourabham 2 - Padyaavibhagaha (Along with the translation and question bank)*, Published by ALVA'S COLLEGE(Autonomous), MOODUBIDIRE Sanskrit Teachers Association

Reference Books:

1. <i>Rigveda Samhita</i>	-	Venkata Rao, Jaya Chamarajendra Wadiyar Bahadur(Jangamawadi Math, Library collection)
2. <i>Subhashita Ratna Bhandagaram</i>	-	Enlarged and re-edited with sources etc by Rama Narayana Acharya 'Kavyatirtha'
3. a). <i>The Ramayana of Valmiki</i>	-	Vasudeva Laxman Shastri Pansikar
b). <i>Shreemad Valmikiramayana</i>	-	Bharatadarshana Prakashana
c). <i>Shreemad Valmikiramayana</i>	-	Vidwan N. Ranganatha Sharma
4. a). <i>Kumarasambhavam</i>	-	Mahakavyam of Mahakavi Kalidasa – Shesharaja Sharma
b). <i>Kumarasambhavam</i>	-	Choukambha Sanskrit Granthamala

ALVA'S COLLEGE(AUTONOMOUS), MOODUBIDIRE

STATE EDUCATION POLICY 2025

Board Of Studies in Sanskrit SYLLABUS FOR SANSKRIT LANGUAGE

UNDER GRADUATE COURSES SEMESTER SCHEME 2025-26 ONWARDS

I Semester :BCA/BSc,BSc/FND,BHS, BFD, BID,BHM, BSA,BFT,BCS		
Sanskrit Language Paper- I Title – Sanskrit Prose and Grammar MaximumMarks: 100		
1	Introduction to Sanskrit Prose – Selected portions from Sanskrit Prose compositions – 40 Hours. 1. Deekshantopadeshaaha – 5 Hrs 2. Jatayuprasanga – 5 Hrs 3. Pracheena Maharshi Parivhayaha : Sushruta, Sandipini, Dhanvantari – 5 Hrs 4. Dve Kathe - Puritam Kena Puryate, Ishtam Kutaha - 6 Hrs 5. Dhruvasya Taponishtha – 4 Hrs 6. Bharatiyaikatasadhanam Samskrutam - 5 Hrs 7. Vilapati Ganga - 5 Hrs 8. Vyaktiparichaya : Gargi, Maitreyi, Sulabha, Devabhuti - 5 Hrs	65
2	Grammar – 8 Hours 1. Identifying Sandhi 2. Identifying Samasa 3. Karaka 4. Prayoga 5. Subanta/Shabda Parichaya	15
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4	Teaching hours/week – 4 Total Teaching Hours - 48 CREDITS –3	

Scheme of Examination			
Duration of Examination – 3 Hours Maximum Marks - 80			
1	Translation and Explanation of Gadya	2 of 3	2X5=10
2	Reference to context	5 of 7	5X3=15
3	Essay Type Questions	4 of 6	4X8=32
4	Short notes (To be answered in Sanskrit only)	2 of 4	2X4=08
5	Grammar (To be answered in Sanskrit only) a) Choosing the right Sandhi b) Choosing the right Samasa c) Choosing the right Karaka d) Change of Voice e) Shabda Parichaya	15 of 20	15x1=15
			Total marks – 80

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3. Katha Maalika	-	Vidwan Umakanta Bhatta, Kerekai, Shirasi
4. Samskruta Nibandha Makaranda	-	Dr. Vijayashankara Pandey, Chaukamba Varanasi
5. ಮುಷಿಮುನಿಗಳ ಪರಿಚಯ	-	Dr. S. Hemalatha, Rashrothana Sahitya – Bangalore

Publication

Sanskrit Language Paper - 2		Maximum Marks:100
Title – Sanskrit Poetry and Grammar		
1	Introduction to Sanskrit Poetry – Selected portions from Sanskrit Poetic compositions – 40 Hours 1. Rigvedokta Jeevanamoulyam – 5 Hrs 2. Sooktimuktaavalihi – 15 – 5 Hrs 3. Naradoktam SriRama Vyaktitva Nirupanam – 5 Hrs 4. Gunatrayanirupanam – 6 Hrs 5. Indra Manmathayoho Samvadaha – 4 Hrs 6. Samskaaradeepika – 5 Hrs 7. Prahelika - 5 Hrs 8. Yashoda Krishna Samvada - 5 Hrs	65
2	Grammar – 8 Hours 1. Krudanta 2. Taddhita 3. Samasa 4. Kriyapada 5. Subanta	15
3	Internal Assessment Tests, Seminars, Assignments, Shloka Pathanam	20
4	Teaching hours/week–4 Total Teaching Hours- 48 CREDITS –3	

Scheme of Examination			
Duration of Examination – 3 Hours			
Maximum Marks - 80			
1	Translation and Explanation of Shlokas	2 of 3	2X5=10
2	Reference to context	5 of 7	5X3=15
3	Essay Type Questions	4 of 6	4X8=32
4	Short notes (To be answered in Sanskrit only)	2 of 4	2X4=08
5	Grammar (To be answered in Sanskrit only) a) Krudanta b) Taddhita c) Identification of Samasa d) Kriyapada e) Subanta	15 of 20	15x1=15
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Objectives :

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- This semester focuses on Krudanta, Kriyapada, Taddhita, Subanta and Samasa.

Prescribed Textbook:

1. *Vijnanasourabham 2 – Padyavibhagaha (Along with the translation and question bank)*, Published by
ALVA'S COLLEGE(Autonomous), MOODUBIDIRE

Reference books:

1. Rigveda Samhita	-	Venkata Rao, Jaya Chamarajendra Wadiyar Bahadur(Jangamawadi Math, Library collection)
2. Subhashita Ratna Bhandagaram	-	Enlarged and re-edited with sources etc by Rama Narayana Acharya 'Kavyatirtha'
3. a). Kumarasambhavam	-	Mahakavyam of Mahakavi Kalidasa – Shesharaja Sharma
b). Kumarasambhavam	-	Choukambha Sanskrit Granthamala
4. Bhagavata 10 th Skandha	-	Bharata Samskruti Pratishthana
5. SrimadValmiki Ramayanam : Balakanda (1 st Sarga)	-	Bharata Darshana Prakashana
6. SrimanMahabharatam : Bhishmaparva	-	Bharata Darshana Prakashana

