

MANOHAR MEMORIAL COLLEGE FATEHABAD

PROGRAM OUTCOMES (PO), PROGRAM SPECIFIC OUTCOMES (PSO), COURSE OUTCOMES (CO)

DEPARTMENT OF COMPUTER SCIENCE AND APPLICATIONS

PROGRAM: BACHELOR OF COMPUTER APPLICATIONS (B.C.A)

Program Outcome (PO)

PO	After completing the three-year degree program, student will be able to:
PO-1	Attain employability skills to serve Software, IT industry and government sector.
PO-2	Attain entrepreneurship skills to open their own venture in the area of hardware, software and networking.
PO-3	Obtain analytical and problem-solving skills to understand, analyse and develop real life applications for the benefit of society.
PO-4	Attain strong base to pursue higher education in the field of Computer Applications, Computer Science, IT and Management.

Program Specific Outcome (PSO)

PSO No	After Completing Bachelor of Computer Applications, the student will be equipped to:
PSO-1	Attain skills to work in latest technologies and programming languages
PSO-2	Attain technical skills for software development, testing, problem analysis, hardware troubleshooting, web designing, database management, network management and office support.
PSO-3	Attain communication and personality development skills.
PSO-4	Attain knowledge of open-source technology.

Course Outcomes

Semester-I Course: BCA-11 Computer Fundamentals

	At the end of course student should be able to:
CO-1	Understand the basic fundamentals of Computer System, operating system and its functions and computer virus.
CO-2	Understand the basics of networking, emerging technologies.
CO-3	Understand the various types of computer language.
CO-4	Understanding of DTP tools and window Tools.

Semester-I Course: BCA-12 Programming in C

	At the end of course student should be able to:
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CO-1	Understand the basic fundamentals of Computer System, operating system and its functions and computer virus.
CO-2	Understand the basics of networking, emerging technologies.
CO-3	Understand the various types of computer language.
CO-4	Understanding of DTP tools and window Tools.

Semester-I Course: BCA-13 DIGITAL ELECTRONICS

	At the end of course student should be able to:
CO-1	Have a thorough understanding of the fundamental concepts and techniques used in digital electronics
CO-2	understand and examine the structure of various number systems and its application in digital design.
CO-3	The ability to understand, analyse and design various combinational and sequential circuits.
CO-4	Ability to interpret logic gates and its operations

Semester-I Course: BCA – 14 MATHEMATICAL FOUNDATIONS OF COMPUTER SCIENCE

	At the end of course student should be able to:
CO-1	Know Basic knowledge of matrix, set theory, functions and relations concepts needed for designing and solving problems.
CO-2	Explain Logical operations and predicate calculus needed for computing skill, design and solve Boolean functions for defined problems.
CO-3	Apply the acquired knowledge of formal languages to the engineering areas like Compiler Design.
CO-4	Apply the acquired knowledge of finite automata theory and to design discrete problems to solve by computers.

Semester-I Course: BCA – 15 COMMUNICATION SKILLS

	At the end of course student should be able to:
CO-1	Demonstrate critical and innovative thinking.
CO-2	Display competence in oral, written, and visual communication.
CO-3	Use current technology related to the communication field
CO-4	Communicate ethically.

Semester-II Course: BCA – 21 PROGRAMMING IN C++

	At the end of course student should be able to:
CO-1	Understand the principles of object-oriented programming and features of C++ programming language.
CO-2	Understanding and implementing concepts of dynamic memory allocation

CO-3	Developing applications using Concepts of Polymorphism, Function Overloading, Inline Functions, Inheritance, friend function, friend class and generic classes.
CO-4	Handling of exception
Semester-II BCA – 22 DATA STRUCTURES	
	At the end of course student should be able to:
CO-1	Understand applications of Data Structure, algorithm complexity and Big-O notation.
CO-2	Identify the appropriate data structures and algorithms for solving real world problems
CO-3	Apply String operations, Pattern matching algorithms, various kinds of searching and sorting techniques.
CO-4	Understanding and implementing algorithms using various data structures like Arrays, stacks, queues, Deques, Priority Queues, linked list, trees, graphs
Semester-II BCA-23 COMPUTER ORGANIZATION	
	At the end of course student should be able to:
CO-1	Understand Sequential Logic, Flip-Flops, Master-Slave flipflops, State table, state diagram and state equations, Flip-flop excitation tables
CO-2	Design Sequential Circuits: Registers, Serial Input Serial Output (SISO), Serial Input Parallel Output, (SIPO), Parallel Input Serial Output (PISO), Parallel Input Parallel Output (PIPO)
CO-3	Understand shift registers, counters, memory and memory hierarchies and I/O Devices and their controllers.
CO-4	Define Instruction Design & I/O Organization, addressing mode, interrupt structure and DMA transfer.
Semester-II BCA – 24 OPERATING SYSTEM	
	At the end of course, student should be able to:
CO-1	Define Operating System and its various type, System calls, Schedulers, Memory management systems, Virtual Memory and Paging systems.
CO-2	Understand the policies for synchronization, system calls, and file systems, scheduling, deadlocks, Semaphores.
CO-3	Understand techniques for Device Management, Dedicated Devices, Shared Devices, Virtual Devices; Input or Output, Devices, Storage Devices, Buffering, Secondary Storage Structure: Disk Structure, Disk Scheduling, Disk Management
CO-4	Understand the File System Structure, Directory structure, Allocation Methods
Semester II BCA – 25 SYSTEM ANALYSIS AND DESIGN	
	At the end of course, student should be able to:
CO-1	Understand the system and elements of system, System Development Life Cycle

CO-2	Explain systems design techniques- data flow diagram, data dictionary, Pseudocode, methodologies, File Organization and database design in designing systems
CO-3	Understand System testing, Quality assurance
CO-4	Understand System implementation and software maintenance
Semester III BCA-31 WEB TECHNOLOGIES	
	At the end of course, student should be able to:
CO-1	Discuss about Internet, World Wide Web, internet protocols and search engines with examples
CO-2	Understand HTML, html tags, Inserting Graphics; Table Creation, Work with Forms, Menus, Radio Buttons; Check Boxes; Text boxes.
CO-3	Discuss about CSS, Types of style sheets, Style specification formats, Features of CSS3
CO-4	Explain Internet Service Provider, creating web sites (html/dhtml) with its contents like home page, domain name.
Semester III BCA-32 DATABASE MANAGEMENT SYSTEM	
	At the end of course, student should be able to:
CO-1	Understand database management system, Database Administrator, Database Designers, Applications Developers and End Users.
CO-2	Explain Database System Architecture, Data Independence, Data Models, Entity-Relationship Model.
CO-3	Understand Centralized and Client Server architecture, Relational Algebra, Relational Calculus.
CO-4	Understand and perform SQL commands and operations, Functional Dependencies and Normalization.
Semester III BCA-33 SOFTWARE ENGINEERING	
	At the end of course, student should be able to:
CO-1	Define software engineering, software crisis, cost estimation, project scheduling, personnel planning, team structure.
CO-2	Understand Quality management and risk management of project, software requirement by data modelling and object-oriented analysis.
CO-3	Understand how to prepare SRS and how to design, test and implement the software, software maintenances Tool by CASE TOOL
CO-4	Understand and describe software reliability by multiple methods metric and specification, fault avoidance and tolerance, exception handling, defensive programming.
Semester III BCA-34 COMPUTER ARCHITECTURE	
	At the end of course, student should be able to:
CO-1	Understand and explain the basic architecture and design of computer, concept of pipelining
CO-2	Describe the concept of Interruption by interrupt structure, method of transmission of information by devices.

CO-3	Draw the flowchart of various computer arithmetic
CO-4	Explain the concept of memory organisation
Semester III BCA-35 DISCRETE STRUCTURE	
	At the end of course student should be able to:
CO-1	Understand concept of Logic by propositional logic
CO-2	Describe concept of mathematical proof
CO-3	Explain the concept of Relation, Graph & Boolean Algebra
CO-4	Understand the concept of Group and structured set
Semester IV BCA-41 CORE JAVA	
	At the end of course, student should be able to:
CO-1	Use an integrated development environment to write, compile, run, and test simple object-oriented Java programs
CO-2	Identify classes, objects, members of a class and relationships among them needed for a specific problem
CO-3	Write Java application programs using OOP principles and Validate input in a Java program.
CO-4	Write Java programs to implement error handling techniques using exception handling
Semester IV BCA-42 ASP.NET	
	At the end of course, student should be able to:
CO-1	Explain Architecture & features of .NET Framework and VS 2012 IDE.
CO-2	Understand the concept of ASP.net and its control, make elementary modifications to vb.net programs that solve real-world problems.
CO-3	Understand the concept of Connection Command, Data Adapter, and Dataset, Data Reader, Connection Pooling.
CO-4	Describe concept of File handling to Read and Write File and Implement the database access tool using ado.net
Semester IV BCA-43 COMPUTER GRAPHICS	
	At the end of course, student should be able to:
CO-1	Introduce the use of the components of a graphics system and the application of computer graphics concepts in the development of computer games, information visualization, and business applications.
CO-2	Provide an understanding of mapping from a world coordinate to device coordinates, clipping, and projections
CO-3	Analyse the fundamentals of Transformations
CO-4	Discuss the application of computer graphics concepts in Two-Dimensional Viewing

Semester IV BCA-44 PROGRAMMING LANGUAGES

	At the end of course, student should be able to:
CO-1	Introduce the use of programming language and become familiar with building approach of programming language and concept of compiler
CO-2	Understand the concept of Programming Language Syntax, the fundamentals of Parsing
CO-3	Provide an understanding of how-to referencing scheme works
CO-4	Discuss the application of semantic analyser

Semester IV BCA-45 MANAGEMENT INFORMATION SYSTEM

	At the end of course, student should be able to:
CO-1	Evaluate the role of information systems in today's competitive business environment.
CO-2	Demonstrate systems analysis, design and decision making in a business setting.
CO-3	Assess how information systems support the activities of managers and end – users in organizations
CO-4	Define and demonstrate the fundamentals of MIS Development

Semester V BCA- 51 JAVASCRIPT

	At the end of course, student should be able to:
CO-1	Understand the principles of creating an effective web page, including an in-depth consideration of information architecture.
CO-2	Learn the language of the web: HTML and CSS.
CO-3	Use an integrated development environment to write, compile, run, and test simple Java script programs
CO-4	Develop and understand the working with DOM, HTML, and CSS event-based modelling

Semester V BCA- 52 INTRODUCTION TO LINUX

	At the end of course, student should be able to:
CO-1	Understand the principles of LINUX OS, its architecture
CO-2	Understand the basic file function and creating of some simple programme with the help of file attributes
CO-3	Develop basic programming with the help of Simple Filters- pr, head, tail, cut, paste, sort, uniq, tr etc.
CO-4	Understand basic process control command like pipe

Semester V BCA- 53 DATA MINING AND DATA WAREHOUSING

	At the end of course, student should be able to:
CO-1	Understand different types of AI agents and AI search algorithms.

CO-2	Know how to build simple knowledge-based system and Apply knowledge representation, reasoning, and machine learning techniques to real-world problems.
CO-3	Know about the different searching process techniques.
CO-4	Know about the NLP, Learning and Expert System.
Semester V BCA- 54 ARTIFICIAL INTELLIGENCE	
	At the end of course, student should be able to:
CO-1	Understand different types of AI agents and AI search algorithms.
CO-2	Know how to build simple knowledge-based system and Apply knowledge representation, reasoning, and machine learning techniques to real-world problems.
CO-3	Know about the different searching process techniques.
CO-4	Know about the NLP, Learning and Expert System.
Semester V BCA- 55 COMPUTER NETWORK	
	At the end of course, student should be able to:
CO-1	Describe the general principles of data communication.
CO-2	Describe how computer networks are organized with the concept of layered approach.
CO-3	Describe how packets in the Internet are delivered and routing protocols work.
CO-4	Know about the various network security issues
Semester VI BCA- 61 PYTHON PROGRAMMING	
	At the end of course, student should be able to:
CO-1	Understand basics of Python programming, Math functions, Strings, List, Tuples and Dictionaries, Decision Making statements and Functions.
CO-2	Understand Modules and Packages, Overview of Python Standard Library.
CO-3	Describe the Object-oriented programming and Exception handling in Python.
CO-4	Explain the Database programming and database operation in python.
Semester VI BCA–62 Internet of Things	
	At the end of course, student should be able to:
CO-1	Understand the basics of Internet of things.
CO-2	Understand the concepts of Web of Things.
CO-3	Explain the importance of IOT DEVICES.
CO-4	Understand different kind of programming model.

Semester VI BCA-63 INFORMATION SECURITY

	At the end of course, student should be able to:
CO-1	Identify and analyse computer security breaches by learning and implementing the real-world scenarios in Network Security.
CO-2	Understand the fundamentals of Cryptography.
CO-3	Explain Standard algorithms used to provide confidentiality, integrity and authenticity.
CO-4	Understand the various concepts like application security, network security, system security.

Semester VI BCA- 64 CLOUD COMPUTING

	At the end of course, student should be able to:
CO-1	Describe the fundamentals of Cloud Computing and Cloud services.
CO-2	Implement and secure your own cloud service.
CO-3	Know and explain the Virtualization mechanisms.
CO-4	Analyze the concepts of Cloud Computing to develop the skill of doing research.

Semester VI BCA- 65 ENVIRONMENTAL STUDIES

	At the end of course, student should be able to:
CO-1	Demonstrate an integrative approach to environmental issues with a focus on sustainability.
CO-2	Describe the methodological approaches of the social sciences, natural sciences.
CO-3	Explain various type of Environmental pollution.
CO-4	Know about Environmental laws and regulations in India.

DEPARTMENT OF SCIENCE

PROGRAM: BACHELOR OF SCIENCE (NON- MED)

	Program Outcome (PO)
PO No	After completing the three-year degree program, student will be able to:
PO-1	Demonstrate recall of fundamental concepts in mathematics, physics, and chemistry, such as calculus, mechanics, and chemical bonding principles.
PO-2	Illustrate comprehension of complex mathematical and scientific theories, including the ability to interpret mathematical models, analyze experimental data, and explain physical phenomena using scientific principles.
PO-3	Apply mathematical and scientific concepts to solve real-world problems, such as designing experiments, analyzing data sets, and formulating mathematical models to predict physical outcomes in various fields including engineering, finance, and research.

PROGRAM: BACHELOR OF SCIENCE (Computer Science)

	Program Outcome (PO)
PO No	After completing the three-year degree program, student will be able to:
PO-1	Recall fundamental concepts in computer science such as algorithms, data structures, programming languages, and computer architecture.
PO-2	Demonstrate comprehension of advanced topics in computer science, including the ability to analyze algorithms, explain the functioning of complex data structures, and discuss the principles underlying various programming paradigms.
PO-3	Apply their knowledge of computer science to develop software solutions for real-world problems, design algorithms to optimize performance, and implement efficient data structures to manipulate and store large datasets. They may also demonstrate the ability to use programming languages and development tools effectively to create innovative software applications.
Program Specific Outcome (PSO)	
PO No	After Completing Bachelor of Science, the student will be able to:
PSO-1	Have Mastery of programming languages and software development.
PSO-2	Competent in analyzing complex data sets.
PSO-3	Collaborate skills in interdisciplinary teams.
PSO-4	Enhanced Capacity for lifelong learning and adaptation to emerging technologies.
Semester-I Course: B.Sc. (Non-Medical with Computer Science) CS-11 COMPUTER FUNDAMENTALS	
	At the end of course, student should be able to:
CO-1	Understand and learn the basics of computer how to operate it.
CO-2	Explain concept of Networking for data communication and Network topology.
CO-3	Familiar with various types of Memories used for storage data in computer.
CO-4	Explain different kind of input output devices attached with computer system.
Semester-I Course: B.Sc. (Non-Medical with Computer Science) CS-12 DIGITAL ELECTRONICS	
	At the end of course, student should be able to:
CO-1	Explain and solve problems of Different Number Systems.
CO-2	Explain different Logic gates with their symbols and truth tables. Able to apply different Boolean algebra laws and principles.
CO-3	Minimize Boolean expression using K- Maps, ven Diagram and circuit implementations using NAND and NOR gate etc.
CO-4	Design and analysis procedure of Combinational Circuit.

**Semester-II Course: B.Sc. (Non-Medical with Computer Science) CS-21
PROGRAMMING IN C**

	At the end of course, student should be able to:
CO-1	Explain concept of Problem solving and its technique-Flow-chart, algorithms, pseudo code.
CO-2	Understand the basics of C, Structure of a C Program, use of operators in C.
CO-3	Learn how to use decision making statements, Arrays and Functions.
CO-4	Understanding of Pointer, String, Memory allocation and storage class.

**Semester-II Course: B.Sc. (Non-Medical with Computer Science) CS-22
OPERATING SYSTEM**

	At the end of course, student should be able to:
CO-1	Understand the operating system and its function.
CO-2	Understand the concept of memory management, virtual memory and its Implementation using demand Paging.
CO-3	Know about Process, Process Synchronization, CPU Scheduling algorithm and deadlock and methods for handling deadlock.
CO-4	Know about Disk Structure, Disk Scheduling, File and Directory Structure and its allocation Method.

**Semester-III Course: B.Sc. (Non-Medical with Computer Science) CS-31
PROGRAMMING IN C++**

	At the end of course, student should be able to:
CO-1	Understand the new way of programming called object-oriented programming and various terms like class, object, constructor, destructor, friend function, Inheritance, polymorphism.
CO-2	Analyze, write, debug, and test basic C++ codes
CO-3	Design program using Template
CO-4	Analyze problems and implement simple C++ applications using an object-oriented software engineering approach.

**Semester-III Course: B.Sc. (Non-Medical with Computer Science) CS-32
DATA STRUCTURE**

	At the end of course, student should be able to:
CO-1	Describe the data structure, its types and its application.
CO-2	Explain Sorting and Searching Method.
CO-3	Describe the Concept of linear and non-linear data structure.
CO-4	Student will be able to Implement the Data Structure Using C Language

**Semester-IV Course: B.Sc. (Non-Medical with Computer Science) CS-41
DATABASE MANAGEMENT SYSTEMS**

	At the end of course, student should be able to:
CO-1	Describe the basic concepts of database systems, various data models and database system architectures.
CO-2	classify Data base Management System
CO-3	Write queries to access database using SQL.
CO-4	Design a database using normalization theory

**Semester-IV Course: B.Sc. (Non-Medical with Computer Science) CS-42
SOFTWARE ENGINEERING**

	At the end of course, student should be able to:
CO-1	Analyze and specify software requirements.
CO-2	Differentiate structured Design and object-oriented Design Methodology and various testing strategy.
CO-3	Explain Software maintenance and software configuration Management
CO-4	Apply software engineering principles and techniques to develop large-scale software systems.

**Semester-V Course: B.Sc. (Non-Medical with Computer Science) CS-51
COMPUTER NETWORKS**

	At the end of course, student should be able to:
CO-1	Gain the knowledge of Networking models, different media for transmission.
CO-2	Define LAN Topologies and their Media Access control.
CO-3	Describe addressing types and their difference, routing protocols.
CO-4	Working of different network Security technologies used in today's world.

**Semester-V Course: B.Sc. (Non-Medical with Computer Science) CS-52
PYTHON PROGRAMMING**

	At the end of course, student should be able to:
CO-1	Describe the basics of Python, Math functions, Strings, List, Tuples and Dictionaries, Decision Making statements and Functions.
CO-2	Interpret Object oriented programming in Python.
CO-3	Understand and summarize different File handling operations.
CO-4	Design and develop Client Server network applications using Python.

**Semester-VI Course: B.Sc. (Non-Medical with Computer Science) CS-61
ARTIFICIAL INTELLIGENCE**

	At the end of course, student should be able to:
CO-1	Understand what the AI is.
CO-2	Apply search and knowledge representation techniques to solve AI problems.

CO-3	Understanding of term Rule-based expert systems, Fuzzy logic, Dempster/Shaffer etc.
CO-4	Have ability to identify the solution of AI problems.
Semester-VI Course: B.Sc. (Non-Medical with Computer Science) CS-62 INTRODCUTION TO LINUX	
	At the end of course, student should be able to:
CO-1	Understanding the basic set of commands and utilities in Linux/UNIX systems.
CO-2	Prepare students to develop software in and for Linux/UNIX environments.
CO-3	Include basic operating system concepts, effective command line usage, shell programming.
CO-4	C language, programming development tools, system programming, network programming, and GUI programming.
Semester-I Course: B.Sc. (Non-Medical with Computer Science) Paper-I(ch-101)	
	At the end of course, student should be able to:
CO-1	Discuss Atomic Structure, Periodic Table and Atomic Properties viz. Ionization Energy, Electron Affinity, Electro negativity, Quantum Numbers, Electronic Configuration of the Elements.
CO-2	Study the formation of Covalent Bond, Hybridization, Bond Energy, Bond Length, Crystal Structure, Lattice Energy, Crystal Defects, Solvation Energy and Fajan's Rule.
Semester-I Course: B.Sc. (Non-Medical with Computer Science) Paper-II (ch-102)	
	At the end of course, student should be able to:
CO-1	Discuss Kinetic Molecular Theory of Gases, Derivation of Vander Waals Equation and its applications, Critical Temperature, pressure, volume, compressibility factor.
CO-2	Elaborate Structure and properties of Liquid, Classification of Solids, Crystal systems, Bragg's Law.
Semester-I Course: B.Sc. (Non-Medical with Computer Science) Paper-III (ch-103)	
	At the end of course, student should be able to:
CO-1	Understand localized and de-localized Chemical bonds, Electronic Effects, Isomerism, Configuration, E and Z, R and S Nomenclature, Conformations.
CO-2	Draw the mechanism of Organic Reactions, study of attacking reagents, Reaction Intermediates, method of preparation, nomenclature, physical properties of alkanes and cycloalkanes.
Semester-II Course: B.Sc. (Non-Medical with Computer Science) paper-IV(CH-104)	
	At the end of course, student should be able to:
CO-1	Elaborate Hydrogen Bonding, Vander Waal's forces, Metallic bond, semiconductors, Compounds of S-block Elements

CO-2	Noble gases, bonding in Compounds of Noble gases.
CO-3	Discuss about p-block elements, structure, bonding and compounds of Boron, Carbon, Nitrogen and halogen family.
Semester-II Course: B.Sc. (Non-Medical with Computer Science) paper-V(CH-105)	
	At the end of course, student should be able to:
CO-1	Understand the rate of reaction, Order of reaction, Half-life period, Arrhenius equation, Electrolytic conduction, dilution law, Kohlrausch law, Degree of dissociation, Henderson-Hassel Equation.
Semester-II Course: B.Sc. (Non-Medical with Computer Science) Paper-VI(CH-106)	
	At the end of course, student should be able to:
CO-1	Study preparation and properties of Alkenes, Arenes, Aromaticity, Mechanism of Aromatic Electrophilic substitution, Activating and Deactivating substituents and Orientation.
CO-2	Discuss the methods of preparation, structure, properties of Dienes, Alkynes, Alkyl and Aryl halides, SN1 and SN 2 mechanisms.
Semester-III Course: B.Sc. (Non-Medical with Computer Science) Paper VIII(CH-201)	
	At the end of course, student should be able to:
CO-1	Discuss the Classification, properties, Comparison of properties of 3d, 4d and 5d elements, Latimer and Frost diagrams, Structure and properties of Transition element compounds.
CO-2	Study nomenclature, Isomerism and bonding in Coordination compounds, Types of Solvents, Physical properties with special reference to liq. NH ₃ and SO ₂ .
Semester-III Course: B.Sc. (Non-Medical with Computer Science) Paper IX(CH-202)	
	At the end of course, student should be able to:
CO-1	Study the types of system, Thermo-dynamic process, Heat capacity, Work, Joule- Thomson Effect. Van't Hoff reaction, Le-chatelier's Principle and its application.
CO-2	Nernst distribution law, Application of distribution law.
Semester-III Course: B.Sc. (Non-Medical with Computer Science) Paper X(CH-203)	
	At the end of course, student should be able to:
CO-1	Elaborate the methods of preparation, properties of Alcohols, phenols, Epoxides, Fries, Claisen Rearrangement, Riemer Tiemann, Kolbe's, Schotten and Baumann Reactions.
CO-2	Discuss Absorption laws, Chromophore, Auxochromes and Shifts, Calculation of wave number using Woodward Fieser rules, Application of UV-spectroscopy.

CO-3	Elaborate method of preparation, structure, bonding and properties of carboxylic acid and its derivatives, relative stability of derivatives, Esterification and hydrolysis.
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Semester-IV Course: B.Sc. (Non-Medical with Computer Science) Paper-XI(CH-204)

	At the end of course, student should be able to:
CO-1	Discuss about the Electronic configuration, properties of Lanthanides, actinides, Lanthanide Contraction, Separation of Np, Pu, Am ferrouanium, Trans-uranic Elements
CO-2	Elaborate the basic and acidic radicals, their identification, Interference by acidic radicals, solubility product, common ion effects.

Semester-IV Course: B.Sc. (Non-Medical with Computer Science) Paper-XII(CH-205)

	At the end of course, student should be able to:
CO-1	Discuss the Equilibrium, Law of Chemical equilibrium, Claussius-Calpeyron Equation, Nerst distribution law, degree of hydrolysis, process of Extraction
CO-2	Study the Laws of Thermodynamics, Entropy and Enthalpy Change, Spontaneity of Reaction, Gibbs Free Energy, Collision Theory and Transition state Theory, Electrolytic and galvanic cell, S.H.E. and Nernst Equation

Semester-IV Course: B.Sc. (Non-Medical with Computer Science) Paper-XIII(CH-206)

	At the end of course, student should be able to:
CO-1	Discuss about IR spectroscopy in structure determination, Hook's law, Application of IR, separation of primary, secondary and tertiary amines, Preparation, reaction with Nitrous acid
CO-2	Discuss the diazonium salts and synthetic applications, synthesis of aldehydes and ketones, special reagents, condensation reactions, oxidation and reduction reactions.

Semester-V Course: B.Sc. (Non-Medical with Computer Science) Paper-XV(CH-301)

	At the end of course, student should be able to:
CO-1	Discuss the Crystal field theory and metal ligand bonding, Splitting octahedral, tetrahedral and square planar complexes, thermodynamic stability of metal complexes, trans effect.
CO-2	Discuss the magnetic materials, magnetic susceptibility, method of determining magnetic susceptibility, spin only formula, orbital contribution to magnetic moments, application of magnetic moment data, Selection rules for d-transition, Orgel energy level diagram

Semester-V Course: B.Sc. (Non-Medical with Computer Science) Paper XVI(CH-302)

	At the end of course, student should be able to:
CO-1	Discuss the Black-body radiation, Plank's radiation law, photoelectric effect, Hamiltonian operator, Hermitian operator, Optical activity, magnetic susceptibility and types of magnetism.

CO-2	Elaborate the basic features of Spectroscopy, Degrees of freedom. Rotational, Vibrational and Raman Spectrum.
Semester-V Course: B.Sc. (Non-Medical with Computer Science) Paper-XVII(CH-303)	
	At the end of course, student should be able to:
CO-1	Discuss the NMR spectroscopy and its application in structure determination of Organic compounds.
CO-2	Study the Structure, properties, Inter conversion of Carbohydrates, Formation and chemical reactions of Organo magnesium, Organozinc and Organolithium compounds.
Semester-VI Course: B.Sc. (Non-Medical with Computer Science) Paper-XVIII(CH-304)	
	At the end of course, student should be able to:
CO-1	To study the concepts of Acids and bases, HSAB principle and its applications, Structure and bonding in organometallic compounds.
CO-2	To discuss the metal ions, present in biological system, Cooperative effect, Bohr effect, Nomenclature, classification, preparation and uses of silicones, and phosphazenes.
Semester-VI Course: B.Sc. (Non-Medical with Computer Science) Paper-XIX(CH-305)	
	At the end of course, student should be able to:
CO-1	To discuss the statistical thermo dynamics, thermodynamic probability, partition function and physical significance, Laws of photochemistry, fluorescence, phosphorescence and quantum yield.
CO-2	To discuss the Ideal and non-ideal solutions, Colligative properties, Applications in calculating molar masses of normal, dissociated and associated solutes in solution. Phase Rule, phase equilibria of one and two component systems.
Semester-VI Course: B.Sc. (Non-Medical with Computer Science) Paper-XX(CH-306)	
	At the end of course, student should be able to:
CO-1	To study the Organic synthesis using Enolates, Structure and method of preparation and reactions of Heterocyclic compounds
CO-2	To study the structure, nomenclature, synthesis of amino acids and proteins, synthetic polymers and their use.
Semester-I Course: B.Sc. (Non-Medical with Computer Science) Paper-I (Classical Mechanics & Theory of Relativity)	
	At the end of course, student should be able to:
CO-1	Define, present and demonstrate basic mechanical concepts and their applications used in daily life.
CO-2	Understand the motion of a body, Equations of motions, trajectory of an objects in constant field such as electrical, magnetic field.

CO-3	Know about how to launch rockets and satellites. Motion of planets and satellites and dynamic molecular collisions. How the mechanical concepts used in sports and military
CO-4	Develop Mathematical and thinking skills by solving problems.
Semester-I Course: B.Sc. (Non-Medical with Computer Science) paper-II (Electricity Magnetism and EMT)	
	At the end of course, student should be able to:
CO-1	Understand the basic mathematical concepts related to electromagnetic vector fields.
CO-2	Understand of basic principles and concepts of electromagnetism and magnetostatics
CO-3	Learn Maxwell's equations and boundary value problems. Applications of these equations for solving problems.
CO-4	Understand the basics of electromagnetic waves, wave equations in free space and pointing theorem.
Semester-II Course: B.Sc. (Non-Medical with Computer Science) Paper-I (Properties of Matter & Kinetic Theory)	
	At the end of course, student should be able to:
CO-1	Explain the properties related to microscopic phenomenon.
CO-2	describe the behaviour of matter.
CO-3	Identify the moment of Inertia of different solid objects.
CO-4	Determine Elastic constant of various materials.
Semester-II Course: B.Sc. (Non-Medical with Computer Science) Paper-II Electronics	
	At the end of course, student should be able to:
CO-1	Understand the special purpose diodes like LED, photodiode, Optocoupler and Amplifiers
CO-2	Understand the Junction Field Effect Transistor and Mossfield Effect Transistor, Working and applications,555 timer, A stable, Monostable and Bistable Multivibrator.
CO-3	Understand the Regulated power supply using IC 723.
CO-4	Understand the Combinational Circuits and Sequential Logic Circuits.
Semester-III Course: B.Sc. (Non-Medical with Computer Science) Paper-I Computational & Thermodynamics Physics	
	At the end of course, student should be able to:
CO-1	Understand the Basic Programming Concept, Applicability of computer resources in physics and Memory allocation and utilization technique.
CO-2	Understand Graphical technique using some Graphical Commands in C programming.

CO-3	To understand various thermodynamic processes like isothermal, isobaric, isochoric processes and laws of thermodynamics.
CO-4	To understand Principle of thermometry and various types of thermometers like Liquid filled thermometers, Gas filled thermometers, Bimetallic thermometers, Platinum resistance thermometer
Semester-III Course: B.Sc. (Non-Medical with Computer Science) Paper-II Optics	
	At the end of course, student should be able to:
CO-1	Describe Image formation related to geometrical optics, Deviation, Magnification, Concept for Equivalent lens and Cardinal Points.
CO-2	Different types of monochromatic and chromatic aberrations and Achromatism in lenses
CO-3	Construction and working of Simple Microscope, Compound Microscope, Ramsden's Eyepiece and Huygens's Eyepiece
CO-4	Concept of Polarization, Double refraction, Construction and working of Nicol Prism
Semester-IV Course: B.Sc. (Non-Medical with Computer Science) Paper-I Statistical Physics	
	At the end of course student should be able to:
CO-1	learn about different theory of specific heat of solids.
CO-2	Learn about microscopic and macroscopic systems and their fluctuations.
CO-3	Study about types of ensembles viz. Microcanonical, canonical and grand canonical.
CO-4	Get the knowledge about Maxwell Boltzmann statistics, Bose Einstein statistics and Fermi Dirac Statistics
Semester-IV Course: B.Sc. (Non-Medical with Computer Science) Paper-II Waves and Optics	
	At the end of course, student should be able to:
CO-1	Image formation related to geometrical optics, Deviation, Magnification, Concept for Equivalent lens and Cardinal Points.
CO-2	Different types of monochromatic and chromatic aberrations and Achromatism in lenses
CO-3	Know about Construction and working of Simple Microscope, Compound Microscope, Ramsden's Eyepiece and Huygens's Eyepiece.
CO-4	Get Knowledge of Interference and diffraction of light, Formation of fringes, Resolution.
Semester-V Course: B.Sc. (Non-Medical with Computer Science) Paper-I Quantum Mechanics	
	At the end of course, student should be able to:
CO-1	Understand Quantum Mechanics, Historical background, Matter Waves, Wave particle duality, Phase and Group Velocity, Heisenberg's Uncertainty Principle.
CO-2	Understand the physical Interpretation of Wave function, Schrodinger's Wave Equation, Eigen Function band Eigen values.

CO-3	Understand the Spherically symmetric potential, Examples of Rigid Rotor and hydrogen atom.
CO-4	Understand the Hermitian and other operators in Quantum Mechanics, Commutator brackets and concept of parity.
Semester-V Course: B.Sc. (Non-Medical with Computer Science) Paper-- II Nuclear Physics	
	At the end of course, student should be able to:
CO-1	Studying Basic properties of nucleus, student got the idea of inner information of the nucleus
CO-2	From radioactivity chapter student knew that which radiations emit from radioactive material and how they are useful and harmful for the human
CO-3	Studying molecular spectroscopy students understand the importance rotational and vibrational energy levels.
CO-4	Student learnt by using accelerators we can produce high energy particle which can be used for research purpose
Semester-VI Course: B.Sc. (Non-Medical with Computer Science) Paper- I Solid State Physics	
	At the end of course, student should be able to:
CO-1	Learn the basics of solid-state physics.
CO-2	Understand Bragg's diffraction, Bragg's law. X-ray diffraction and characterization techniques. With the help of this knowledge students know the principles of structures determination by X-ray diffraction method.
CO-3	Students can understand electrical and thermal conductivity of free electron in metals, Energy levels of free electrons in one and three dimensions.
CO-4	They will learn significance of Pauli's exclusion principle, Bloch theorem, Fermi energy, and Hall effect and energy bands in materials.
Semester-VI Course: B.Sc. (Non-Medical with Computer Science) Paper- II Solid State Physics	
	At the end of course, student should be able to:
CO-1	Explain atomic structure, vector atom model.
CO-2	Students learn how to find out interaction energy from different coupling schemes.
CO-3	Students scientifically understand, how the x-rays produced. Also, they will understand what precaution should be taken during handling of x- rays.
CO-4	By studying molecular spectroscopy students understand the importance rotational and vibrational energy levels.
MATHEMATICS	
1st Semester Paper-I (BM 111) Algebra	
Course Outcomes:	At the end of course, student should be able:
CO-1	To learn multiplication and basic operation of matrices and congruence relations and learn basic matrix algebra and method to find solutions to

	system of linear equations. Also, to learn eigen values and eigenvectors of matrix
CO-2	To learn operations on polynomials, finding GCD of two polynomials and roots of polynomials.
1st Semester Paper-II (BM 112) Calculus	
Course Outcomes:	At the end of course, student should be able:
CO-1	To study functions in detail which is a fundamental structure in all sciences, and to be able to check continuity of a function.
CO-2	To apply notion of derivative in mean value theorem and also in higher order derivatives which arise in all applied sciences.
1st Semester Paper-III (BM 113) Solid Geometry	
Course Outcomes:	At the end of course, student should be able:
CO-1	To study two dimensional and three-dimensional geometry in details which are fundamental structure in all sciences.
CO-2	To learn the properties of sphere, cone and cylinder in detail.
2nd Semester Paper-I (BM 121) Number Theory and Trigonometry	
Course Outcomes:	At the end of course, student should be able to:
CO-1	learn the properties of the set of integers in detail and they can find integer solutions to the system of equations which arises in real life problems.
CO-2	learn about advanced properties of Trigonometric functions, DeMoivre Theorem, Hyperbolic functions.
2nd Semester Paper-II (BM 122) Ordinary Differential Equations	
Course Outcomes:	At the end of course, student should be able to:
CO-1	solve first degree differential equations, Langrange's method.
CO-2	find solutions of linear differential equations of higher order.
2nd Semester Paper-III (BM 123) Vector Calculus	
Course Outcomes:	At the end of course, student should be able to:
CO-1	To learn scalar and vector product of multiple vectors.
CO-2	Learn about curvilinear coordinates and vector integrations, Stokes theorem, Gauss theorem.
3rd Semester Paper-I (BM 231) Advanced Calculus	
Course Outcomes:	At the end of course, student should be able to:
CO-1	To study functions of several variables, continuity and Differentiability of multivariate functions.

CO-2	To study the notion of differential geometry, curvature and torsion.
3rd Semester Paper-II (BM 232) Partial Differential Equations	
Course Outcomes:	At the end of course, student should be able to:
CO-1	Introduction of first order Partial Differential Equations, Charpit method.
CO-2	Learn methods to solve first and higher order Partial Differential Equations
3rd Semester Paper III (BM 233) Statics	
Course Outcomes:	At the end of course student should be able to:
CO-1	To learn about different forces and equilibrium of system, friction, center of gravity of bodies.
CO-2	To learn concept to virtual work, central axis and null planes.
4th Semester Paper (BM 241) Sequence and Series	
Course Outcomes:	At the end of course, student will learn
CO-1	About topology of real numbers, open and closed sets.
CO-2	about real sequences, bounded sequence, infinite series, alternative series and their convergence
4th Semester Paper II (BM 242) Special Functions and Integral Transforms	
Course Outcomes:	At the end of course, student will learn
CO-1	The evaluation of Laplace transforms of different types of functions, their derivatives and integrations.
CO-2	The evaluation of Inverse Laplace transforms of functions, their derivatives and integrations, and to learn application of Convolution theorem.
4th Semester Paper-III (BM 243) Programming in C and Numerical Methods	
Course Outcomes:	At the end of course, student will learn
CO-1	Students will learn about basic structure of C language, input and output functions.
CO-2	They will learn about numerical solution of algebraic and transcendental equations.
5th Semester Paper I (BM 351) Real Analysis	
Course Outcomes:	At the end of course, student should be able to:
CO-1	Learn basic techniques and examples in analysis to be well prepared for courses like Topology, Measure theory and Functional analysis.
CO-2	Study various types of sets and relations, and concept of countable and uncountable.
5th Semester Paper II (BM352) Groups and Rings	

Course Outcomes:	At the end of course, student should be able to:
CO-1	To learn fundamental properties and mathematical tools such as closure, identity, inverse and generators.
CO-2	To study algebraic structure ‘Groups’ in detail which is useful in study of Rings, Modules, Algebraic topology, Analysis.
5th Semester Paper-III (BM353) Numerical Analysis	
Course Outcomes:	At the end of course, student should be able to:
CO-1	learn to apply the various numerical techniques for solving real life problems.
CO-2	The problems which cannot be solved by usual formulae and methods can be solved approximately by using numerical techniques.
6th Semester Paper-I (BM 361) Real and Complex Analysis	
Course Outcomes:	At the end of course, student should be able to:
CO-1	Learn basic algebraic properties of complex numbers and limit and continuity of complex functions.
CO-2	Learn analytic functions and the C-R equations as its necessary and sufficient condition.
6th Semester Paper II (BM 362) Linear Algebra	
Course Outcomes:	At the end of course, student should be able to:
CO-1	Learn fundamental properties and mathematical tools such as closure, identity, inverse and generators in vector space.
CO-2	Study Linear Transformations in detail which is useful in study of Rings, Modules, algebraic topology, Inner product spaces and Gram-Schmidt process of orthogonalization.
6th Semester Paper- III (BM 363) Dynamics	
Course Outcomes:	At the end of course, student should be able to:
CO-1	Learn about motion along a plane curve, simple harmonic motion, relative motion
CO-2	Get knowledge about Central orbits, Kepler’s laws of planetary motion
1st Semester English	
Course Outcomes:	At the end of course, student should be able:
CO-1	To develops competence & communication skills in the language.
CO-2	To have the knowledge of different poets with their poetry.
CO-3	To improve their grammatical mistake through translation work.
2nd Semester English	
Course Outcomes:	At the end of course, student should be able to:

CO-1	Interpret text from variety of approaches and perspectives.
CO-2	Analyze the writing conventions.
CO-3	write letter writing and precise writing.
Semester-III Course: B.Sc. (Non-Medical with Computer Science) Hindi	
Course Outcomes:	At the end of course, student should be able to:
CO-1	राष्ट्रीय भावना की प्रेरणा जागृत करना
CO-2	सौम्य प्रकृति से अवगत होना
CO-3	समाचार पत्रों का महत्व
CO-4	सरकारी पत्र की जानकारी
Semester-IV Course: B.Sc. (Non-Medical with Computer Science) Hindi	
Course Outcomes:	At the end of course, student should be able to:
CO-1	कवियों के जीवन क बारे में जानकारी
CO-2	पारम्परिक रूढ़ियों का पालन करने के लिए आपसी रिश्तों में टकराहट
CO-3	मुग़ल शासक औरंगजेब की अत्याचारों के बारे में जानकारी
CO-4	पत्र लेखन, तार लेखन की जानकारी
BSC BOTONY	
Semester 1 (Paper 1 Diversity of Microbes)	
Course Outcomes:	COs: After successfully completing this course, students will be able to
CO1	Understand the significance of Microbes & Plants for Human welfare
CO2	Utilize the concept of Mushroom Cultivation
CO3	Explore economic importance of Algae & Fungi
CO4	Understand the structure, functions & chemistry of cell and cellular organelles
Semester 1 (Paper II Cell Biology)	
Course Outcomes:	COs: After successfully completing this course, students will be able to
CO1	Distinguish Prokaryotic & Eukaryotic cells
CO2	Explain the Organization of a Eukaryotic chromosomal
CO3	To describe cell division in plants

CO4	To know about Ultrastructure and function of nucleus
Semester II (Paper I Diversity of Archegoniate)	
Course Outcomes:	COs: After successfully completing this course, students will be able to
CO1	To understand the Phylogeny from Bryophyte to Pteridophytes.
CO2	To know about the evolution of Sporophytes in Bryophytes.
CO3	To understand the evolution & seed formation.
CO4	To know about structure and Reproduction of Rhynia and Pteris.
Semester II (Paper II Genetics)	
Course Outcomes:	COs: After successfully completing this course, students will be able to
CO1	Discuss the basics of Mendelian genetics, its variations and interpret Inheritance of traits in living beings.
CO2	Evaluate the structure, function and regulation of genetic material
CO3	Understand the biochemical nature of nucleic acids, their role in living systems.
Semester III (Paper I Biology and diversity of seed plant I)	
Course Outcomes:	COs: After successfully completing this course, students will be able to
CO1	Gain knowledge about life cycle of Gymnosperm plants.
CO2	Understand about geological time scale.
CO3	Explain about Fossils and Fossilization.
CO4	Explain General character of Angiosperm including primitive angiosperm.
Semester III (Paper II Plant Anatomy)	
Course Outcomes:	COs: After successfully completing this course, students will be able to
CO1	Gain knowledge of plant cells, tissues and their functions.
CO2	Identify and compare structural differences among different area of vascular plants.
CO3	Explain Root system and histological Organisation.
Semester IV (Paper I Biology and diversity of seed plant II)	
Course Outcomes:	COs: After successfully completing this course, students will be able to
CO1	To recognize the Major Groups of vascular plants and their Phylogenetic relationship
CO2	To gain Proficiency in the use of keys and Identification Manuals for identifying any unknown plants to Species level

CO3	Analyse the Morphology of the most common Angiosper plants of their localities and recognize their families
Semester IV (Paper II Plant Embryology)	
Course Outcomes:	COs: After successfully completing this course, students will be able to
CO1	Know the structure and development of Monocot and Dicot Embryos.
CO2	Compare the function and Morphology of Pollen grains.
Semester V (Paper I Plant Physiology)	
Course Outcomes:	COs: After successfully completing this course, students will be able to
CO1	Understand Plant Physiological Process and Metabolism.
CO2	Explain the role of Micronutrients in plant growth and development.
CO3	Importance of water in plant life and mechanisms for transpore of water and solutes in plants.
CO4	Understand the light reactions and carbon assimilation process responsible for synthesis of food in plants.
Semester V (Paper II Ecology)	
Course Outcomes:	COs: After successfully completing this course, students will be able to
CO1	Understand Ecological relationships between organism and their environment.
CO2	Discuss the basic concepts of ecology and evaluate the effects of environmental and biotic factors on plant communities.
CO3	Know about various qualitative and quantitative parameters.
CO4	Importance of biodiversity and consequences due to its loss.
Semester VI (Paper I/ Biochemistry and Plant Biotechnology)	
Course Outcomes:	COs: After successfully completing this course, students will be able to
CO1	Understand the biochemical nature of cell.
CO2	know the chemical nature of biomolecules.
CO3	Structure and general features of Enzymes and concept of enzyme activity and Inhibition
CO4	know about the genetic engineering and understand the basic protocols for plant tissue culture.
Semester VI (Paper II Economic Botany)	
Course Outcomes:	COs: After successfully completing this course,students will be able to
CO1	Understand role of plant in human welfare.
CO2	Gain knowledge about various plants of economic use.

CO3	know importance of plants and plant product.
CO4	Understand the chemical contents of the plant product
BSC Zoology	
Semester I (Paper I- Lower Invertebrates)	
Course Outcomes:	After the completion of the course, students will be able to:
CO1	Study the various forms of invertebrate animal present on earth.
CO2	Learn about general characteristics of invertebrates.
CO3	Discuss their classification, structural and functional aspects of invertebrates.
Semester I (Paper II- Cell Biology)	
Course Outcomes:	After the completion of the course, students will be able to:
CO1	Know about the cellular component's energy utilization in cells and cell division.
CO2	Study the structure and functions of cell organelles and its metabolic functions.
CO3	Understand the importance of cell as a structural and functional unit of life.
Semester 2(Higher Invertebrates)	
Course Outcomes:	After the completion of the course, students will be able to:
CO1	Understand different levels of biological diversity through the systematic classification of invertebrate fauna.
CO2	Understand the evolutionary significance of invertebrate fauna.
CO3	Acquire knowledge on parasitic forms of lower.
CO4	Create appreciation on diversity of life on earth.
Semester 3 (Paper I- Chordates)	
Course Outcomes:	After the completion of the course, students will be able to:
CO1	Understand what the chordates are.
CO2	Understand different categories of chordates.
CO3	Understands the level of organization in chordate subphylum.
CO4	Recognize life functions of urochordates to fishes.
Semester 3 (Paper II- Mammalian Physiology 1)	
Course Outcomes:	After the completion of the course, students will be able to:

CO1	Understand the Fundamental Rights, Duties and Directive principle of state policy.
CO2	Learn about the structure and functioning of the Union government.
CO3	Learn about the structure and function of state government.
CO4	Appreciate the centre state relations in India.
Semester 4(Vertebrates and mammalian Physiology)	
Course Outcomes:	After the completion of the course, students will be able to:
CO1	Understand the origin and advancement of higher vertebrates (Tetrapoda).
CO2	Understand general characters of different groups of higher vertebrates.
CO3	Understand physiological processes in mammals.
CO4	Understand of the function, regulation and integration of human body organ systems.
Semester V (Environment Biology, Evolution, Development biology)	
Course Outcomes:	After the completion of the course, students will be able to:
CO1	Understand the biodiversity and its vital role in the functioning of ecosystem.
CO2	Critically examine biodiversity and human linkages and help policy formulating for biodiversity conservation.
CO3	Understand the different types of natural hazards, their major driving forces and their causes.
CO4	Understand how one species may diverge into two species.
	Describe evolutionary history of complex multicellular life forms.
Semester VI Aquaculture and pest management	
Course Outcomes:	After the completion of the course, students will be able to:
CO1	To use component in sustainable crop production.
CO2	significantly reducing the risks and related to pesticides, while improving quality, health and welfare of the environment.
CO3	Recognize the fish farming technology and equipment.
CO4	Explain the problems in aquaculture farm construction and water for aquaculture.
DEPARTMENT OF LIBRARY	
PROGRAM: BACHELOR OF LIBRARY (B.LIB)	
	Program Outcome (PO)

PO No	After completing the three-year degree program, student will be able to:
PO-1	Provide students with learning experiences that help to instil deep interests in learning Library and Information Science; develop broad and balanced knowledge and understanding of fundamental concepts, principles, and theories related to Library and Information Science.
PO-2	Equip students with skills essential to carry out library housekeeping activities and to provide various library and information services using Information and Communication Technologies.
PO-3	Instill in students, professional attitude and ethical values for providing library and information services.
PO-4	Impart students with the knowledge and skill base that would enable them to undertake further studies in Library and Information Science and in related areas or in multidisciplinary areas that involve Library and Information Science and to help them develop a range of generic skills that are relevant to wage employment in Libraries and Information Centres and also for self-employment and to practice infopreneur ship.
Program Specific Outcome (PSO)	
PSO No	After Completing Bachelor of Library, the student will be able to :
PSO-1	Demonstrate in depth knowledge of the basic concepts, principles, theories and laws related with the broad field of Library and Information Science and its sub-fields such as types of libraries, types of information sources, library management, reference and information services.
PSO-2	Apply skills in carrying out professional activities such as (i) acquisition, accessioning, classification, cataloguing, and physical processing of documents; (ii) housekeeping operations using library management software and Information and Communication Technologies; (iii) maintaining library collection and; (iv) educating users.
PSO-3	Demonstrate knowledge, understanding and skills that offer job opportunities as librarians in public libraries and school libraries; as assistant librarians in different types of college libraries, as library assistants / technical assistants in university libraries and other libraries of higher education institutes, as librarians and/or assistant librarians in corporate and industrial libraries, libraries of research institutes, etc.
PSO-4	Demonstrate professional attitude through commitment for providing every user his/her document/information; ensuring every document/information its user; saving time of the user and enhancing use of reading material and user satisfaction through effective and efficient library services.
SEMESTER - I B.Lib.I.Sc./1/CC1– Foundations of Library and Information Science	
	At the end of course, student should be able to:
CO-1	Comprehend the concept of information and the discipline of Library and Information Science.
CO-2	Understand the development of libraries.
CO-3	Understand laws related to libraries and information.

CO-4	Assess the role of national and international library associations and organizations.
B.Lib.I.Sc./1/CC2– Library Management	
At the end of course, student should be able to:	
CO-1	Understand the concept of management.
CO-2	Acquisition of Books and Subscription of Periodicals, Circulation Methods and Processes.
CO-3	Comprehend the concept of financial management and human resource management.
CO-4	Maintain the library statistics and prepare annual report.
B.Lib.I.Sc./1/CC3– Information Sources, Systems and Services	
At the end of course, student should be able to:	
CO-1	Understand, identify and explore the different types of information sources
CO-2	Evaluate various types of information sources
CO-3	Provide library services using sources such as blogs, portals, wikies, subject gateways, digital libraries
CO-4	Understand the concept of library resource sharing and consortia
B.Lib.I.Sc./1/CC4– Knowledge Organization: Classification (Theory)	
At the end of course, student should be able to:	
CO-1	Elaborate meaning and types of subjects and modes of subject formation.
CO-2	Express the meaning, purpose, functions, theories and canons of library classification.
CO-3	Describe the salient features of major library classification schemes.
CO-4	Review current trends in library classifications.
B.Lib.I.Sc./1/CC5– Knowledge Organization: Cataloguing (Theory)	
At the end of course, student should be able to:	
CO-1	Understand the concept of library catalogue.
CO-2	Understand various approaches of deriving subject headings.
CO-3	Explain the current trends in library cataloguing.
CO-4	Know the standards for bibliographic interchange and communication.
COMP/1/SEC1- COMPUTER SKILLS	
At the end of course, student should be able to:	

CO-1	Know about Operating System, Overview of various Computer & Mobile Operating systems and Applications
CO-2	Perform various features of Word processing such that Table, Mail merge, Hyperlink, etc.
CO-3	Perform various mathematical, logical, and other functions on a large set of data using MS Excel.
CO-4	Prepare a business presentation on MS PowerPoint
HINDI AUR VYAKARAN	
At the end of course, student should be able to:	
CO-1	To give general information to students about Hindi language.
CO-2	To provide knowledge of Hindi grammar.
CO-3	Introducing Hindi Alphabet.
CO-4	Providing information regarding standardization of Devanagari script.
B.Lib.I.Sc./2/CC8- Basics of Information and Communication Technology (Theory)	
At the end of course, student should be able to:	
CO-1	Understand the structure of computer and functions of its various units, generations of computer.
CO-2	Evaluate various library management software.
CO-3	Identify and state the features of telecommunication channels, modes, media, modulation, standards and protocols.
CO-4	Examine the concept of library networks and highlight their types and importance.
B.Lib.I.Sc./2/DSE1- (i) School Library and Media Centre	
At the end of course, student should be able to:	
CO-1	Understand the nature and functions of School Library and Media Centre.
CO-2	Select, acquire organize and manage collection of School Library and Media Centre.
CO-3	Promote reading among children and young adults through the use of quality literature that reflect and fulfils diverse developmental, cultural, social and linguistic needs of school students.
CO-4	Organize library orientation programmes for school students.
B.Lib.I.Sc./2/CC6- Knowledge Organization Classification (Practice)	
At the end of course, student should be able to:	
CO-1	Construct class numbers for documents with simple, compound and complex subjects.
CO-2	Synthesize class numbers by using the standard subdivisions/common isolates/auxiliary tables.

CO-3	Compile book numbers and be able to use index of the classification scheme.
B.Lib.I.Sc./2/CC7- Knowledge Organization Cataloguing (Practice)	
After studying this paper, students shall be able to:	
CO-1	Use the catalogue codes and standards.
CO-2	Prepare catalogue entries for various types of information sources.
CO-3	Derive subject headings using various methods and tools.
B.Lib.I.Sc./2/CC9- Basics of Information and Communication Technology (Practical)	
After studying this paper, students shall be able to:	
CO-1	Create, edit and manage files using Word Processing, Spread Sheet and Power Point Presentation software.
CO-2	Carry out library housekeeping operations using library management software.
CO-3	Generate different types of report using library management software.
CO-4	Find bibliographic information from WebOPAC, WorldCat, IndCat.
B.Lib.I.Sc./2/CC10- Internship	
After Internship, students shall be able to:	
CO-1	Introduce with the functioning of library.
CO-2	Acquaint with various types of information sources and services.
CO-3	Familiarize with different types of reference books/journals.
CO-4	Develop practical skills in computerized system of library.
B.Lib.I.Sc./2/CC10- Internship	
At the end of course, student should be able to:	
CO-1	have the knowledge of communication, Types and modes of Communication
CO-2	have speaking skills in social interactions and communication in professional situations such as interviews, group discussions and office environments,
CO-3	understand Remedial English, Active and Passive voice, Direct and Indirect Speech, Question Tags.
CO-4	have reading, listening and writing skills.
DEPARTMENT OF COMMERCE	
PROGRAM: BACHELOR OF COMMERCE	
Program Outcome (PO)	

PO No	After completing the three-year degree program, student will be able to:
PO-1	Analyse relationship among commerce, trade, industry, service and management.
PO-2	Understand application of knowledge of concepts of advertising, finance, entrepreneurship in business.
PO-3	The course provides a platform for experimental learning and grooms students towards industry specific curriculum with focused approach on specific areas which are crucial in the management of companies.
PO-4	Understanding legal issue/ law relating to banking sector.
Program Specific Outcome (PSO)	
PSO No	After Completing Bachelor of Commerce, the student will be able to:
PO-1	Proficiency in core business disciplines such as accounting, finance, marketing, and management.
PO-2	Strong analytical and problem-solving skills for decision-making and strategic planning.
PO-3	Effective communication abilities, both written and verbal, essential for conveying ideas and collaborating in diverse business settings.
PO-4	Ethical awareness and understanding of corporate social responsibility, crucial for navigating complex business environments with integrity.
BC 1.1: English	
COs: After successfully completing this course, students will be able to	
CO-1	Improve pronunciation accuracy, comprehension skills, critical thinking.
CO-2	Expand language proficiency.
CO-3	Learn effective communication skill.
CO-4	promotes language mastery and critical analysis.
Paper BC 1.2: FINANCIAL ACCOUNTING	
COs: After successfully completing this course, students will be able to	
CO-1	Recognize the basic accounting concept and conventions.
CO-2	Cultivate accounting skills to manage the profits and losses of any trading organization.
CO-3	Apply the rules of double entry book keeping for the preparation of final accounts.
CO-4	Cultivate accounting skills to manage the consolidated profits and losses of Inland branches.
Paper BC 1.3: BUSINESS LAWS	
COs: After successfully completing this course, students will be able to	
CO-1	Understand the rules regarding offer, acceptance, consideration and capacity to contract.

CO-2	Explaining the rules pertaining to Sale of Goods Act, 1930.
CO-3	Explaining the rules pertaining to limited liability partnership act 2008.
CO-4	Explaining the rules pertaining to Indian contract act 1872.
Paper – BC 1.4: MICRO ECONOMICS	
COs: After successfully completing this course, students will be able to	
CO-1	Understand the concepts related to economics: Micro and Macro economics.
CO-2	Understand the theories of demand and their applications in real life world.
CO-3	Understand the concepts of cost, nature of production and its relationship to Business operations.
CO-4	Analyse the causes and consequences of different market structures and conditions.
Paper-BC-1.5 Business Mathematics	
COs: After successfully completing this course, students will be able to	
CO-1	Understand how to solve real life problems by matrices.
CO-2	Understand the theories of differential calculus and its various types.
CO-3	Understand the Applications of differentiation (elasticity of demand and supply).
CO-4	Analyse and understand how to solve real life problems by various method of LPP.
Semester II BC-2.1 Proficiency in English	
COs: After successfully completing this course, students will be able to	
CO-1	Recognizing and overcoming communication barriers.
CO-2	Developing strong reading, writing, and presentation skills.
CO-3	Gaining practical experience through activities like group discussions and writing exercises.
CO-4	Improving personal interview and public speaking abilities through practical work.
BC-2.2 CORPORATE ACCOUNTING	
COs: After successfully completing this course, students will be able to	
CO-1	Learn about book building, share buybacks, and preference share redemption.
CO-2	Practice preparing company final accounts, like profit and loss statements and balance sheets, following rules.
CO-3	Practice calculating goodwill and share values.

CO-4	Improve decision-making skills in corporate finance for financial management and accounting roles.
BC-2.3 CORPORATE LAWS	
COs: After successfully completing this course, students will be able to	
CO-1	Learn about different company types and their legal setup.
CO-2	Practice online document filing and understand pre-incorporation contracts.
CO-3	Understand memorandum, articles, prospectuses, and share issuance processes.
CO-4	Gain knowledge about director classifications and corporate governance principles.
BC-2.4 MACRO ECONOMICS	
COs: After successfully completing this course, students will be able to	
CO-1	Understand how national income is measured and the circular flow of income.
CO-2	Explore factors influencing consumption, investment, and the multiplier effect.
CO-3	Learn about income determination and equilibrium using the IS-LM approach.
CO-4	Study inflation, business cycles, and monetary/fiscal policies' roles in stabilizing the economy, with real-world examples.
BC-2.5: INTRODUCTION TO COMPUTER APPLICATIONS	
COs: After successfully completing this course, students will be able to	
CO-1	foundational understanding of computers and their components also learn about the definition, characteristics, and classification of computers, as well as their applications in various fields.
CO-2	explore input and output devices, memory, and mass storage devices, gaining proficiency in understanding the hardware components of a computer system and operating system.
CO-3	understand Data Processing and Information Systems.
CO-4	develop skills necessary for utilizing IT tools effectively in a business environment.
BCOM- 2.6: COMMERCE PRACTICAL & VIVA-VOCE	
COs: After successfully completing this course, students will be able to	
CO-1	Learning about various accounting concepts and conventions under GAAP provides a foundational understanding of how financial information is recorded, presented, and interpreted in accordance with standardized principles, ensuring consistency and comparability across different entities.
CO-2	Mastering the preparation of essential financial documents like invoices, receipts, vouchers, debit and credit notes is crucial for maintaining accurate records of transactions, facilitating smooth business operations, and ensuring compliance with accounting standards.

CO-3	Understanding the collection and recording process of Hire Purchase Agreements equips learners with knowledge of specialized accounting procedures for assets acquired through instalment payments, ensuring accurate reflection of financial obligations and ownership rights.
CO-4	Analyzing case studies of commercial disputes provides learners with insights into legal principles, contractual obligations, and dispute resolution mechanisms relevant to business transactions, helping them develop a deeper understanding of business law concepts and their practical applications in resolving conflicts and mitigating risks in commercial settings.
BCOM- 3.1: Hindi	
COs: After successfully completing this course, students will be able to	
CO-1	राष्ट्रीय भावना की प्रेरणा जागृत करना
CO-2	सौम्य प्रकृति से अवगत होना
CO-3	समाचार पत्रों का महत्व
CO-4	सरकारी पत्र की जानकारी
BCOM- 3.2: BUSINESS STATISTICS	
COs: After successfully completing this course, students will be able to	
CO-1	Understand the scope and limitations of statistics for effective application across various fields.
CO-2	Calculate and interpret measures of central tendency and dispersion.
CO-3	Construct and interpret index numbers for economic analysis.
CO-4	Apply probability concepts to assess uncertainty and make informed decisions.
BCOM- 3.3: INCOME TAX LAW AND PRACTICE-I	
COs: After successfully completing this course, students will be able to	
CO-1	grasp fundamental tax concepts including income, agricultural income, assesses, assessment year, previous year, gross total income, total income, maximum marginal rate of tax, Permanent Account Number (PAN), tax evasion, avoidance, planning, and management.
CO-2	Understand the principles governing the scope of total income, residence, and tax liability, enabling them to identify taxable income components accurately.
CO-3	Gain proficiency in calculating taxable income from salaries and house property, including allowances, deductions, and exemptions applicable to these sources of income.
CO-4	Develop skills in computing taxable income from business or profession, capital gains, and other sources, including understanding relevant provisions, deductions, and tax treatment for each category.
BCOM- 3.4: MANAGEMENT PRINCIPLES AND APPLICATION	
COs: After successfully completing this course, students will be able to	

CO-1	Exploring the functions of management (planning, organizing, staffing, directing, controlling, and coordinating) equips students with essential managerial skills and competencies necessary for effective leadership.
CO-2	Learning about planning, including strategic planning and environmental analysis techniques, enhances students' ability to formulate effective strategies and make informed decisions in dynamic business environments.
CO-3	Investigating leadership concepts and theories, such as transactional, transformational, and situational leadership, provides students with insights into effective leadership styles and approaches for inspiring and guiding teams toward organizational goals.
CO-4	Exploring emerging trends and challenges in global management equips students with the knowledge and skills to navigate complex and dynamic business environments, fostering adaptability and innovation in organizational leadership and decision-making.
BC-3.5(i): Indian Economy	
COs: After successfully completing this course, students will be able to	
CO-1	Understanding Economic Systems and Development.
CO-2	Analyzing India's Developing Economy.
CO-3	Exploring Trade and Development Strategies.
CO-4	Analyze terms of trade and their impact on economic welfare.
BC-3.6(i): Computer Application in Business	
COs: After successfully completing this course, students will be able to	
CO-1	gain proficiency in word processing, including editing, formatting, spellchecking, and using templates.
CO-2	creating impactful presentations, covering slide design, text formatting, and multimedia insertion, transitions, animations
CO-3	proficient in using spreadsheet functions for mathematical, statistical, financial, and logical operations
CO-4	gain skills in creating business-related spreadsheets, such as payroll statements, depreciation accounting, and graphical representation of data, enhancing their analytical and reporting abilities.
BC-4.1: Hindi	
COs: After successfully completing this course, students will be able to	
CO-1	कवियों के जीवन क बारे में जानकारी
CO-2	मुगल शासक औरंगजेब की अत्याचारों के बारे में जानकारी
CO-3	पत्र लेखन, तार लेखन की जानकारी
CO-4	वैज्ञानिक शब्दावली के बारे में जानकारी
BC 4.2: ADVANCED CORPORATE ACCOUNTING	

	COs: After successfully completing this course, students will be able to
CO-1	Understanding amalgamation concepts and accounting treatment according to Accounting Standard 14 (ICAI) facilitates comprehension of corporate mergers and acquisitions, excluding inter-company holdings.
CO-2	Learning accounting for general insurance companies, including fire and marine insurance, and preparing final accounts as per the latest regulations, enables students to grasp the specific financial reporting requirements of this sector.
CO-3	Studying accounting for life insurance, including the preparation of valuation balance sheets and final accounts according to the latest regulations, provides insight into the unique financial practices and reporting standards of life insurance companies.
CO-4	Mastering the preparation of consolidated balance sheets for holding companies with one subsidiary, along with relevant provisions of Accounting Standard 21 (ICAI), enables students to understand the complexities of group financial reporting and consolidation.
BC 4.3: INCOME TAX LAW AND PRACTICE-II	
	COs: After successfully completing this course, students will be able to
CO-1	understand the principles of clubbing and aggregation of income, as well as provisions for setting off and carrying forward losses, leading to a comprehensive grasp of total income computation.
CO-2	gain proficiency in computing total income and tax liability for individuals, Hindu Undivided Families (HUFs), firms, and companies, along with an understanding of the roles and powers of income tax authorities, appeals, revisions, penalties, and prosecutions.
CO-3	Proficiency in deduction of tax at source, advance tax payment, tax recovery, and tax refund procedures will ensure students are capable of managing tax liabilities and refunds effectively.
CO-4	Practical experience in preparing and filing income tax returns manually and online, including returns of income and Tax Deducted at Source (TDS), will empower students with hands-on knowledge of tax filing procedures and compliance requirements.
BC 4.4: ORGANIZATIONAL BEHAVIOUR	
	COs: After successfully completing this course, students will be able to
CO-1	Grasp the concepts and significance of organizational behaviour.
CO-2	Understand how values and attitudes impact individual behaviour in organizational settings.
CO-3	Explore transactional analysis, analyzing ego states, life positions, and interpersonal interactions within organizations.
CO-4	Understand organizational climate and its impact on employee well-being and organizational effectiveness, along with strategies for improving it.
BC 4.5(i): BANKING OPERATIONS	
	COs: After successfully completing this course, students will be able to

CO-1	Understanding the origin and definition of banking provides students with a foundational knowledge of the financial system and the roles of banks.
CO-2	Master procedures for opening and operating deposit accounts, study cheque-related processes, and explore the banker and customer relationship
CO-3	Gain insights into modern delivery channels like ATMs, internet banking, and mobile banking, as well as interbank payment systems and electronic fund transfers,
CO-4	Delving into various forms of loans and advances offered by banks, including general loans, overdrafts, consumer loans, and advances against securities, enables students to grasp the role of banks in providing financial support to individuals and businesses.
BC 4.6: E-COMMERCE	
COs: After successfully completing this course, students will be able to	
CO-1	Learn basics of electronic commerce, enabling them to appreciate its evolution and significance in today's business landscape.
CO-2	Foster critical thinking skills by comparing web-based and traditional business models
CO-3	Exploring E-Commerce Operations and Security.
CO-4	Familiarize students with the IT Act 2000, cybercrime regulations, and legal frameworks governing electronic transactions, promoting ethical behaviour, compliance with regulations
BC 4.7: COMMERCE PRACTICAL & VIVA-VOCE	
COs: After successfully completing this course, students will be able to	
CO-1	Grasp the procedures for opening and managing various bank accounts, including understanding cheque handling, pay-in slips, demand draft applications, and passbook entries, to effectively manage personal and business finances.
CO-2	Enhancing Financial Literacy and Banking Services Understanding.
CO-3	Developing Skills in Tax Compliance and Economic Analysis.
CO-4	Improving Financial Statement Analysis and Strategic Decision-Making.
BC-5.1: FINANCIAL MANAGEMENT	
COs: After successfully completing this course, students will be able to	
CO-1	Grasp the nature, significance, and scope of financial management, along with its objectives.
CO-2	acquire the skills to draft comprehensive financial plans, recognize the implications of capitalization
CO-3	Understand different theories of capital structure and their implications on corporate finance decisions.
CO-4	Comprehend the relevance and irrelevance of dividend decisions for corporate valuation, and explore dividend distribution practices.
BC 5.2: PRINCIPLES OF MARKETING	

	COs: After successfully completing this course, students will be able to
CO-1	Gain a comprehensive understanding of marketing's role and significance in business
CO-2	Differentiating between selling and marketing.
CO-3	Grasp the components of the marketing mix (product, price, place, promotion)
CO-4	Analyzing Consumer Behaviour and Implementing Strategies
BC 5.3: COST ACCOUNTING	
	COs: After successfully completing this course, students will be able to
CO-1	Grasp the core principles, objectives, and benefits of cost accounting, aiding in decision-making and performance evaluation.
CO-2	Categorize and analyze costs effectively, facilitating cost control and strategic planning in business operations.
CO-3	Acquire skills in inventory control, labour cost accounting, and productivity optimization, crucial for efficient resource utilization.
CO-4	Develop practical skills in maintaining accurate cost records and reconciling them with financial accounts, essential for informed management decisions.
BC 5.4(i): INTERNATIONAL BUSINESS	
	COs: After successfully completing this course, students will be able to
CO-1	Understand globalization's significance and its effects on international business.
CO-2	Differentiate between domestic and international business complexities.
CO-3	Learn various methods for entering international markets effectively.
CO-4	Familiarize with key organizations shaping global trade policies.
BC-5.6: ADVERTISING	
	COs: After successfully completing this course, students will be able to
CO-1	Understanding advertising's role in communication, and to analyzing audience
CO-2	Developing creative advertising content, Selecting media and scheduling advertisements.
CO-3	Evaluating advertising effectiveness.
CO-4	Exploring the role and types of advertising agencies.
BC-5.8: Seminar	
	COs: After successfully completing this course, students will be able to
CO-1	Seminar evaluation criteria awareness promotes striving for excellence.
CO-2	Topic collaboration builds communication and negotiation skills.

CO-3	Presentation delivery cultivates confidence and persuasion skills.
CO-4	Interaction with external examiners provides valuable feedback.
BC-6.1: Management Accounting	
COs: After successfully completing this course, students will be able to	
CO-1	Learn the fundamentals and applications of various management accounting techniques to support decision-making processes within organizations.
CO-2	Differentiate between cost accounting and management accounting.
CO-3	Explore strategies and techniques for controlling, reducing, and managing costs within organizations to improve efficiency, profitability, and competitiveness.
CO-4	Mastery of Budgeting Concepts and Financial Performance Analysis.
BC-6.2: Auditing and Assurance	
COs: After successfully completing this course, students will be able to	
CO-1	Mastering auditing concepts, principles, and standards.
CO-2	Developing skills in audit engagement planning and documentation.
CO-3	Understanding audit evidence, internal controls, and sampling techniques.
CO-4	Exploring specialized areas like cost audit, tax audit, and management audit.
BC 6.3: ENTREPRENEURSHIP DEVELOPMENT	
COs: After successfully completing this course, students will be able to	
CO-1	Grasping entrepreneurship's role in economic development and the characteristics of successful entrepreneurs.
CO-2	Understanding the significance of small-scale industries and the challenges they face.
CO-3	Learning the process of starting a small business, from opportunity assessment to business plan preparation.
CO-4	Exploring government support and financial assistance available for entrepreneurs.
BC 6.4(i): FINANCIAL ECONOMICS	
COs: After successfully completing this course, students will be able to	
CO-1	Mastering cash flow analysis, interest theory, and bond pricing.
CO-2	Analyzing portfolio risk and return using mean-variance analysis.
CO-3	Understanding the Capital Asset Pricing Model (CAPM) for investment evaluation.
CO-4	Enhancing investment decision-making through risk management strategies and asset pricing models.
BC 6.6: BUSINESS RESEARCH METHODS	

	COs: After successfully completing this course, students will be able to
CO-1	Understanding the research process and selection of appropriate methods.
CO-2	Proficiency in probability distributions and sampling techniques.
CO-3	Ability to estimate population parameters and test hypotheses.
CO-4	Competence in statistical tests for analyzing data and drawing conclusions.
BC 6.8: Commerce Practical & Viva-Voce	
	COs: After successfully completing this course, students will be able to
CO-1	Learn to handle insurance paperwork, create claim statements, chart financial services, and calculate financial ratios to enhance financial management abilities.
CO-2	Improve critical thinking through analyzing advertisements, market indices, recent IPOs, and capital structure, fostering a deeper understanding of marketing strategies and financial analysis.
CO-3	Enhance communication skills by drafting accounting documents, preparing project reports, writing license requests, and illustrating financing schemes, while fostering accuracy in record-keeping.
CO-4	Gain insights into the economy and financial markets by recording exchange rates, listing traded instruments, analyzing government support options, and exploring product life cycle stages, encouraging entrepreneurship and informed decision-making.
DEPARTMENT OF ARTS	
PROGRAM: BACHELOR OF ARTS(BA)	
	Program Outcome (PO)
PO NO	After completing the three-year degree program, student will be able to:
PO-1	Get exposure from a variety of subjects, thereby developing their capability of decision making.
PO-2	Develop Analytical and Competitive Skills such as Quizzes, competitions, cultural and sports activities organized for the students help in developing their analytical and competitive skills. This programme equips them to clear competitive exams as well as enables them to work efficiently.
PO-3	Become eligible & well-equipped for employment in the government and private sector and also develop entrepreneurial skills.
PO-4	carried out various activities under NSS and tree-plantation drive in the campus is to help students understand the importance of environment & sustainable development.
BA-1 (SEM-1) HISTORY OF INDIA FROM EARLIEST TIME TO GUPTA AGE	
	At the end of course student should be able to:
CO-1	Understanding of Neolithic societies' transition to agriculture, domestication of plants and animals, and the impact on human settlement patterns.

CO-2	Understanding of the Harappan civilization's social structure, urban planning, and trade networks.
CO-3	Appreciation of the historical development of Buddhism and Jainism, their spread across Asia, and their enduring influence on art, culture, and philosophy.
CO-4	Know about important sites and geographical condition of Harapan, Buddhism, Jainism, Mauryan and Gupta empire's
BA-1 (SEM-2) HISTORY OF INDIA from 600AD to 1526 AD	
At the end of course student should be able to:	
CO-1	Understanding the social and cultural dynamics of the period from 600 to 1206 AD, highlighting its complexity, diversity, and significance.
CO-2	Understanding of the Delhi Sultanate's territorial expansion.
CO-3	Explain religious factor of bhakti and Sufi movements.
CO-4	Know about important sites and geographical condition of Harshvardhan, alaud-din Khilji, muhammad tughlaq empire and urban centres under the Delhi sultanate.
BA-2 (SEM-3) HISTORY OF INDIA from 1526 AD to 1857 AD	
At the end of course student should be able to:	
CO-1	Understanding Mughal Rule, Gain insights into the rise, expansion, and decline of the Mughal Empire.
CO-2	Know about Revelry between the French and the British in India.
CO-3	Describe revolution of 1857.
CO-4	Know about important sites and geographical Political condition of India in 1526, Akbar, Aurangzeb, Major center of 1857 revolution.
BA-2 (SEM-4) HISTORY OF INDIA from 1858 AD to 1947 AD	
At the end of course student should be able to:	
CO-1	Understand the contributions of social reformers like brahma samaj, Arya samaj, Rama Krishna mission, Ali garh movement.
CO-2	Explain origin and growth of national consciousness.
CO-3	Understanding the Causes of Partition, freedom struggle.
CO-4	Know about important sites of social reforms movement, civil disobedience movement, quit India movement, revolutionary movement.
BA-3 (SEM-5) History of modern Europe	
At the end of course student should be able to:	
CO-1	Understand rise of modern west.
CO-2	Understand French revolution, Napoleon Bonaparte, Congress of Vienna.

CO-3	Understanding the Processes of Unification of Europe.
CO-4	Know about important sites and geographical condition of agriculture revolution of Europe, unification of Italy and Germany, French revolution.
BA-3 (SEM-6) History of modern world	
At the end of course student should be able to:	
CO-1	Know about imperialism of Africa and Asia.
CO-2	Explain causes and impact of American and China revolution.
CO-3	World war -I & II causes and consequences.
CO-4	Describe fascism and Nazism.
BA I Paper -I FUNDAMENTALS OF ENVIRONMENTAL STUDIES	
At the end of course student should be able to:	
CO-1	Describe Fundamentals of environmental studies.
CO-2	Explain the Deforestation and cause and consequences.
CO-3	Describe the Over exploitation of water and rain water harvesting.
CO-4	Know about Drug and their effects.
BA II YEAR Paper-II ENVIRONMENTAL POLLUTION	
At the end of course student should be able to:	
CO-1	Describe the pollutions and their effects on environment.
CO-2	Explain the concept of Eutrophication and its causes and effects.
CO-3	Explain sources of solid waste.
BA III YEAR Paper- III ENVIRONMENTAL CONSERVATION AND SOCIETY	
At the end of course student should be able to:	
CO-1	Understand the India's ancient traditions and Environment legislation in India for protection of environment.
CO-2	Explain the concept of biodiversity and its importance.
CO-3	Explain the Natural Disaster and its impacts on communities, infrastructure, and the environment.
CO-4	Understand about Swachh Bharat Abhiyan and National mission for cleaning Ganga.
Semester-I Home science (resource management)	
COs: After successfully completing this course, students will be able to:	

CO-1	To understand the Fundamentals of resource management in a changing scenario.
CO-2	To inculcate skills in identifying, creating, selecting and using available resources judiciously with emphasis on maximization and conservation.
	To understand the scientific application of the process of management in the judicious use of resources
Semester-II Home science (health & hygiene)	
COs: After successfully completing this course, students will be able to:	
CO-1	develop a comprehensive understanding of health and hygiene principles
CO-2	acquire practical skills to assess, promote, and support health and hygiene practices among individuals and communities.
CO-3	gain awareness of environmental factors that influence health and hygiene, such as air and water quality, waste management, and sanitation facilities.
	develop cultural competence and sensitivity in addressing health and hygiene issues within diverse populations.
Semester-III Home science (human physiology)	
COs: After successfully completing this course, students will be able to:	
CO-1	Developing awareness of important aspects of development during the life span of an individual.
CO-2	Become acquainted with developmental stages from birth to old age.
	Perceive the importance of family and the community in the development of the children with special needs.
Semester-IV Home science (clothing & textiles)	
COs: After successfully completing this course, students will be able to:	
CO-1	Gain knowledge on the characteristics of fabrics and their use.
CO-2	Understand the methods of maintaining different fabrics, their finishing and storage.
CO-3	Learn the basic stitching skills and acquiring knowledge about embroidery.
Semester-V Home science (food & nutrition)	
COs: After successfully completing this course, students will be able to:	
CO-1	Understand the concept of food and nutrition.
CO-2	Understand the effect of cooking on food.
CO-3	Create awareness about food preservation, meal planning and nutritional requirements.
	Understand various processes involved within the body.
Semester-VI Home science	
COs: After successfully completing this course, students will be able to:	

CO-1	Understanding Child Development.
CO-2	Effective Communication and Counselling Skills.
CO-3	Pedagogical Techniques and Educational Strategies.
CO-4	Professional Development and Ethical Practices.
BA 1st year (first semester) -Political Science - Indian Constitution	
At the end of course student should be able to:	
CO-1	Understand Indian Constitution-Sources and Features, Preamble, Fundamental Rights, Fundamental Duties and Directive Principles of State Policy.
CO-2	Know about Union Executive - President, Vice- President, Prime Minister, Council of Ministers and State Executive- Governor, Chief Minister and Council of Ministers.
CO-3	Panchayati Raj Institutions -History, Basic Features and 73rd Amendment.
CO-4	To study Judiciary-Supreme Court, High Courts, Judicial Review and Judicial Activism.
BA 1st year (Second semester) -Political Science - Indian Politics	
At the end of course student should be able to:	
CO-1	To introduce Federalism and its Working with reference to Centre-State Relations, Demand For State Autonomy; Emerging Trends in Indian Federalism.
CO-2	To understand Election Commission, Electoral Process and its Defects and Voting Behaviour, Electoral Reforms, Problem of Defection.
CO-3	To gain knowledge about the Party System in India: National and Regional Political Parties, Interest and Pressure Groups. Role of Caste, Religion, Language, Regionalism in India, Politics of Reservation, Emerging Trends and Challenges before Indian Political System.
BA 2nd year (Third semester) -Political Science - Indian Political Thinkers	
At the end of course student should be able to:	
CO-1	Students will understand the thoughts of Raja RamMohan Ray & Swami Dayanand, Dada Bhai Narojee & Gopal Krishan Gokhale.
CO-2	To study views of Swami Vivekanand & Arvind Ghosh
CO-3	To know about the ideas of Lala Lajpat Rai & Bal Gangadhar Tilak.
BA 2nd year (Fourth semester) -Political Science - Indian Political Thinkers	
At the end of course student should be able to:	
CO-1	Introduce to views of J.P. Narayan & Ram Manohar Lohia.
CO-2	Students will understand thought of Mahatma Gandhi & M. N, Roy Jawaharlal Nehru & B.R. Ambedkar.

CO-3	To know about the ideas of Subhash Chander Bose & Bhagat Singh.
BA FINAL year (Fifth semester) - Political Science	
At the end of course student should be able to:	
CO-1	Definition, Nature, scope and Development of the International Relations
CO-2	Explain the Approaches to the study of International Relations
CO-3	Explain the Elements & Assessment of National Power
CO-4	Know about Major Concepts: Balance of Power, Collective Security, Environmentalism and Globalisation
BA FINAL year (Sixth semester) - Political Science	
At the end of course student should be able to:	
CO-1	Describe the Evolution and Growth of international Organization.
CO-2	Organs of the United Nations.
CO-3	Explain the Working of UN towards Peace.
CO-4	know about UN & Disarmament and India's Claim for Permanent Seat.
BA Part I (Semester I) English - Literature and Language I	
CO	This course is an exquisite collection of short stories. The authors featured here include Anita Desai, R.K. Narayan, Tomsula Ao, Prem Chand, K.A. Abbas, Phanishwar Nath 'Renu' etc. All these short stories beautifully enable the students to understand the fragility of human life.
BA Part I (Semester II) Literature and Language II	
CO	This course is an exquisite collection of short stories. The authors featured here include Anita Desai, R.K. Narayan, Temsula Ao, Prem Chand, K.A. Abbas, Phanishwar Nath 'Renu' etc. All these short stories beautifully enable the students to understand the fragility of human life.
BA Part II (Semester III) Fragrances	
CO	The course comprises one-act plays by celebrated playwrights like Bahasa, Anton Chekhov, W.W. Jacobs, Eugene O'Neill and Nissim Ezekiel. Indeed, these thought-provoking plays bring about a revolutionary change in the lives of the students.
BA Part III (Semester V)	
CO	The course presents Raja Rao's masterpiece, Kanthapura, which is indeed a special novel for young generation of the 21st Century. It takes the readers back to the time when India was struggling for independence. The description of Goddess Kenchamma, Harikatha-man, the Protagonist, Moorthy and powerful women characters like, Rangamma, Ratna, Narsamma, Rachi and the evil characters like Bhatta, Waterfall Venkamma, the struggle of the villagers for attaining Swaraj, the oppression of the common people at Skeffington

	Coffee Estate and all such descriptions of various incidents make students aware of the harsh realities of the contemporary society when India (Sita) was in the confinement of the Britishers (Ravana).
	BA Part III (Semester VI)
CO	The course presents William Shakespeare's famous play, The Merchant of Venice that continues to fascinate the students with Portia's heart-touching speech on Mercy, highlighting the moral, ethical and humane side of showing mercy. Portia traps Shylock through her wisdom in order to save the life of Bassanio's dearest friend, Antonio. The casket episode, the trial scene and the ring episode make it an inspiring tragicomedy. The beautiful message in the lines, 'All that glitters is not gold' truly touches the hearts of the students
	DEPARTMENT OF ECONOMICS
	PROGRAM: BACHELOR OF ECONOMICS (B.A. ECO)
	Program Outcome (PO)
PO No	After completing the three-year degree program, student will be able to:
PO-1	Economic Literacy: Graduates will understand fundamental economic principles.
PO-2	Quantitative and Analytical Skills: Students will excel in quantitative methods and analytical reasoning.
PO-3	Global Perspective: Graduates will grasp the global dimensions of economics, including international trade and finance.
PO-4	Ethical Awareness: Students will consider ethical implications in economic decision-making and demonstrate social responsibility.
	Program Specific Outcome (PSO)
PSO No	After Completing Bachelor of Economics, the student will be equipped to :
PSO-1	Analytical Proficiency: Graduates will critically analyze economic theories and data for informed decision-making.
PSO-2	Communication Skills: Students will effectively convey economic concepts through various mediums.
PSO-3	Research Capability: Graduates will conduct independent economic research, applying methodologies to draw insightful conclusions.
PSO-4	Application of Economic Principles: Students will apply economic theories to real-world scenarios, offering solutions for economic challenges.
	BA ECONOMICS
	ECO SEM 1 EC-1 (MICROECONOMICS-I)
	At the end of Course Student should be able to:
CO-1	Answer the questions what, how, and for whom should goods and services be produced with limited resources.
CO-2	Understand the factors on which demand of a commodity depends exhibit the measures of demand elasticity relative to change in price, income and price of substitutes.

CO-3	Understand the theories of demand and their applications in real world.
CO-4	Be conversant about the concepts of cost, nature of production and its relationship to Business operations
ECO SEM 2 EC-2 (MICROECONOMICS-II)	
At the end of Course Student should be able to:	
CO-1	Analyze the causes and consequences of different market conditions.
CO-2	Understand about rent, interest, and profit.
CO-3	Understand the concept of Dispersion.
ECO SEM 3 EC-3 (MACROECONOMICS-I)	
At the end of Course Student should be able to:	
CO-1	Understand the nature, scope and importance of macroeconomics.
CO-2	Understand the meaning of consumption function, relationship between APC and MPC, Keynesian Psychological Law of consumption.
CO-3	Demonstrate the process of measuring National Income Statistics, identify its components and analyze the various income identities.
CO-4	Understand the role of household sector producer sector, government sector and rest of the world in circular flow of income in an economy
CO-5	Understand the meaning of capital and investment; types of investment and understand the relation between MEC and MEI.
ECO SEM 4 EC-4 (MACROECONOMICS-II)	
At the end of Course Student should be able to:	
CO-1	Understand the concept of multiplier and its relation with MPC and MPS, demonstrate the working of multiplier.
CO-2	Illustrate the classical theory of inflation understand the meaning of inflation, identify different types of inflation, causes and effects of inflation on different sectors of the economy.
CO-3	Examine different phases of trade cycle, demonstrate various trade cycle theories,
CO-4	Understand the concept of corelation
ECO SEM 5 EC-5 (Growth and development and environmental economics)	
At the end of Course Student should be able to:	
CO-1	Understand Growth & Development: Meaning and definition, Stages, Principles and factors influencing of Growth and Development
CO-2	Understand vicious circle of poverty, balance growth, unbalanced growth, low level of equilibrium trap.
CO-3	Understand concept of pollution, pollution acts, population and environment relation.
CO-4	Understand the concept of regression.

ECO SEM 6 EC-6 (INTERNATIONAL ECONOMICS)	
	At the end of Course Student should be able to:
CO-1	Provide information about International economic/financial institutions: WTO, World Bank and IMF.
CO-2	Make students aware about the international trade.
CO-3	Understand about foreign exchange concept.
CO-4	Understand about exchange rate determination.
BA (First Year) -Basic of Public Administrator	
	At the end of Course Student should be able to:
CO-1	Learned about the organization's scientific management philosophy.
CO-2	Got information about specialty objective principle of scientific management.
CO-3	Know about Henry Fayol in the traditional ideology of organization among students.
CO-4	Got information about what is bureaucratic theory of organization and its main features.
BA (second Year) -basic of public administrator	
	At the end of course student should be able to:
CO-1	Student learned about the work role and power of the governor.
CO-2	Know about the difference in the organization of state secretariat and directorates.
CO-3	Know about the creation and work by chief minister and minister councillor.
CO-4	Get information about Rajpal and chief minister.
BA (third Year) -basic of public administrator	
	At the end of course student should be able to:
CO-1	about students giving answers in public procession
CO-2	Know about Parliament exercise continuous legislative and executive control over administration
CO-3	Understand the Meaning of integrity in administration. Got information about the need for integrity.
CO-4	Got information about bill regarding Lokpal and lokayukta.
BA Punjabi (Honours)	
	ਗੁਣਕਾਰੀ ਵਿੱਦਿਆ
CO-1	ਪੇਪਰ ਪੰਜਾਬੀ ਸਾਹਿਤ ਦਾ ਇਤਿਹਾਸ ਰਾਹੀਂ ਪੰਜਾਬੀ ਸਾਹਿਤ ਦੇ ਇਤਿਹਾਸ ਬਾਰੇ ਜਾਣਦੇ, ਵਿਚਾਰਦੇ ਹੋਏ ਦੇਖਣਾ ਕਿ ਪਿੱਛੇ ਇਤਿਹਾਸ ਵਿੱਚ ਕੀ ਕੰਮ ਹੋਇਆ ਅਤੇ ਕੀ ਰਹਿੰਦਾ, ਜਿਸ ਨੂੰ ਪੂਰਾ ਕੀਤਾ ਜਾ ਸਕੇ ਤਾਕਿ ਇਤਿਹਾਸਕ ਖੱਪੇ ਭਰੇ ਜਾ ਸਕਣ।

CO-2	ਪੇਪਰ ਗੁਰਮਤਿ ਕਾਵਿ ਜਪੁ ਜੀ ਸਾਹਿਬ ਸਚਿਆਰ ਅਤੇ ਹੁਕਮ, ਹਉਮੈ, ਕਰਮ ਤੇ ਨਦਰ, ਪ੍ਰੇਮ ਭਗਤੀ, ਨਾਮ-ਸਿਮਰਨ, ਸਬਰ-ਸੰਤੋਖ, ਸਾਧਕ, ਮਨ, ਮਾਰਗ ਦਰਸ਼ਕ, ਸ਼ਬਦ ਦਾ ਮਹੱਤਵ, ਸਿਊਸਟੀ, ਪੰਜ ਖੰਡ ਆਦਿ ਦਾ ਜ਼ਿਕਰ ਆਉਂਦਾ ਹੈ। ਇਹ ਸਾਰੇ ਸੰਕਲਪ ਅਜਿਹੇ ਹਨ, ਜੋ ਸੱਚਾਈ ਦੇ ਰਸਤੇ ਉੱਤੇ ਚੱਲਣ ਲਈ ਪ੍ਰੇਰਦੇ ਹਨ। ਇਨ੍ਹਾਂ ਸਾਰੇ ਗੁਣਾਂ ਨੂੰ ਅਪਣਾ ਕੇ ਵਿਦਿਆਰਥੀ ਆਮ ਜ਼ਿੰਦਗੀ ਨੈਤਿਕ ਮੁੱਲਾਂ ਦਾ ਵਾਧਾ ਕਰਦਾ ਹੈ। ਇਹ ਸਾਰਾ ਸਾਰ 'ਕਿਵ ਸਚਿਆਚਾ ਹੋਈਐ' ਦੇ ਪ੍ਰਸ਼ਨ ਅਤੇ 'ਹੁਕਮ ਰਜਾਈ ਚਲਣਾ' ਦੇ ਉੱਤਰ ਵਿਚ ਹੈ।
Semester II	
CO-1	ਪੇਪਰ ਪੰਜਾਬੀ ਸਾਹਿਤ ਦਾ ਇਤਿਹਾਸ ਰਾਹੀਂ ਪੰਜਾਬੀ ਸਾਹਿਤ ਦੇ ਇਤਿਹਾਸ ਬਾਰੇ ਜਾਣਦੇ, ਵਿਚਾਰਦੇ ਹੋਏ ਦੇਖਣਾ ਕਿ ਪਿੱਛੇ ਇਤਿਹਾਸ ਵਿੱਚ ਕੀ ਕੰਮ ਹੋਇਆ ਅਤੇ ਕੀ ਰਹਿੰਦਾ, ਜਿਸ ਨੂੰ ਪੂਰਾ ਕੀਤਾ ਜਾ ਸਕੇ ਤਾਕਿ ਇਤਿਹਾਸਕ ਖੱਪੇ ਭਰੇ ਜਾ ਸਕਣ।
CO-2	ਪੇਪਰ ਪੰਜਾਬੀ ਸੂਫੀ ਅਤੇ ਕਿੱਸਾ ਕਾਵਿ ਵਿੱਚ ਪੜ੍ਹਨ ਵਾਲੇ ਕਵੀ ਬਾਬਾ ਬੁਲ੍ਹੇ ਸ਼ਾਹ ਅਤੇ ਕਾਦਰ ਯਾਰ ਹਨ। ਬੁਲ੍ਹੇ ਸ਼ਾਹ ਦੀਆਂ ਕਾਫ਼ੀਆਂ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਵਿਹਾਰਕ ਗੁਣ ਅਤੇ ਕਾਦਰ ਯਾਰ ਦਾ ਕਿੱਸਾ ਪੂਰਨ ਭਗਤ ਸਦਾਚਾਰਕ ਗੁਣ ਪੈਦਾ ਕਰਦਾ ਹੈ।
Semester III	
CO-1	ਪੇਪਰ ਪੰਜਾਬੀ ਸਾਹਿਤ ਦਾ ਇਤਿਹਾਸ ਰਾਹੀਂ ਪੰਜਾਬੀ ਸਾਹਿਤ ਦੇ ਇਤਿਹਾਸ ਬਾਰੇ ਜਾਣਦੇ, ਵਿਚਾਰਦੇ ਹੋਏ ਦੇਖਣਾ ਕਿ ਪਿੱਛੇ ਇਤਿਹਾਸ ਵਿੱਚ ਕੀ ਕੰਮ ਹੋਇਆ ਅਤੇ ਕੀ ਰਹਿੰਦਾ, ਜਿਸ ਨੂੰ ਪੂਰਾ ਕੀਤਾ ਜਾ ਸਕੇ ਤਾਕਿ ਇਤਿਹਾਸਕ ਖੱਪੇ ਭਰੇ ਜਾ ਸਕਣ।
CO-2	ਪੇਪਰ ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਵਿਤਾ (੧੯੬੦ ਤੱਕ) ਪੜ੍ਹਨ ਵਾਲੇ ਕਵੀ ਭਾਈ ਵੀਰ ਸਿੰਘ ਅਤੇ ਅੰਮ੍ਰਿਤਾ ਪ੍ਰੀਤਮ ਹਨ ਜੋ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਸਮਾਜਿਕ ਅਤੇ ਸਾਹਿਤਕ ਗੁਣਾਂ ਦਾ ਵਾਧਾ ਕਰਦੇ ਹਨ।
CO-3	ਪੇਪਰ ਪੰਜਾਬੀ ਸਾਹਿਤ ਦੇ ਰੂਪ ਵਿੱਚ ਸਾਹਿਤ ਦੇ ਰੂਪ ਕਿੱਸਾ, ਵਾਰ, ਕਾਫ਼ੀ, ਗ਼ਜ਼ਲ, ਬਾਰਾਂਮਾਹ, ਜੰਗਨਾਮਾ ਆਦਿ ਹਨ ਜਿਨ੍ਹਾਂ ਨੂੰ ਵਿਚਾਰਦੇ ਹੋਏ ਦੇਖਣਾ ਕਿ ਪਿੱਛੇ ਇਤਿਹਾਸ ਵਿੱਚ ਕੀ ਕੰਮ ਹੋਇਆ ਅਤੇ ਕੀ ਰਹਿੰਦਾ, ਜਿਸ ਨੂੰ ਪੂਰਾ ਕੀਤਾ ਜਾ ਸਕੇ ਤਾਕਿ ਇਤਿਹਾਸਕ ਖੱਪੇ ਭਰੇ ਜਾ ਸਕਣ।
Semester IV	
CO-1	ਪੇਪਰ ਪੰਜਾਬੀ ਸਾਹਿਤ ਦਾ ਇਤਿਹਾਸ ਰਾਹੀਂ ਪੰਜਾਬੀ ਸਾਹਿਤ ਦੇ ਇਤਿਹਾਸ ਬਾਰੇ ਜਾਣਦੇ, ਵਿਚਾਰਦੇ ਹੋਏ ਦੇਖਣਾ ਕਿ ਪਿੱਛੇ ਇਤਿਹਾਸ ਵਿੱਚ ਕੀ ਕੰਮ ਹੋਇਆ ਅਤੇ ਕੀ ਰਹਿੰਦਾ, ਜਿਸ ਨੂੰ ਪੂਰਾ ਕੀਤਾ ਜਾ ਸਕੇ ਤਾਕਿ ਇਤਿਹਾਸਕ ਖੱਪੇ ਭਰੇ ਜਾ ਸਕਣ।
CO-2	ਪੇਪਰ ਸਮਕਾਲੀ ਪੰਜਾਬੀ ਕਵਿਤਾ ਪੜ੍ਹਨ ਵਾਲੇ ਕਵੀ ਅਵਤਾਰ ਸਿੰਘ ਪਾਸ਼ ਅਤੇ ਜਸਵੰਤ ਦੀਦ ਹਨ ਜੋ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਸਮਾਜਿਕ ਅਤੇ ਸਾਹਿਤਕ ਗੁਣਾਂ ਦਾ ਵਾਧਾ ਕਰਦੇ ਹਨ।
CO-3	ਪੇਪਰ ਪੰਜਾਬੀ ਵਿਆਕਰਣ ਵਿੱਚ ਵਿਦਿਆਰਥੀ ਭਾਸ਼ਾ ਅਤੇ ਲਿਪੀ ਦੀ ਅੰਦਰਲੀ ਤੇ ਬਾਹਰਲੀ ਬਣਤਰ, ਭਾਸ਼ਾ ਦਾ ਨਿਕਾਸ ਵਿਕਾਸ, ਵਿਗਿਆਨਕ ਤੱਥਾਂ ਆਦਿ ਬਾਰੇ ਜਾਣਕਾਰੀ ਲੈਂਦੇ ਹਨ। ਜਿਸ ਨਾਲ ਉਨ੍ਹਾਂ ਸ਼ੁੱਧ ਭਾਸ਼ਕ ਉਚਾਰਨ, ਭਾਸ਼ਾ ਪ੍ਰਤੀ ਸੋਝੀ ਅਤੇ ਮਾਤ ਭਾਸ਼ਾ ਪ੍ਰਤੀ ਪਿਆਰ ਵੱਧਦਾ ਹੈ। ਭਾਸ਼ਾ ਸਮਾਜ ਵਿੱਚੋਂ ਹੀ ਉਪਜੀ ਹੈ, ਜਿਸ ਦੇ ਅਧਿਐਨ ਨਾਲ ਵਿਦਿਆਰਥੀ ਸਮਾਜ ਨਾਲ ਜੁੜਦਾ ਹੈ ਅਤੇ ਵਿਕਾਸ ਵਿੱਚ ਯੋਗਦਾਨ ਦੇਂਦਾ ਹੈ।
Semester V	
CO-1	ਪੇਪਰ ਪੰਜਾਬੀ ਨਾਵਲ ਵਿੱਚ ਪੜ੍ਹਨ ਵਾਲੇ ਨਾਵਲਕਾਰ ਨਾਨਕ ਸਿੰਘ ਅਤੇ ਕਰਮਜੀਤ ਸਿੰਘ ਕੁੱਸਾ ਹਨ ਜੋ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਸਮਾਜਿਕ ਅਤੇ ਸਾਹਿਤਕ ਗੁਣਾਂ ਦਾ ਵਾਧਾ ਕਰਦੇ ਹਨ।
CO-2	ਪੇਪਰ ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਵਾਰਤਕ (੧੯੬੦ ਤੱਕ) ਵਿੱਚ ਪੜ੍ਹਨ ਵਾਲੇ ਵਾਰਤਕਕਾਰ ਗੁਰਬਖਸ਼ ਸਿੰਘ ਅਤੇ ਤੇਜਾ ਸਿੰਘ ਜੋ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਸਮਾਜਿਕ ਅਤੇ ਸਾਹਿਤਕ ਗੁਣਾਂ ਦਾ ਵਾਧਾ ਕਰਦੇ ਹਨ।
CO-3	ਪੇਪਰ ਪੰਜਾਬੀ ਨਾਟਕ ਵਿੱਚ ਪੜ੍ਹਨ ਵਾਲੇ ਨਾਟਕਕਾਰ ਹਰਚਰਨ ਸਿੰਘ ਅਤੇ ਕਪੂਰ ਸਿੰਘ ਘੁੰਮਣ ਜੋ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਸਮਾਜਿਕ ਅਤੇ ਸਾਹਿਤਕ ਗੁਣਾਂ ਦਾ ਵਾਧਾ ਕਰਦੇ ਹਨ।
CO-4	ਪੇਪਰ ਪੰਜਾਬੀ ਨਾਟਕ ਵਿੱਚ ਪੜ੍ਹਨ ਵਾਲੇ ਨਾਟਕਕਾਰ ਹਰਚਰਨ ਸਿੰਘ ਅਤੇ ਕਪੂਰ ਸਿੰਘ ਘੁੰਮਣ ਜੋ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਸਮਾਜਿਕ ਅਤੇ ਸਾਹਿਤਕ ਗੁਣਾਂ ਦਾ ਵਾਧਾ ਕਰਦੇ ਹਨ।
Semester VI	
CO-1	ਪੇਪਰ ਪੰਜਾਬੀ ਕਹਾਣੀ ਵਿੱਚ ਪੜ੍ਹਨ ਵਾਲੇ ਕਹਾਣੀ ਕਾਰ ਕੁਲਵੰਤ ਸਿੰਘ ਵਿਰਕ, ਜਰਨੈਲ ਸਿੰਘ ਹਨ ਜੋ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਸਮਾਜਿਕ ਅਤੇ ਸਾਹਿਤਕ ਗੁਣਾਂ ਦਾ ਵਾਧਾ ਕਰਦੇ ਹਨ।

CO-2	ਪੇਪਰ ਸਮਕਾਲੀ ਪੰਜਾਬੀ ਵਾਰਤਕ ਵਿੱਚ ਪੜ੍ਹਨ ਵਾਲੇ ਵਾਰਤਕਕਾਰ ਨਰਿੰਦਰ ਸਿੰਘ ਘੁੰਮਣ , ਸੁਰਿੰਦਰ ਸਿੰਘ ਹਨ ਜੋ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਸਮਾਜਿਕ ਅਤੇ ਸਾਹਿਤਕ ਗੁਣਾਂ ਦਾ ਵਾਧਾ ਕਰਦੇ ਹਨ।
CO-3	ਪੇਪਰ ਸਮਕਾਲੀ ਪੰਜਾਬੀ ਨਾਟਕ ਅਤੇ ਇਕਾਂਗੀ ਵਿੱਚ ਪੜ੍ਹਨ ਵਾਲੇ ਨਰਿੰਦਰ ਸਿੰਘ ,ਅਜਮੇਰ ਸਿੰਘ ਔਲਖ ਹਨ ਜੋ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਸਮਾਜਿਕ ਅਤੇ ਸਾਹਿਤਕ ਗੁਣਾਂ ਦਾ ਵਾਧਾ ਕਰਦੇ ਹਨ।
CO-4	ਇੱਕ ਚੀਨੀ ਕਹਾਵਤ ਦੇ ਅਨੁਸਾਰ ਜੇ ਤੂੰ ਸੌ ਸਾਲ ਲਈ ਨਿਵੇਸ਼ ਕਰਨਾ ਚਾਹੁੰਦੇ ਹੋ ਤਾਂ ,ਤੂੰ ਸੌ ਬਾਸਮਤੀ ਦੀ ਫਸਲ ਬੀਜ ਲਵੋ ਪਰ ਜੇ ਕਰ ਤੂੰ ਸੌ ਸਾਲ ਲਈ ਨਿਵੇਸ਼ ਕਰਨਾ ਚਾਹੁੰਦੇ ਹੋ ਤਾਂ ਆਪਣੇ ਬੱਚਿਆਂ ਨੂੰ ਚੰਗੀ ਵਿੱਦਿਆ ਦੇਵੋ. ਸਾਡਾ ਪਾਠਕ੍ਰਮ ਇਸ ਕਹਾਵਤ ਨੂੰ ਸੱਚ ਕਰਦਾ ਹੈ ,ਕਿਉਂ ਜੋ ਵਿੱਦਿਆ ਵੀਚਾਰੀ ਤਾਂ ਪਰਉਪਕਾਰੀ ਹੈ।
BA PUNJABI ELECTIVE	
Semester I	
CO	ਬੀ. ਏ. ਸਮੈਸਟਰ ਪਹਿਲਾ ਵਿੱਚ ਪੜ੍ਹਨ ਵਾਲੇ ਕਵੀ ਹਨ, ਭਾਈ ਵੀਰ ਸਿੰਘ, ਧਨੀ ਰਾਮ ਚਾਤ੍ਰਕ, ਮੇਹਨ ਸਿੰਘ, ਬਾਵਾ ਬਲਵੰਤ, ਡਾ. ਹਰਭਜਨ ਸਿੰਘ, ਹਰਭਜਨ ਸਿੰਘ ਕੋਮਲ, ਹਰਿਭਜਨ ਹਲਵਾਰਦੀ, ਦਿਆਲ ਚੰਦ ਮਿਗਲਾਨੀ ਅਤੇ ਇੱਕ ਨਾਵਲਕਾਰ ਨਾਨਕ ਸਿੰਘ ਹੈ, ਇਹ ਸਾਰੇ ਸਾਹਿਤਕਾਰ ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਸਮਾਜਿਕ, ਸਿਧਾਂਤਕ ਅਤੇ ਵਿਹਾਰਕ ਸੇਧ ਦਿੰਦੇ ਹਨ.
Semester II	
CO	ਬੀ. ਏ. ਸਮੈਸਟਰ ਦੂਜਾ ਵਿੱਚ ਪੜ੍ਹਨ ਵਾਲੇ ਕਵੀ ਹਨ, ਪ੍ਰੋ. ਪੂਰਨ ਸਿੰਘ , ਅੰਮ੍ਰਿਤਾ ਪ੍ਰੀਤਮ, ਸੰਤੋਖ ਸਿੰਘ ਧੀਰ, ਪ੍ਰੀਤਮ ਸਿੰਘ ਸ਼ਰੀਰ, ਸ਼ਿਵ ਕੁਮਾਰ ਬਟਾਲਵੀ, ਅਵਤਾਰ ਸਿੰਘ, ਹਿਮੰਤ ਸਿੰਘ ਸੇਢੀ, ਹਰਿਭਜਨ ਸਿੰਘ ਰੇਣੂ ਹਨ ਇਹ ਸਾਰੇ ਸਾਹਿਤਕਾਰ ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਸਮਾਜਿਕ, ਸਿਧਾਂਤਕ ਅਤੇ ਵਿਹਾਰਕ ਸੇਧ ਦਿੰਦੇ ਹਨ.
Semester III	
CO	ਬੀ. ਏ. ਸਮੈਸਟਰ ਤੀਸਰਾ ਵਿੱਚ ਪੜ੍ਹਨ ਵਾਲੇ ਕਵੀ ਹਨ, ਮੱਧਕਾਲੀ ਬੁਲ੍ਹੇ ਸ਼ਾਹ, ਮੁਕਬਲ, ਹਾਸ਼ਮ ਅਤੇ ਅਗਰਾ ਜੋ ਲੜੀਵਾਰ ਸੂਫ਼ੀ, ਕਿੱਸਾ ਅਤੇ ਵੀਰ ਰਸੀ ਕਵੀ ਹਨ. ਜਿਨ੍ਹਾਂ ਦੀ ਕਵਿਤਾ ਬਗਾਵਤੀ ਸੁਰ ਵਾਲੀ ਹੈ, ਜੋ ਉਸ ਵਕਤ ਮਜ਼ਹਬੀ ਪਖੰਡ ਦਾ ਵਿਰੋਧ ਕਰਦੀ ਹੈ ਅਤੇ ਹੁਣ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਨਵੀਨ ਸੋਚ ਦੀ ਪੈਦਾਵਾਰ ਹੈ.
Semester IV	
CO	ਬੀ. ਏ. ਸਮੈਸਟਰ ਚੌਥਾ ਵਿੱਚ ਪੇਪਰ ਪੰਜਾਬੀ ਸਾਹਿਤ ਦਾ ਇਤਿਹਾਸ ਰਾਹੀਂ ਪੰਜਾਬੀ ਸਾਹਿਤ ਦੇ ਇਤਿਹਾਸ ਤੋਂ ਬਾਰੇ ਜਾਣਦੇ, ਵਿਚਾਰਦੇ ਹੋਏ ਦੇਖਣਾ ਕਿ ਪਿੱਛੇ ਇਤਿਹਾਸ ਵਿੱਚ ਕੀ ਕੰਮ ਹੋਇਆ ਅਤੇ ਕੀ ਰਹਿੰਦਾ, ਜਿਸ ਨੂੰ ਪੂਰਾ ਕੀਤਾ ਜਾ ਸਕੇ ਤਾਕਿ ਇਤਿਹਾਸਕ ਖੱਪੇ ਭਰੇ ਜਾ ਸਕਣ.
Semester V	
CO	ਬੀ. ਏ. ਸਮੈਸਟਰ ਪੰਜਵਾਂ ਵਿੱਚ ਪੇਪਰ ਪੰਜਾਬੀ ਕਿੱਸਾ ਅਤੇ ਬੀਰ ਰਸੀ ਕਾਵਿ ਕਿਤਾਬਾਂ ਵਾਰਿਸ ਸ਼ਾਹ ਹੀਰ , ਹਾਸ਼ਮ ਸੱਸੀ ਅਤੇ ਗੁਰੂ ਗੋਬਿੰਦ ਸਿੰਘ ਚੰਡੀ ਦੀ ਵਾਰ ਵਿਦਿਆਰਥੀਆਂ ਵਿੱਚ ਔਰਤਾਂ ਪ੍ਰਤੀ ਨਵੀਨ ਚੇਤਨਾ ਦਾ ਵਿਕਾਸ ਕਰਦੀਆਂ ਹਨ. ਨਾਰੀਵਾਦ ਦੇ ਨਜ਼ਰੀਏ ਤੋਂ ਦੇਖੀਏ ਤਾਂ ਵਾਰਿਸ ਦੀ ਹੀਰ ਅੱਠਵੀਂ ਜਾਂ ਨੌਵੀਂ ਸਦੀ ਵਿੱਚ ਵੀ ਬਗਾਵਤੀ ਸੁਰ ਵਾਲੀ ਸੀ ਅਤੇ ਨਾਲ ਹੀ ਅਨੁਵਾਦ ਕਲਾ , ਸੰਪਾਦਨ ਕਲਾ , ਆਦਿ ਦੀ ਜਾਣਕਾਰੀ ਪ੍ਰਾਪਤ ਕਰਦੇ ਹੋਏ ਮਸ਼ੀਨੀ ਯੁਗ ਨਾਲ ਚੱਲਣ ਦੀ ਸਮਰੱਥਾ ਅਤੇ ਆਪਣੀ ਆਜੀਵਿਕਾ ਵੀ ਪ੍ਰਾਪਤ ਕਰ ਸਕਦੇ ਹਨ.
Semester VI	
CO	ਬੀ. ਏ. ਸਮੈਸਟਰ ਪੰਜਵਾਂ ਛੇਵਾਂ ਵਿੱਚ ਪੇਪਰ ਪੰਜਾਬੀ ਸਾਹਿਤ ਦਾ ਇਤਿਹਾਸ ਰਾਹੀਂ ਪੰਜਾਬੀ ਸਾਹਿਤ ਦੇ ਇਤਿਹਾਸ ਤੋਂ ਬਾਰੇ ਜਾਣਦੇ, ਵਿਚਾਰਦੇ ਹੋਏ ਦੇਖਣਾ ਕਿ ਪਿੱਛੇ ਇਤਿਹਾਸ ਵਿੱਚ ਕੀ ਕੰਮ ਹੋਇਆ ਅਤੇ ਕੀ ਰਹਿੰਦਾ, ਜਿਸ ਨੂੰ ਪੂਰਾ ਕੀਤਾ ਜਾ ਸਕੇ ਤਾਕਿ ਇਤਿਹਾਸਕ ਖੱਪੇ ਭਰੇ ਜਾ ਸਕਣ ਅਤੇ ਨਾਲ ਹੀ

	ਅਨੁਵਾਦ ਕਲਾ ,ਸੰਪਾਦਨ ਕਲਾ ,ਆਦਿ ਦੀ ਜਾਣਕਾਰੀ ਪ੍ਰਾਪਤ ਕਰਦੇ ਹੋਏ ਮਸ਼ੀਨੀ ਯੁਗ ਨਾਲ ਚੱਲਣ ਦੀ ਸਮਰੱਥਾ ਅਤੇ ਆਪਣੀ ਆਜੀਵਿਕਾ ਵੀ ਪ੍ਰਾਪਤ ਕਰ ਸਕਦੇ ਹਨ.
Department of Hindi	
Program Specific Outcomes	
PSO NO	After Completing Bachelor of Hindi, the student will be equipped to:
PSO 1	To understand the basic concept and subject of Hindi & its origin.
PSO 2	To know about Hindi literature its roots cause perspectives and methods.
PSO 3	Elaborating and understanding its philosophical methods of Hindi Literature.
PSO 4	Evaluating the concept of Hindi from past to present and making the society more closely through literature.
BA 1 year (first semester) -Hindi	
At the end of course student should be able to:	
CO-1	Through poetry, the description of saints, Sufi poetry, Nirgun Sagun poetry and Ashtachap poetries' to be presented.
CO-2	The knowledge of the naming, characteristics of Hindi literature is obtained.
CO-3	Complete information about the ancient literature is available.
CO-4	Poetry is formed through the development of language, ornamentation, word-powers and rasa.
BA 1 year (second semester) -Hindi	
At the end of course student should be able to understand:	
CO-1	The drama Dhruva swamini by Jai Shankar Prasad is associated with historicity.
CO-2	The exploitation of women is shown in this play, divided into three parts.
CO-3	Bhakti Kal is the golden period. In this era, deep thought is done on Rama Kavya, Krishna Kavya.
CO-4	Language Forms Standard Language. Official language.
BA 2nd year (third semester) -Hindi	
At the end of course student should be able to:	
CO-1	Poetry is a powerful medium to express the words of the mind
CO-2	Modern Hindi poetry gives a solution to the problems of the modern era and the understanding of modernity.
CO-3	Ritikaal literature Shangar is a period of ritual, arts, sexuality and exploitation of women.
CO-4	Computer Internet Media Press Concept is a device leading to modernity.
BA 2nd year (fourth semester) -Hindi	

	At the end of course student should be able to:
CO-1	The story is related to the reality of life. From the story we get the form of society, the form of a woman.
CO-2	The value of art exposes discrimination.
CO-3	Modern prose literature is the origin and developed form of story, drama, novel essay etc.
CO-4	The term terminology is the working language form.
BA 3rd year (fifth semester) -Hindi	
	At the end of course student should be able to:
CO-1	Contemporary poetry keeps man connected to the ground.
CO-2	Modern Hindi poetry is the form of Chhaya Vad, Experimentalism, Progressivism, New poetry.
CO-3	To understand the characteristics of modern Hindi poetry.
BA 3rd year (sixth semester) -Hindi	
	At the end of course student should be able to:
CO-1	Haryanvi literature is associated with our state and highlights our culture
CO-2	journalism
CO-3	To understand the meaning, necessity and usability of Information Technology in Hindi.
BA Sanskrit (First year)	
CO-1	To introduce the concept of grammar and polity literature of Sanskrit
CO-2	To analyse the concepts and uses of shabad and Dhatu roop.
CO-3	To be familiar with the motive and moral of the topic (Bagvadgita).
CO-4	To learn translation techniques of Hindi sentence into Sanskrit sentence to enhance the sentence making skills.
BA Sanskrit (Second year)	
CO-1	Introduction to the epic poem literature of Sanskrit
CO-2	Help in understanding the formations of Kalidas like Raghuvanshi.
CO-3	To make the learner understand the usage of Sanskrit words in day-to-day life.
CO-4	To enhance grammatical skills with sidhhis related to Kridant Partya.
BA Sanskrit (Third year)	
CO-1	Further enhances the concept of Laghusiddhant comudi.
CO-2	To learn theatrical elements of Abhijnanashakuntal.

CO-3	Improve the ability to make the usage of Alankar in the writing or poetry to make it more decorative and rhythmic.
CO-4	Improve ability of sentence forming.
BA GEOGRAPHY	
Semester 1/101/Geography of India	
COs: After successfully completing this course, students will be able to	
CO1	Understand India's geography includes diverse landscapes: Location in South Asia, varied relief structures like mountains, plains, and plateaus, and a vast drainage system.
CO2	Understand about Migration occurs within India, human settlement types and levels of urbanization.
CO3	Understand about land resources, irrigation, regional variations in cropping pattern, Green revolution and problems of Indian agriculture.
CO4	Understand about mineral resources like coal, petroleum, supporting industries such as iron and steel, textiles, sugar, and petrochemicals, concentrated in specific industrial regions across India.
Semester 2/103/ Physical Geography I	
COs: After successfully completing this course, students will be able to	
CO1	Interior structure of the earth, geological time scale and rocks.
CO2	Theory of Isostasy; Wegner's theory of continental drift and Plate tectonic theory.
CO3	Concept of cycle of erosion; cycle of erosion by W.M. Davis and Penck.
CO4	Process and landforms of Wind, River, Underground water, Glaciers and Sea waves.
Semester 3/201/ Physical Geography II	
COs: After successfully completing this course, students will be able to	
CO1	Understand the structure of atmosphere.
CO2	Understand about Humidity measurement and variables, evaporation, condensation, precipitation forms and types and distribution, hydrological cycle.
CO3	Air masses concept and classification; Fronts -type and characteristics, Weather disturbances tropical and extra-tropical cyclones.
CO4	Configuration of oceanic floors and surface relief of Pacific, Atlantic and Indian Oceans, temperature and salinity of oceans.
Semester 4/203/ Human Geography	
COs: After successfully completing this course, students will be able to:	
CO1	Study of Human Geography.
CO2	Understand the resources; Classification of resources-renewal and non-renewable; biotic and abiotic, recyclable and non-recyclable.

CO3	Distribution and density of world population, population growth, fertility and mortality patterns.
CO4	Population pressure, resource use and environment degradation; sustainable development, concept of deforestation, soil erosion, air and water pollution.
Semester: 5/301/ Economic Geography	
COs: After successfully completing this course, students will be able to	
CO1	Classification of economic activities and their impact on environment.
CO2	Classification of mineral resources (ferrous and non-ferrous), distribution and production of coal, iron ore, petroleum and natural gas.
CO3	Classification of industries, world distribution and production of iron and steel and textile industry, major industrial complexes of the world.
CO4	Transport, commutation and trade geographical factors in their development, major modes of water, land and air transport, recent trends in international trades
Semester 6/303 /Introduction to remote sensing, GIS & Quantitative methods	
COs: After successfully completing this course, students will be able to	
CO1	Introduction to Remote Sensing: Electromagnetic spectrum, stages in remote sensing, type of satellites.
CO2	Introduction to Geographical Information System: Definition, purpose, advantages and software and hardware requirements.
CO3	Application of GIS in various fields of geography.
CO4	Measure of Dispersion: Range, Quartile deviation and Mean deviation, Standard deviation, Coefficient of variation.
Department of Music(Vocal)	
Semester I	
At the end of course student should be able to:	
CO-1	Differentiate sounds, tonal quality and different pitches.
CO-2	Write Notations of Singing Compositions and Talas. Learning of Basic Ragas and talas.
Semester II	
At the end of course student should be able to:	
CO-1	Practical singing perfectly all the musical notes in different pitches.
CO-2	Know about all the Ragas in different Modes Like Bada Khyal, Chota Khyal and Talas mentioned in the syllabus.
CO-3	Know about the different Classical and Semi Classical forms of Music.
Semester III	
At the end of course student should be able to:	

CO-1	Explain different Notation system of Indian and Western Notation system.
CO-2	Insights of Northern Musical forms and styles.
CO-3	Write Notations of Singing Compositions and Talas. Learning of Ragas and talas mentioned in the syllabus.
CO-4	Know about Classification and knowledge of Musical Instruments
Semester IV	
At the end of course student should be able to:	
CO-1	Singing perfectly all the musical notes in different pitches. Basic Knowledge of all the Ragas and Talas mentioned in the syllabus.
CO-2	Know about the different Classical and Semi Classical forms of Music.
CO-3	Tuning the Instruments and develop the skills of accompaniment.
Semester V	
At the end of course student should be able to:	
CO-1	Get the knowledge of History of Music of India from Ancient period to the Modern Era.
CO-2	Know the origin of Gharanas and the reasons behind the evolution of different Gharanas in Indian Classical Music.
CO-3	Proficient in writing Notations of Compositions and Talas. Learning of Ragas and talas mentioned in the syllabus.
Semester VI	
At the end of course student should be able to:	
CO-1	Practical Proficient in singing Ragas and Talas mentioned in the syllabus.
CO-2	Know about the different Classical and Semi Classical forms of Music.
CO-3	Tuning the Instruments and develop the skills of accompaniment
Music Instrumental	
Semester I	
At the end of Course Student should be able to:	
CO-1	Differentiate sounds, tonal quality and different pitches.
CO-2	Write Notations of Vadan Compositions and Talas. Learning of Basic Ragas and talas.
Semester II	
At the end of Course Student should be able to:	
CO-1	Practical: Playing perfectly all the musical notes in different pitches on the Instrument (sitar).
CO-2	Know about all the Ragas and Talas mentioned in the syllabus.

CO-3	Explain different Classical and Semi Classical forms of Music.
CO-4	Classify and knowledge of Musical Instruments.
Semester III	
At the end of Course Student should be able to:	
CO-1	Know about Writing Notations of Vadan Compositions and Talas. . .
CO-2	Learn Ragas and talas mentioned in the syllabus.
CO-3	Gain knowledge of the Different Musical Instruments
CO-4	get the knowledge of History of Music in Medieval Period
Semester IV	
At the end of Course Student should be able to:	
CO-1	Practical Playing perfectly all the musical notes in different pitches on the Instrument.
CO-2	Gain Knowledge of all the Ragas and Talas mentioned in the syllabus.
CO-3	Gain Knowledge of the different Classical and Semi Classical forms of Music.
CO-4	Tuning the Instruments and develop the skills of accompaniment.
Semester V	
At the end of Course Student should be able to:	
CO-1	Get the knowledge of History of Music of India from 17th and 19th Century.
CO-2	Get the Knowledge the Importance of Electronic musical Instruments
CO-3	Proficient in writing Notations of Compositions and Talas.
CO-4	know the origin of Gharanas and the reasons behind the evolution of different Gharanas in Indian Classical Music.
Semester VI	
At the end of Course Student should be able to:	
CO-1	Practical Proficient in Vadan of Ragas and Talas mentioned in the syllabus.
CO-2	know about the different Classical and Semi Classical forms of Music.
CO-3	Tuning the Instruments and develop the skills of accompaniment.
PROGRAM: DIPLOMA OF FASHION DESIGNING	
Program Outcome (PO)	
PO No	After completing the one-year diploma, student will be able to:
PO-1	Develop technical skills in pattern making, garment construction, and sewing.

PO-2	Foster creative design abilities for conceptualizing and sketching fashion ideas.
PO-3	Provide knowledge of the fashion industry, including trends and consumer behaviour.
DIPLOMA IN FASHION DESIGNING	
At the end of diploma student should be able to:	
CO-1	Obtain knowledge regarding cutting and stitching.
CO-2	Can establish their own boutiques
CO-3	Start his/her own business in embroidery art work
CO-4	May get elementary knowledge related to computer
DEPARTMENT OF PHYSICAL EDUCATION	
Program outcomes	
PO1	Physical education will help the students to apply the knowledge of basic sciences which will be relevant and appropriate to education and sports sciences resulting in solution of complex sports related issues and problems.
PO2	Ability to work efficiently and respectfully with diverse teams; facilitate cooperative or coordinated effort on the part of a group and or a team in the interests of a common goal and work capably as a player.
PO3	Prepare the students to analyse the local and global impact of physical activities and sports and games on individuals, organizations and society.
PO4	The physical and sports activities will develop a sense of discipline in the students.
Program Specific outcomes	
PSO1	To understand the importance of physical education by studying the history.
PSO2	To help the students to know more about the human body which helps for higher level of sports achievements and adopt training method.
PSO3	To know about health aspects and maintain good health and fitness for higher achievements in sports.
PSO4	Maintenance of fitness for optimal health and well-being.
Semester I	
At the end of Course Student should be able to:	
CO1	Students will learn about the meaning definition and importance of anatomy, physiology and exercise physiology in physical education. Students will also learn about structure and function of cell and tissue.
CO2	Students learn about anatomical differentiation between male and female.
CO3	Develop their knowledge regarding Muscular System, contraction and effect of exercise on Muscular System.
CO4	Students studied about structure and function of heart and mechanism of circulation including blood pressure athletic heart bradycardia etc. and effect of exercise on circulatory system.

	Semester II
	At the end of Course Student should be able to:
CO1	To understand about tournaments, its meaning, definition and types. Students develop knowledge of how to draw a fixture and to organizing methods of Athletic Meet, Play Day the Intramural and Extramural competitions.
CO2	To understand meaning definition of leadership and qualities of good leader in physical education. Student also learns about principles of leadership activities and hierarchy of leadership in school college University etc.
	Semester III
	At the end of Course Student should be able to:
CO1	Understand about the different start technique, finishing techniques and body of the race. Also learn out relay race such as holding, carrying, exchanging, starting and finishing of the relay race.
CO2	Understand students studied about structure and function of heart and mechanism of circulation including blood pressure athletic heart bradycardia etc. and effect of exercise on circulatory system.
	Semester IV
	At the end of Course Student should be able to:
CO1	Students will learn about the meaning, definition and importance of health, health education. They will learn about WHO UNESCO and also School health programme.
CO2	Students study the Physical Fitness and wellness.
	Semester V
	At the end of Course Student should be able to:
CO1	Understand Students will study Body Mass Index (BMI), Body Fat, Learn Body Mass (LBM). They also learn Somatotype- concept and method of measurement.
CO2	AAHPER Youth Fitness Test
	Semester VI
	At the end of Course Student should be able to:
CO1	Students will learn about the meaning and definition of psychology, importance and scope of psychology, meaning and definition sports psychology, need for knowledge of sports psychology in the field of Physical Education.
CO2	Learn from this unit about Stress and Anxiety.
	DEPARTMENT OF ECONOMICS
	PROGRAM: MASTER OF ARTS (M.A. ECO)
	Program Outcome (PO)

PO No	After completing the two-year master degree program, student will be able to:
PO-1	Knowledge: Demonstrate knowledge of historical emergence, questions asked, and distinctive contributions of the social science disciplines to the analysis of human behaviour and social issues.
PO-2	Problem Solving: Visualize, conceptualize, articulate, and solve complex problems through experimentation and observation using theoretical framework of social science disciplines.
PO-3	Critical Thinking: Critically analyse everyday problems faced by the society, evaluate specific policy proposals, compare arguments with different conclusions to a specific societal issue, and assess the role played by assumptions in such arguments.
PO-4	Scientific Enquiry: Develop the capability of defining problems and strengthening arguments through analysis and synthesis.
PO-5	Specialization and Employability: Develop deeper understanding, creativity, and originality in chosen specialized areas of social science disciplines leading to employability.
PO-6	Interdisciplinary Knowledge & Adaptation: Enhance the ability to integrate as well as synthesize the acquired knowledge within the social sciences and beyond.
PO-7	Self-Directed Learning: Develop the ability to work independently as well as effectively in the changing environment.
PO-8	Ethics and Leadership: Articulate and apply ethics, values and ideals that demonstrate awareness of current societal challenges. Build skills to work as part of a team and lead others, setting directions and formulating inspiring vision.
Program Specific Outcome (PSO)	
PSO No	After Completing M.A. ECONOMICS, the student will be equipped to:
PSO-1	Develop the powers of inquiry, critical analysis, logical thinking, and ability to apply theoretical knowledge to current issues of policy and practice in economics.
PSO-2	Learn and apply alternative tools to address various economic policy issues related to various branches of Economics.
PSO-3	Develop and demonstrate fundamental in-depth knowledge and understanding of the theories, postulates, methods, principles, concepts, values, substantive rules of core as well as applied areas of Economics.
PSO-4	Identify, coherently explain and synthesize core and advanced economic concepts including economic models.
Micro Economics-I Course Code: MA/ECO/1/CC1	
At the end of Course Student should be able to:	
CO-1	Know the scope and breadth of Micro Economics along with understanding the core principles of demand and supply so that they are able to apply the understanding of these concepts to comprehend real world problems along with the ability to think critically and analyze economic problems.

CO-2	It will make students aware about how various economic agents behave optimally given the scarce economic resource and other constraints.
CO-3	Understanding the core principles of production and costs so that they are able to apply the understanding of these concepts to comprehend real world problems along with the ability to think critically and analyze economic problems
CO-4	Analyze given situations in a variety of markets on a microeconomic level. Understand the internal structure and assumptions of the different analytical frameworks of market conditions, their explanatory power and limitations Simultaneously Understanding the implications and ethical as well as value part of it.
Micro Economics-I Course Code: MA/ECO/1/CC2	
At the end of Course Student should be able to:	
CO-1	The student shall understand the classical and Keynesian theory of output and employment.
CO-2	Explaining the behaviour of macroeconomic variables by identifying and understanding the extended model.
CO-3	Understanding the IS-LM framework and its various aspects.
CO-4	To understand the theories of consumption and investment along with their relevance.
Macro Economics-I Course Code: MA/ECO/1/CC3	
At the end of Course Student should be able to:	
CO-1	To understand, analyze and interpret the nature of growth & development with a view to measure and mark its trajectory.
CO-2	To analyse and understand the classical growth models, role of innovations and stages of growth with their historical origins and role.
CO-3	To analyse and understand the balanced and unbalanced growth in economy
CO-4	To analyse and understand the neo-classical and Cambridge growth models with mathematical treatment
Statistical Methods in Economics Course Code: MA/ECO/1/CC4	
At the end of Course Student should be able to:	
CO-1	Students will be able to learn about correlation and Regression analysis.
CO-2	Understanding about sampling methods, Hypothesis testing and various statistical tests.
CO-3	Students will be skilful about presentation of graphs, charts, various methods related to descriptive statistics on excel.
CO-4	Students will enhance their skills about correlation, Regression analysis and estimation of simple, compound and exponential growth by using excel.
Economics of Environment and Demography Course Code: MA/ECO/1/DSC1	

	At the end of Course Student should be able to:
CO-1	Understand the linkages between economy and environment, economic instruments of environment protection, problem of common property resources, environmental Regulations and international environmental issues.
CO-2	To learn & equip with the use of environmental valuation techniques and policy mix instruments.
CO-3	Describe and compare the population and environment linkages, demographic process of fertility, mortality and migration.
CO-4	Use demographic concepts and population theories to explain past and present population characteristics.
Labour Economics-I Course Code: MA/ECO/1/DSC8	
	At the end of Course Student should be able to:
CO-1	To be able to analyze labour market issues through the application of economic data and theories.
CO-2	Critically analyze the factors affecting supply in labour market with quantitative research.
CO-3	To be able to synthesize information on different actors and outcomes across the various labour market topics including employment, unemployment, technological change.
CO-4	To be able to understand the process of wage determination and development of generic skills to think critically, interpret and explore to be able to apply theory to practice and synthesize as well as evaluate data and other information.
Issues of Economic Development Course Code: MA/ECO/9/OEC2	
	At the end of Course Student should be able to:
CO-1	Understand and analyze the nature of growth & development with a view to measure and mark its trajectory.
CO-2	Able to understand and analyze various economic problems in the context of Indian economy and create the ability to measure the extent of problems and how to remove them.
CO-3	Understand the historical perspective of scientific outlook of sociological thought.
CO-4	To understand the evolution of various stages of economic development.
Micro Economics-II Course Code: MA/ECO/9/OEC2	
	At the end of Course Student should be able to:
CO-1	Apply Microeconomic tools to solve real life problems especially under uncertainty and game theory.
CO-2	Able to understand new advances in the theory of firm and think critically analyze economic problems in the context of firm.

CO-3	Adopt different analytical concepts and models in framing development and policy relevant problems particularly factor pricing and income distribution.
CO-4	Understand the effects of various decisions on welfare of people through general equilibrium analysis.
Macro Economics-II Course Code: MA/ECO/2/CC6	
At the end of Course Student should be able to:	
CO-1	Learn and explain various theories of demand for money
CO-2	Understand the theories of money supply and interest rates.
CO-3	Identify the phases of the business cycle/inflation and the problems caused by cyclical fluctuations in the market economy and to show an ability to reflect on how economic shocks affect aggregate economic performance in the short and long term.
CO-4	Explain the components of aggregate economic activity in an open economy framework
Economics of Growth and Development –II Course Code: MA/ECO/2/CC7	
At the end of Course Student should be able to:	
CO-1	To know about mutually inter dependence of agriculture and industry and their role in economic development. Roles of institutions and markets in economic development.
CO-2	To develop an insight in the issues of international trade, theory, policy, promotion and its relationship with growth & development.
CO-3	To understand about fiscal and monetary policies in economic development and know also about establishing the stability in an economy. Projections about the project by using cost benefit analysis.
CO-4	To acquaint the students about the needs of plans, techniques of plans. Important roles of new growth theory in economic development.
Indian Economy Course Code: MA/ECO/2/DSC13	
At the end of Course Student should be able to:	
CO-1	Peep into the history of economic development and critically evaluate the trends in National Income in India.
CO-2	Understand the development of human and physical capital formation in India.
CO-3	Utilize the detailed skills and techniques to address the problems of Indian economy like poverty, inequality, unemployment.
CO-4	Understand the trends in Indian public finances.
Research Methodology Course Code: MA/ECO/2/DSC19	
At the end of Course Student should be able to:	
CO-1	Understanding the various types, objectives and characteristics of research in social Sciences. Also, students will know about selection of research problem.

CO-2	Students will be able to know about various types of hypothesis and ethics in social sciences.
CO-3	Students will learn the skill about to prepare the review of literature and various research design in social sciences.
CO-4	Understanding about the skill to collect the data from various sources through questionnaire/ Schedule etc.
Economic Theory Course Code: MA/ECO/9/OEC1	
At the end of Course Student should be able to:	
CO-1	Familiar with the scope and breadth of Micro Economics along with understanding the core principles of demand and supply so that they are able to apply the understanding of these concepts to comprehend real world problems along with the ability to think critically and analyze economic problems.
CO-2	Understanding the core principles of production and costs so that they are able to apply the understanding of these concepts to comprehend real world problems along with the ability to think critically and analyze economic problems.
CO-3	Know the scope and breadth of Macro Economics along with understanding the concept national income, equilibrium, multiplier, MEC and accelerator so that they are able to apply the understanding of these concepts to comprehend real world problems along with the ability to think critically and analyze economic problems.
CO-4	Identify the phases of the business cycle/inflation and the problems caused by cyclical fluctuations in the market economy, Monetary policy and Fiscal policy along with the ability to reflect on how economic shocks affect aggregate economic performance in the short and long term.
International Trade-I Course Code: MA/Eco/3/CC8	
At the end of Course Student should be able to:	
CO-1	Understand, explain, compare and critically evaluate the classical and neo classical trade theories.
CO-2	Learn, compare and critically evaluate the new trade theories and their relevance in today's scenario
CO-3	Understand the theories of protection and develop the ability to appreciate the economic integration and its impacts.
CO-4	Comprehend various models of balance of payment and analyze recent example of it.
Political Economy of Development-I Course Code: MA/ECO/3/CC9	
At the end of Course Student should be able to:	
CO-1	Understand, explain and apply the different theories of cognition, root and growth of knowledge, truth and its Criterion along with the ability to think critically and analyze the prevailing conditions of society.
CO-2	Understand and able to analyze the basics of Idealism& Materialism, Metaphysics & Dialectics, Dialectical Materialism and Laws of Dialectics

	along with the ability to think critically and analyze the prevailing conditions of society.
CO-3	Familiar with mode of production and Social Superstructure and its elements, Historical Materialism, Fundamental law of Social Development, Economic laws and their utilization along with the ability to think critically and analyze the prevailing conditions of society.
CO-4	Understand the rise of private property and features of different stages of economic development along with the ability to think critically and analyze the prevailing conditions of society.
Agricultural Economics-I Course Code: MA/ECO/3/CC10	
At the end of Course Student should be able to:	
CO-1	Understand and analyze critically the agriculture sector linkages with economic development and become able to estimate the risks and uncertainties involved in agriculture.
CO-2	Comprehend, compare, evaluate and then present the various economic thoughts in context of agriculture namely Ancient, Hebrew, Greek, Roman, Medieval, Physiocratic and Classical
CO-3	Understand and explain latest trends in Indian agriculture, challenges involved in agricultural productivity, price policy and marketing practices.
CO-4	Able to understand, present and measure unemployment and poverty in rural sector, gender inequity in agriculture, unequal income distribution and develop the ability to design adequate policies in this regard.
Public Economics Course Code: MA/Eco/3/CC11	
At the end of Course Student should be able to:	
CO-1	Understand, explain and apply the concept of efficiency along with various solutions of market failure, concept of merit and public goods, provision of public goods and different models.
CO-2	Understand and able to analyze the concept of public expenditure and public debt, different theories of public expenditure and burden controversy of public debt.
CO-3	Understand the economic implications of various taxes along with their critical analysis thereby attain in-depth knowledge of theories, postulates based on taxation, tax elasticity, tax buoyancy, tax effort and excess burden and thus become able to design an efficient and equitable taxation system.
CO-4	To become familiar with the concept of budget and fiscal federalism.
Welfare Economics-I Course Code: MA/ECO/3/DSC26	
At the end of Course Student should be able to:	
CO-1	Understand the different ways to measure welfare changes for individuals and know how to aggregate them.
CO-2	Understand how to construct models and use general equilibrium analysis. Comprehend and identify the main economic factors and indicators affecting the level of individual welfare and welfare state.

CO-3	Be able to properly interpret compensated welfare changes and know how they relate to actual welfare changes typically isolated in demand-supply diagrams.
CO-4	Understand the welfare economic foundation of public policies.
Indian Economy: Issues; Outlook and Prospects Course Code: MA/ECO/9/OEC3	
At the end of Course Student should be able to:	
CO-1	Peep into the history of India's economic development and critically evaluate the progressive realization of Indian economy.
CO-2	To understand the development of Agriculture and interdependence of industry and agriculture in India.
CO-3	To understand the role of industrial development in India.
CO-4	To understand the importance of foreign trade in developing economy.
International Trade-II Course Code: MA/Eco/4/CC12	
At the end of Course Student should be able to:	
CO-1	Understand, explain and present various approaches of International Monetary system.
CO-2	Understand Economic Integration in various countries and their recent experiences
CO-3	Learn and explain macro adjustment policies in an open economy framework.
CO-4	Understand and analyze the working of International Financial Management and Institutions
Political Economy of Development-II Course Code: MA/Eco/4/CC13	
At the end of Course Student should be able to:	
CO-1	Understand, explain and apply the different concepts of Marxian Political Economy such as commodity production, use value, exchange value, law of value, surplus value, organic composition of capital and rate of profit along with the ability to think critically and analyze the prevailing conditions of society.
CO-2	Understand and analyze the process of Capitalism in Agriculture and Nature and process of Development along with the ability to think critically and analyze the prevailing conditions of society.
CO-3	Understand and analyze the nature of capitalistic crisis, development of monopoly capitalist and role of banks along with the ability to think critically and analyze the prevailing conditions of society.
CO-4	To become familiar with the concept of Imperialism, Law of uneven Development under Imperialism along with the ability to think critically and analyze the prevailing conditions of society
Agricultural Economics -II Course Code: MA/ECO/4/CC14	

	At the end of Course Student should be able to:
CO-1	Understand, analyze and present the concepts of agricultural production functions and factor - product relationships using the tools of micro economics.
CO-2	Understand, critically analyze and present the nature, importance and sources of agricultural credit along with the role of financial institutions dealing with agricultural credit in India.
CO-3	Comprehend, compare, critically analyze and able to present the various theories and models of agricultural development.
CO-4	Attain in-depth understanding of the burning issues in Indian agriculture including liberalization of agricultural trade; implications of WTO and sustainable development; and food security in context of international trade.
	Cardinal Principles of Academic Integrity and Publications Ethics Course Code: MA/ECO/4/CC15
	At the end of Course Student should be able to:
CO-1	Academic Integrity, Plagiarism (prevention and detection) and UGC regulations
CO-2	Research and Publications ethics and best practices
	Welfare Economics-II Course Code: MA/ECO/4/DSC32
	At the end of Course Student should be able to:
CO-1	Be exposed to the applied welfare and public economics literatures and be able to relate the two literatures using conventional welfare economics tools.
CO-2	Demonstrate the knowledge and understanding about the significance of intervention of government and other institution in order to regulate externalities, public goods and to design the tax.
CO-3	Interpret the fundamental welfare theorems. To enable students to assess policy issues with reference to criteria that is drawn from welfare economics.
CO-4	Understanding the motivations of public intervention in the economy and how the collectivity can take into account objectives of equity and efficiency to make public choices and supply goods and services.
	Money, Banking and Public Finance Course Code: MA/ECO/9/OEC4
	At the end of Course Student should be able to:
CO-1	The student shall understand the different aspects of monetary system.
CO-2	Understanding the banking systems and its various aspects.
CO-3	Attain fundamental in-depth knowledge of various thoughts regarding public finance and public debt along with the sustainability, burden & management of public debt
CO-4	To understand the concept of public expenditure and budgeting along with their relevance.
	DEPARTMENT OF HISTORY

	PROGRAM: MASTER OF ARTS (M.A. HISTORY)
	Program Outcome (PO)
PO No	After completing the two-year master degree program, student will be able to:
PO-1	Demonstrate broad knowledge of historical events, theories, and methodologies.
PO-2	Conduct independent research and construct coherent arguments.
PO-3	Communicate effectively through oral presentations and scholarly writing.
PO-4	Engage in interdisciplinary approaches to history.
PO-5	Demonstrate ethical awareness and integrity in historical research.
	Program Specific Outcome (PSO)
PSO No	After Completing M.A. HISTORY, the student will be equipped to:
PSO-1	Apply advanced historical methodologies to investigate specific questions.
PSO-2	Evaluate existing historical interpretations and develop original perspectives.
PSO-3	Engage with diverse primary sources to enrich historical understanding.
PSO-4	Demonstrate proficiency in specialized research skills.
PSO-5	Contribute to scholarly discussions and debates within the field.
	Ancient Societies-1 Course Code: MA/H&A/1/CC1
	At the end of Course Student should be able to:
CO-1	Enhancement of knowledge about Human society and various cultures from Stone Age to Iron Age, world-wide phenomenon.
CO-2	Discuss major cultural structures, events and then shaping the world context
CO-3	Sharpens the understanding about different sources to understand the Ancient India (particularly Archaeological & Literary).
CO-4	Enrichment of knowledge about relation of different Civilizations to each other.
	Medieval Societies-1 Course Code: MA/H&A/1/CC2
	At the end of Course Student should be able to:
CO-1	Enhancement of knowledge about developments in Feudal India and Medieval India.
CO-2	Analyze and describe the Medieval State structure in Sultanate and Mughals.
CO-3	Sharpens the understanding about different sources to understand the Medieval India (particularly Archaeological & Literary).
CO-4	Enrichment of knowledge to understand the political institution of Medieval State i.e. Iqtadari, Mansabdari, Jagirdari, Zamindari.

	Modern World: Socio- Economic Trend Course Code: MA/H&A/1/CC3
	At the end of Course Student should be able to:
CO-1	Enhancement of knowledge about the various socio-economic trends in Modern Period.
CO-2	Analyze and describe how the modern west was emerged through Renaissance and other socioeconomic developments
CO-3	Sharpens the understanding about the rise of new order in the world in the form of Socialism and about the world crisis of 1919 and 1939 which led to World Wars.
CO-4	Enrichment of knowledge to understand how to the new political system emerged based on representative system.
	State in India (E.T. to 1526 A.D.)-1 Course Code: MA/H&A/1/CC4
	At the end of Course Student should be able to:
CO-1	Enhancement of knowledge about Institutional History that how the Institution of state rise and develop in India.
CO-2	Analyze and describe the emergence of the Mauryan and Gupta Emprise during the Classical age in India
CO-3	Sharpens the understanding about the key facts of Indian Society and the rise of Technology and Commerce.
CO-4	Formulate logical arguments substantiated with Historical aspects.
	History of Haryana (E.T. to 1526 A.D.)-1 Course Code: MA/H&A/1/CC5
	At the end of Course Student should be able to:
CO-1	Understand the theme of regional history is explored through study of Haryana from stone age to independence of India.
CO-2	Critically analyse the rise of various cultures are explored in the region of Haryana
CO-3	Critically evaluate the efforts of the people of this region in the foreign invasions.
CO-4	Critically analyse the rise of state formation and new power in the region of Haryana.
	Basics of Information and Technology (ICT)-1 Course Code: MA/H&A/1/SEC2
	At the end of Course Student should be able to:
CO-1	Understand the basic operating of computer and its various Software process.
CO-2	Understand the importance of computer in their study as well as their research field too.
CO-3	Unpack the complexities in the day-by-day technical problem.
CO-4	Understand the Hardware components of Computer & the History of Computer.

	Ancient Societies-2 Course Code: MA/H&A/2/CC6
	At the end of Course Student should be able to:
CO-1	Critically evaluate the development of human society and various cultures from Stone age to Iron age, world-wide phenomenon.
CO-2	Critically discuss major cultural structures, events and than shaping the world context.
CO-3	Evaluate and analyze different sources (particularly archaeological) in overseas.
CO-4	Critically evaluate the concept the decline of different civilizations and concept of relation of civilizations to each other.
	Medieval Societies-2 Course Code: MA/H&A/2/CC7
	At the end of Course Student should be able to:
CO-1	Critically evaluate the various developments in feudal Europe, Islamic World and Medieval World.
CO-2	Critically evaluate the Concept the Decline of Feudalism and Advent of Capitalism.
CO-3	Critically analyze and describe the rise of Middle East, Identify and describe the emergence of the Arab Caliphate, the Umayyad dynasty and Abbasid dynasty
CO-4	Evaluate and analyze the different aspects of administrative units specially in Indian context
	Modern World (Political Trends) Course Code: MA/H&A/2/CC8
	At the end of Course Student should be able to:
CO-1	Understand the various socio-economic trends in modern period.
CO-2	Critically evaluate how the modern west was emerged through renaissance and other socioeconomic developments.
CO-3	Critically analyses the rise of capitalism and imperialism led all these developments.
CO-4	Explain and analyses the rise of new order in the world in the form of socialism and about the world crisis of 1919 and 1939 which led to world wars.
	State in India (Mughals to Modern Times)-2 Course Code: MA/H&A/2/CC9
	At the end of Course Student should be able to:
CO-1	Evaluate and analyze of institutional history that how the institution of state rises and develop in India.
CO-2	Critically evaluate the nature of the state changes with the time and dynasty.
CO-3	Analyze the emergence of the Mauryan and Gupta empires during the classical age in India.
CO-4	Identify and analyze key facets of Indian Society and the rise of tchnology and commerce

	History of Haryana (C. 1526 to 1947 A.D.)-2 Course Code: MA/H&A/4/CC10
	At the end of Course Student should be able to:
CO-1	Understand the theme of regional history is explored through study of Haryana from Mughal to independence of India
CO-2	Critically evaluate the efforts of the people of this region in the foreign invasions.
CO-3	Critically analyse the rise of state formation and new power in the region of Haryana.
CO-4	Evaluate and analyze the different aspects of Mughal to modern administrative units.
	Information and Technology (ICT) and Contemporary World Course Code: MA/ H&A /2/ SEC8
	At the end of Course Student should be able to:
CO-1	Understand the ICT and its importance in contemporary world.
CO-2	Understand the importance of ICT in their study as well as their research field too.
CO-3	Unpack the complexities in the day by day technical problem.
CO-4	Understand the recent development in the field of ICT at world level.
	Historiography: Concepts, Methods & Tools-1 Course Code: MA/H&A/3/CC11
	At the end of Course Student should be able to:
CO-1	Developed their ability to assess critically historical analysis and argument, past and present
CO-2	Gained an understanding of the development of the academic study of history throughout the world since the later eighteenth century
CO-3	Gained an awareness of recent and contemporary debates in the theory, practice of historical writing and gained debate in history thinker
CO-4	Gained insight into how historical arguments have been and are made become aware of Historiographical traditions outside the West.
	Sources of Indian History (E.T. TO 1947 A.D.) Course Code: MA/H&A/3/CC12
	At the end of Course Student should be able to:
CO-1	To provide information to the students about the archaeological evidence received from the ancient times like coins, weapons, tools and pots.
CO-2	To provide knowledge of historical, literary and religious texts of ancient India.
CO-3	To provide information to the students about sufficient historical critically sources and evidences of medieval India.
CO-4	To provide information about the latest and sufficient evidence obtained from the British rule in India.
	Contemporary History of India (1948-2000 A.D.) Course Code: MA/H&A/3/CC13

	At the end of Course Student should be able to:
CO-1	Understand the Post-Modern History of India.
CO-2	Trace the political situation, developments of Contemporary India.
CO-3	Compare, connect and contrast economic performance of contemporary India with Colonial India.
CO-4	Create a better Historiographical understanding in the Contemporary History period.
Political History of India (C. 1757 to 1858 A.D.) Course Code: MA/H&A/3/DSC10	
	At the end of Course Student should be able to:
CO-1	Understand about the sources of Modern Indian History I.e. Archival Records, Private Courses, News Courses, Periodicals and Oral Traditions.
CO-2	Understand the pre-colonial Indian Polity.
CO-3	Understand the emergence of British Power and Indian resistances.
CO-4	Understand the diplomatic means of British Expansion and Paramountcy and aftermaths.
Society and Culture of India-I (C. 1757-1947 A.D.) Course Code: MA/H&A/3/DSC11	
	At the end of Course Student should be able to:
CO-1	Understand about the Pre-British Indian Society, British and Indian Society i.e. Christian Missionaries, British Social Policy and Approaches - Evangelicals and Orientalist.
CO-2	Critically analyze the growth of new education system and role of press in socio-political consciousness.
CO-3	Critically analyze the Indian literature and role in Indian cultural renaissance.
CO-4	Understand about social reforms of 19th century in India and women's emancipation.
Economic History of India-I (C. 1757-1947A.D.) Course Code: MA/H&A/3/DSC12	
	At the end of Course Student should be able to:
CO-1	Understand about the Pre-British Indian Economy, British and Indian Economy British Economical Policy and Approaches towards India and their homeland.
CO-2	Critically analyze the growth of new Economical system and role of Cash nexus.
CO-3	Critically analyze the Indian Pre-Colonial economy and its nature.
CO-4	Understand about the Economic reforms of 19th century in India
Nationalism in India Course Code: MA/H&A /O9/OEC6	
	At the end of Course Student should be able to:

CO-1	Critically examine inter-relations between various forms of nationalism in South Asia in general and the varieties of nationalism in Indian context in particular.
CO-2	Analyze nationalism in different perspectives
CO-3	Understand the approaches to Indian Nationalism and emergence of organized nationalism.
CO-4	Understand the working of Congress and Non-Congress Provincial Ministries and Communal Politics and Partition.
Historiography: Concepts, Methods and Tools - 2 Course Code: MA/H&A /4/CC14	
At the end of Course Student should be able to:	
CO-1	Developed their ability to assess critically historical analysis and argument, past and present.
CO-2	Gained an awareness of recent and contemporary debates in the theory, practice of historical writing and gained debate in history thinker.
CO-3	Gained insight into how historical arguments have been and are made become aware of historiographical traditions outside the West.
CO-4	Had the opportunity to think reflexively about the nature of the historical enterprise within society
History of Ideas Course Code: MA/H&A /4/CC15	
At the end of Course Student should be able to:	
CO-1	Understand dynamism in definition of religions through time in history. How these religions were developed in different societies in different periods of time. And how it affects the everyday lives of variety of people in ancient times.
CO-2	Understand how to look for variety of sources to understand various religions of ancient times which includes not just religious texts but also monuments, traditions, rituals etc.
CO-3	Understand how different religions affected each other and how the beliefs shifted in different directions. And how they have sustained till today through various institutions and rituals.
CO-4	Understand contribution of various tribes, classes and gender in the development, diversity and dynamism of various religious philosophies, beliefs and practices.
Cardinal Principle of Academic Integrity and Research Ethics Course Code: MA/H&A/4/CC16	
At the end of Course Student should be able to:	
CO-1	Know the Academic Integrity, Plagiarism (prevention and detection) and UGC regulations.
CO-2	Understand the Research and Publications ethics and best practices.
CO-3	Understand the basic Ethics in the field of Research.
CO-4	Know-how to the research Ethics and principles shapes a good and healthy academic integrity

	Indian National Movement (C. 1858-1947 A.D.) Course Code: MA/H&A/4/DSC22
	At the end of Course Student should be able to:
CO-1	Got basic knowledge about the emergence of the mass movements. civil disobedience movement etc.
CO-2	Understand the last phase of Revolutionary Movement. Indian National Congress and Socialist Movement
CO-3	Understand the Quit Indian Movement, Emergence of States People's Conference, Praja Mandal Movement.
CO-4	Understand the Communalism at its Zenith. To understand the British Response Transfer of Power.
	Society and Culture of India-II (C. 1757-1947 A.D.) Course Code: MA/H&A/4/DSC23
	At the end of Course Student should be able to:
CO-1	Got basic knowledge about the rise of new classes and role of middle class in Modernization.
CO-2	Understand the causes and anture of Indian Cultural Renaissance Raja Ram Mohan Roy and Brahmo Samaj and Ram Krishnan Mission.
CO-3	Understand the Wahabi Movement and Arya Samaj Movementm and Aligarh Movement.
CO-4	Understand the Rise and Growth of depressed class movement, untouchability etc.
	Economic History of India-II (C. 1757-1947 A.D.) Course Code: MA/H&A/4/DSC24
	At the end of Course Student should be able to:
CO-1	Got basic knowledge about the foreign trade in colonial India with reference to Mercantilism, Industrial Capitalism and Finance Capitalism, Price Movements, Tarriff policy.
CO-2	Understand the Urban Markets and growth/decline of urban centres in colonial India, Industries and Industrial policy in colonial India
CO-3	Understand the theory about the Drain of wealth, Banking System
CO-4	Understand the environment, forests and the colonial state, labour and the trade union movement, consequences of colonial rule on Indian economy.
	The Great Revolt of 1857 Course Code: MA/H&A /E9/OEC8
	At the end of Course Student should be able to:
CO-1	Acquainted with problems of sources for writing histories of the revolt, particularly the excessive reliance on the colonial archive due to its relative profusion.
CO-2	Familiar with character of the colonial state in the nineteenth century, with its recourse to the use of violence to establish its authority.
CO-3	Grasp the different ways in which individuals and social groups perceived colonial authority, articulated grievances, opposed or sided with the state or its organs, and the options available to empire for exercising power.

CO-4	Make sense of the processes whereby resistance and collaboration shaped colonialism during the second and third quarters of the nineteenth century
DEPARTMENT OF COMMERCE	
PROGRAM: MASTER OF COMMERCE(M.COM)	
Program Outcome (PO)	
PO No	After completing the two-year master degree program, student will be able to:
PO-1	Business Knowledge: Apply knowledge of business and trade theories and practices to solve business problems.
PO-2	Critical Thinking: To foster Analytical and critical thinking abilities for data-based decision-making.
PO-3	Strategic Development: To develop strategies and to formulate plans after making trend analyses of different problems.
PO-4	Business Solutions: Ability to offers business solutions to different problems in the fields of trade, business and commerce.
PO-5	Leadership: Ability to develop Value based Leadership to lead various types of organisations.
PO-6	Communication and Other Skills: Ability to understand, analyze and communicate global, economic, legal, and ethical aspects of business.
PO-7	Team Dynamics: Ability to lead themselves by contributing effectively in a team environment.
PO-8	Teaching Skills: Ability to develop the teaching skills in higher education system
Program Specific Outcome (PSO)	
PSO No	After Completing MASTER OF COMMERCE, the student will be equipped to:
PSO-1	Environmental Awareness for Sustainability: Understand the new business models to access the impact of the business solutions in economic, societal and environmental contexts.
PSO-2	Business Ethics and Values: Apply ethical principles and commit to commerce professional ethics and values for discharging all responsibilities within the laid norms of the business and management practices.
PSO-3	Social Responsibility: Recognize the need for, and have the preparation and ability to engage in independent global business environment dynamics.
PSO-4	Life-long Learning: Have to prepare for life-long learning at global level.
MCOM/GEN/1/CC1 Management Process and Organizational Behaviour	
COs: After successfully completing this course, students will be able to	
CO1	Students will be able to recall the concepts of management process and organizational behaviour.
CO2	Students will be able to understand individual and group behaviour, and understand the implications of organizational behaviour on the process of management
CO3	Students will be able to employ different motivational theories and evaluate motivational strategies used in a variety of organizational settings.

CO4	Students will be able to appraise the basic design elements of organizational structure and evaluate their impact on employees.
CO5	Students will be able to evaluate how organizational change and culture affect working relationships within organizations.
CO6	Students will be able to design strategies to manage individual, group and organizational behaviour.
MCOM/GEN/1/CC2 Business Environment	
COs: After successfully completing this course, students will be able to	
CO1	Students will be able to define and trace all the indicators of micro and macro environment affecting business organizations
CO2	Students will be able to identify and illustrate the impact, challenges and opportunities of all environmental indicators on business organizations
CO3	Students will be able to apply and demonstrate the gathered knowledge about how the various laws and other national and international policies influence the organizations in order to take proactive measures so that organizational effectiveness is maintained
CO4	Students will be able to distinguish and examine the necessary techniques and skills that help them in handling the organization's global and national issues efficiently.
CO5	Students will be able to evaluate and value the importance of environment within which a business organization has to sustain itself successfully
CO6	Students will be able to design and develop their approaches and systems in maintaining coherence both at micro and macro level
MCOM/GEN/1/CC3 Managerial Economics	
COs: After successfully completing this course, students will be able to	
CO1	Students will be able to define the terms associated with managerial economics.
CO2	Students will be able to explain different theories of managerial economics.
CO3	Students will be able to apply the models of managerial economics in business decisions
CO4	Students will be able to examine the demand and supply forces and their effect on pricing and output related decisions
CO5	Students will be able to evaluate the effectiveness of various models and theories of managerial economics in demand, supply, production and costs related decision making procedures.
CO6	Students will be able to create the competitive strategies to ensure optimum utilisation of resources.
MCOM/GEN/1/CC4 Financial Accounting and Reporting	
COs: After successfully completing this course, students will be able to	
CO1	Students will be able to describe various accounting concepts and principles.
CO2	Students will be able to recognize the usefulness of Financial Accounting & Reporting and its applications in the business.
CO3	Students will be able to apply the principles, postulates and techniques of accounting for planning and decision making.

CO4	Students will be able to differentiate between various types of accounting and reporting practices being followed within the organisation.
CO5	Students will be able to appraise the performance of organisations with the help of financial statements presented at the end of the year.
CO6	Students will be able to formulate advanced policy structure comprising of all accounting information required for controlling deviations in the performance.
MCOM/GEN/1/CC2 Business Environment	
COs: After successfully completing this course, students will be able to	
CO1	Students will be able to define and trace all the indicators of micro and macro environment affecting business organizations
CO2	Students will be able to identify and illustrate the impact, challenges and opportunities of all environmental indicators on business organizations
CO3	Students will be able to apply and demonstrate the gathered knowledge about how the various laws and other national and international policies influence the organizations in order to take proactive measures so that organizational effectiveness is maintained
CO4	Students will be able to distinguish and examine the necessary techniques and skills that help them in handling the organization's global and national issues efficiently.
CO5	Students will be able to evaluate and value the importance of environment within which a business organization has to sustain itself successfully
CO6	Students will be able to design and develop their approaches and systems in maintaining coherence both at micro and macro level
MCOM/GEN/1/CC3 Managerial Economics	
COs: After successfully completing this course, students will be able to	
CO1	Students will be able to define the terms associated with managerial economics.
CO2	Students will be able to explain different theories of managerial economics.
CO3	Students will be able to apply the models of managerial economics in business decisions
CO4	Students will be able to examine the demand and supply forces and their effect on pricing and output related decisions
CO5	Students will be able to evaluate the effectiveness of various models and theories of managerial economics in demand, supply, production and costs related decision making procedures.
CO6	Students will be able to create the competitive strategies to ensure optimum utilisation of resources.
MCOM/GEN/1/CC4 Financial Accounting and Reporting	
COs: After successfully completing this course, students will be able to	
CO1	Students will be able to describe various accounting concepts and principles.
CO2	Students will be able to recognize the usefulness of Financial Accounting & Reporting and its applications in the business.
CO3	Students will be able to apply the principles, postulates and techniques of accounting for planning and decision making.

CO4	Students will be able to differentiate between various types of accounting and reporting practices being followed within the organisation.
CO5	Students will be able to appraise the performance of organisations with the help of financial statements presented at the end of the year.
CO6	Students will be able to formulate advanced policy structure comprising of all accounting information required for controlling deviations in the performance.
MCOM/GEN/1/CC5 Business Statistics	
COs: After successfully completing this course, students will be able to	
CO1	Students will be able to recall different terms used in statistics
CO2	Students will be able to understand the different methods used in statistics.
CO3	Students will be able to apply the knowledge of statistics in their future studies as well as in corporate sector also.
CO4	Students will be able to analyze the importance of statistics in business.
CO5	Students will be able to evaluate the proficiency of statistical methods in an industry or business.
CO6	Students will be able to assemble the different methods of statistics for the well being of business
MCOM/GEN/1/SEC1 Computer Applications in Business and Cyber Security	
COs: After successfully completing this course, students will be able to	
CO1	Students will be able to relate with various software related to office application.
CO2	Students will be able to explain and identify electronic data transfer takes place and will be able to handle data base management systems.
CO3	Students will be able to use and operate telecommunication networks which are most commonly used in organizations.
CO4	Students will be able to question and test the various operations of the internet
CO5	Students will be able to evaluate and examine the perspectives of cyber security hence bearing ethical responsibility.
CO6	Students will be able to develop solutions for real-life problems based on computer applications and cyber security.
MCOM/GEN/2/CC6 Management Control Systems	
COs: After successfully completing this course, students will be able to	
CO1	Students will be able to be acquainted with the concept of control system.
CO2	Students will be able to discuss various responsibility centres used in business organisation.
CO3	Students will be able to understand the management control system.
CO4	Students will be able to describe the tools of budgeting and project control.
CO5	Students will be able to know about the transfer pricing.

CO6	Students will be capable to understand the management control system in manufacturing, financial services, non-profit organization and projects.
MCOM/GEN/2/CC7 Advanced Financial Management and Policy	
COs: After successfully completing this course, students will be able to	
CO1	Students will be able to outline the basic framework of financial management.
CO2	Students will be able to explain the role of financial management for financial decision making in business.
CO3	Students will be able to apply various theories of capital structure and dividend policy
CO4	Students will be able to examine risk in capital budgeting decisions.
CO5	Students will be able to select various sources of finance with evaluation of their cost
CO6	Students will be able to create working capital policy for organization.
MCOM/GEN/2/CC8 Marketing Management	
COs: After successfully completing this course, students will be able to	
CO1	Students will be able to recall and describe the fundamental concepts related to marketing.
CO2	Students will be able to describe the different approaches of marketing and environment in which marketing systems operate.
CO3	Students will be able to demonstrate an understanding of the 4Ps used by the marketers.
CO4	Students will be able to examine the upcoming trends of marketing in the ever dynamic business world.
CO5	Students will be able to evaluate the marketing strategies and programmes of different products in real world.
CO6	Students will be able to design a marketing plan for real world market offering (product/ service).
MCOM/GEN/2/CC9 Cost and Management Accounting	
COs: After successfully completing this course, students will be able to	
CO1	Students will be able to define the basic concepts in the field of Management Accounting
CO2	Students will be able to recognize the contribution of Management and Cost Accounting in quality decision making.
CO3	Students will be able to apply various methods and techniques of Management and cost Accounting to optimize the utilization of the resources.
CO4	Students will be able to appraise the utility of different methods in finding optimal solutions of the managerial problems.
CO5	Students will be able to evaluate the performance and suitability of different methods used for efficient utilization of the resources.
CO6	Students will be able to formulate the budgets and interpret the results produced by the applied models.
MCOM/GEN/2/CC10 International Business	

	COs: After successfully completing this course, students will be able to
CO1	Students will be able to describe the different concepts and terms used in the literature of International Business.
CO2	Students will be able to identify the importance of tariffs, theories, modes, foreign exchange market, international organization and strategies.
CO3	Students will be able to illustrate and interpret the macroeconomic changes that affect the international business.
CO4	Students will be able to examine the recent practices followed across functional areas of international business.
CO5	Students will be able to evaluate the strategic alliance, merger and acquisition, joint venture and regulation of international business.
CO6	Students will be able to design international business strategies.
MCOM/GEN/2/SEC2 Research Methodology	
	COs: After successfully completing this course, students will be able to
CO1	Students will be able to relate with the basic understanding of research methodology in the changing business scenario.
CO2	Students will be able to identify and classify the application of analytical techniques to face the tasks aimed at fulfilling the objective of business decision making.
CO3	Students will be able to apply and demonstrate an understanding of ethical dimensions of conducting research.
CO4	Students will be able to distinguish and examine the necessary experimental techniques that help in scientific decision making.
CO5	Students will be able to judge and support best alternatively relating to the practices learnt through research methods.
CO6	Students will be able to assemble and formulate advanced ways of taking decisions in a logical manner.
MCOM/GEN/3/CC11 Ethics, Corporate Governance and Sustainability	
	COs: After successfully completing this course, students will be able to
CO1	The students will be able to list various constituents of entrepreneurship development.
CO2	The students will be able to identify the various environmental factors affecting entrepreneurship development
CO3	The students will be able to demonstrate skills to develop business plan at individual level.
CO4	The students will be able to examine the feasibility of a business
CO5	The students will be able to evaluate the funding alternatives available for entrepreneurs.
CO6	The students will be able to develop and implement a business plan.
MCOM/GEN/3/CC12 Export Import Procedures and Documentation	
	COs: After successfully completing this course, students will be able to

CO1	Students will be able to describe the legal framework and procedure governing international trade
CO2	Students will be able to explain the incorporation of various terms in drafting of an export contract and understand the importance of risk management.
CO3	Students will be able to apply the concepts learned in terms of export order, delivery and international trade pricing to actual transactions
CO4	Students will be able to appraise the role and importance of export-import documentation and procedure framework according to commodities and countries
CO5	Students will be able to evaluate the nuances of import and export clearance procedures.
CO6	Students will be able to develop the skills to export-import various commodities in different countries and avail benefits of various export incentives and promotional schemes given by government.
MCOM/GEN/4/CC13 Strategic Management	
COs: After successfully completing this course, students will be able to	
CO1	Students will be able to outline the type of decisions taken at different levels of organisation.
CO2	Students will be able to explain the process of strategic decision making in an organisation.
CO3	Students will be able to apply various tools to assess business environment.
CO4	Students will be able to differentiate among various stages of strategic management starting from strategy formulation to its evaluation.
CO5	Students will be able to evaluate the strategy which best fits in achieving the organisational goals.
CO6	Students will be able to develop a framework of how an organisation actually works by developing policies and strategies
MCOM/GEN/4/CC14 E-Commerce	
COs: After successfully completing this course, students will be able to	
CO1	Students will be able to outline the type of decisions taken at different levels of organisation.
CO2	Students will be able to explain the process of strategic decision making in an organisation
CO3	Students will be able to apply various tools to assess business environment.
CO4	Students will be able to differentiate among various models of E-Commerce.
CO5	Students will be able to evaluate the strategy which best fits in achieving the organisational goals by ways of e-commerce.
CO6	Students will be able to develop a framework of how an organisation actually works by etools.
MCOM/GEN/4/DSC1/FM Management of Banks and Financial Institutions	
COs: After successfully completing this course, students will be able to	

CO1	Students will be able to recall the evolution and current state of Indian Financial System and banking Industry
CO2	Students will be able to describe the working and management of Commercial Banks in India
CO3	Students will be able to interpret the significance of being most tightly regulated industries in the world
CO4	Students will be able to appraise the regulatory structure within which the banking system operates
CO5	Students will be able to critically analyze the pivotal role of banking in a financial system
CO6	Students will be able to construct and analyze different challenges faced by banks and financial institutions
MCOM/GEN/4/DSC2/FM Financial Markets and Services	
COs: After successfully completing this course, students will be able to	
CO1	Students will be able to describe financial market operations
CO2	Students will be able to explain the various concepts related to financial markets and services.
CO3	Students will be able to solve various investment related issues facing the investors.
CO4	Students will be able to examine how the overall financial system works and various aspects associated with it
CO5	Students will be able to evaluate the best sources feasible for fulfilling their financial requirements related to the business
CO6	Students will be able to formulate different financial plans for the organisations with the help of different services provided by the financial markets
MCOM/GEN/4/DSC1/MM Retail Management	
COs: After successfully completing this course, students will be able to	
CO1	Students will be able to define the different terms used in the retail sector.
CO2	Students will be able to identify the current retail structure in India.
CO3	Students will be able to demonstrate the insights of retailing and related key activities.
CO4	Students will be able to appraise the importance of retailing and its role in the success of modern businesses.
CO5	Students will be able to evaluate the current marketing scenario and identify retail opportunities thereof.
CO6	Students will be able to develop a retail plan for opening up a retail store.
MCOM/GEN/4/DSC2/MM Rural Marketing	
COs: After successfully completing this course, students will be able to	
CO1	Students will be able to recite problems in rural marketing and changing focus of corporate towards rural market.

CO2	Students will be able to recognize need of agricultural marketing in economic development and constraints of agricultural marketing.
CO3	Students will be able to solve the problems of cooperative sector in India.
CO4	Students will be able to appraise role of supply chain in agricultural marketing
CO5	Students will be able to evaluate role of government and financial institution in growth of rural and agricultural marketing
CO6	Students will be able to develop model for rural and agricultural marketing.
DEPARTMENT OF HINDI	
MASTER OF ARTS(M.A.HINDI)	
Program Outcome (PO)	
PO No	After completing the two year master degree program, student will be able to:
PO-1	Knowledge: Prepare students academically by imparting a detailed knowledge and understanding of selected fields of study in the core disciplines of Humanities and languages (Hindi, Punjabi, Sanskrit and English) in order to promote their cognitive growth and enable them apply this knowledge in their personal, professional and social life.
PO-2	Specialization and Employability: Enhance communication skills, soft skills and linguistic proficiency to make them successful in the career they opt.
PO-3	Orientation towards Inter-disciplinarity: Demonstrate a general understanding of the concepts and principles of selected areas of study outside core disciplines of humanities and languages.
PO-4	Application Development: Students shall be introduced to Indian and western aesthetics and works in translation to enable them to critically analyse all literary genres by applying theoretical concepts derived from various disciplines while situating them in the broader frameworks of historical movements, literary criticism and theory.
PO-5	Critical Thinking: Develop critical skills to analyse literatures in English, Punjabi, Sanskrit and Hindi with focus on issues relating to ethnic groups, race, class, gender and alternative sexualities, exclusion, representation, environment and ecological issues and trends like multiculturalism, post colonialism, post-humanism, migration etc.
PO-6	IT-based Skills and Research Ethics: Introduce students to basics of research methodology, research ethics, computer application and ICT- enabled learning practices.
PO-7	Problem Solving: Train the students for innovative practices which will help them understand the underlying connection between literature, politics and society.
PO-8	Ethics and Leadership: Enhance their ability to embrace and practice moral and ethical values so as to enable them to take leadership roles in their personal, professional and social life.
Program Specific Outcome (PSO)	
PSO No	After Completing MA(HINDI), the student will be equipped to :

PSO-1	Knowledge of general principles of language and practical application of Hindi language.
PSO-2	Be positive towards the reality of the material world and the reality of the real world. Development of sensitive viewpoint and personality.
PSO-3	Developed understanding of various streams and schools of Indian literary truth. This will increase the understanding of the specialties of literature of different eras, currents and periods. Contemporary literature explores its era through various forms of truth, movements and discussions.
PSO-4	Enhanced ability to write creatively for various literary features and mass media. To create a conscience towards the values of literary truth, art and ideological values.
PSO-5	Theoretical and practical knowledge about linguistic skills, computers, translation, journalism, mass communication, theatre, cinema etc. for livelihood. Introduction and recognition of the inherent unity in various aspects of Indian society and cultural life. Country and Society Development of the feeling of unity and integrity. Identification of the essence of humanity's well-being through literature.
MA/HIN/1/CC1 भाषाविज्ञान एवं हिंदी भाषा (प्रथम)	
COs: After successfully completing this course, students will be able to	
CO1	भाषा विज्ञान के विभिन्न अवयवों की जानकारी मिलेगी।
CO2	भाषायी अध्ययन और साहित्य के भाषायी अध्ययन में मदद मिलेगी।
CO3	हिंदी भाषा के विकास व उसकी बोलियों का अध्ययन होगा।
CO4	हिंदी भाषा के विविध रूप व प्रयोजनमूलकता से परिचित होंगे।
MA/HIN/1/CC2 हिंदी साहित्य का इतिहास	
COs: After successfully completing this course, students will be able to	
CO1	इतिहास व साहित्येतिहास लेखन के महत्व व उसके लेखन की प्रक्रिया का परिचय होगा।
CO2	हिंदी साहित्य के विभिन्न पाठ्य, आंदोलनों की जानकारी होगी।
CO3	भारतीय इतिहास के परिवर्तनों व उसके हिंदी साहित्य पर पड़े परभावों की पहचान होगी।
CO4	आधुनिक काल की हिंदी कविता के विकास का परिचय।
MA/HIN/1/CC3 आधुनिक कथा साहित्य।	
COs: After successfully completing this course, students will be able to	
CO1	आधुनिक कथा-साहित्य का नयी सोच और नए दृष्टिकोणों के सन्दर्भ में अध्ययन कर सकेंगे।
CO2	आधुनिक कथा-साहित्य का परिवेश और मनुष्य के बीच के सम्बन्धों को बखूबी समझ सकेंगे।
CO3	हिंदी की व्यवहारिकता गद्य साहित्य के सन्दर्भ में पुष्ट हो सकेगी।
CO4	आधुनिक कथा-साहित्य का परिवेशगत अवमूल्यन पर चोट का मूल्यांकन कर सकेंगे।

	MA/HIN/1/CC4 स्वतंत्रतापूर्व आधुनिक हिंदी काव्य
	COs: After successfully completing this course,students will be able to
CO1	स्वतंत्रतापूर्व हिंदी कविता,आधुनिक हिंदी कविता की पृष्ठभूमि की जानकारी प्राप्त ।
CO2	स्वतंत्रतापूर्व हिंदी कविता संवेदना ,शिल्प ,सामाजिक सरोकारों से परिचय होगा ।
CO3	स्वतंत्रतापूर्व हिंदी कविता के विभिन्न कवियों के काव्य वैशिष्ट्य का बोध हो सकेगा ।
CO4	स्वतंत्रतापूर्व हिंदी कविता का नवजागरण और राष्ट्रीय आंदोलन से सम्बन्धों का बोध हो सकेगा ।
	MA/HIN/1/DS1 भारतेन्दु हरिश्चंद्र: एक विशेष अध्ययन
	COs: After successfully completing this course,students will be able to
CO1	भारतेन्दु हरिश्चंद्र के जीवन , साहित्य और दर्शन का बोध होगा ।
CO2	भारतेन्दु हरिश्चंद्र के हिंदी भाषा के निर्माण व साहित्यिक अवदान की समझ विकसित होगी ।
CO3	भारतेन्दु हरिश्चंद्र के नाटक , पत्रकारिता , काव्य सरोकारों व मूल्यों का बोध होगा ।
CO4	नवजागरण व राष्ट्रीय आंदोलन में हिंदी साहित्य के योगदान की समझ विकसित होगी ।
	MA/HIN/1/DS3 सूर्यकांत त्रिपाठी निराला : एक विशेष अध्ययन
	COs: After successfully completing this course,students will be able to
CO1	सूर्यकांत त्रिपाठी निराला के जीवन , साहित्य और दर्शन का बोध होगा ।
CO2	सूर्यकांत त्रिपाठी निराला के साहित्यिक अवदान की समझ विकसित होगी ।
CO3	सूर्यकांत त्रिपाठी निराला के साहित्य सरोकारों व मूल्यों का बोध होगा ।
CO4	नवजागरण व राष्ट्रीय आंदोलन में हिंदी साहित्य के योगदान की समझ विकसित होगी ।
	MA/HIN/2/CC5 भाषाविज्ञान एवं हिंदी भाषा (द्वितीय)
	COs: After successfully completing this course,students will be able to
CO1	भाषा विज्ञान के विभिन्न अवयवों की जानकारी मिलेगी ।
CO2	भाषायी अध्ययन और साहित्य के भाषायी अध्ययन में मदद मिलेगी ।
CO3	हिंदी भाषा के विकास व उसकी बोलियों का अध्ययन होगा ।
CO4	हिंदी भाषा के विविध रूप व प्रयोजनमूलकता से परिचित होंगे ।
	MA/HIN/2/CC6 भक्ति एवं रीतिकालीन काव्य
	COs: After successfully completing this course,students will be able to
CO1	मध्यकालीन हिंदी कविता का परिचय करवाना ।
CO2	मध्यकालीन हिंदी कविता की आलोचनात्मक समझ का विकास करना ।

CO3	मध्यकाल के अंतर्गत परिगणित भक्तिकाल साहित्य के 'स्वर्णयुग' से सम्पूर्ण परिचय प्रदान करना
CO4	भक्तिकाव्य के महान नायको के काव्य अध्ययन के माध्यम से अनुभूति , अभिव्यक्ति और वैचारिकता के उत्कर्ष को आत्मसात करना एवं जानना
MA/HIN/2/CC7 हिंदी कथेतर साहित्य	
COs: After successfully completing this course,students will be able to	
CO1	हिंदी आत्मकथा का विकास
CO2	हिंदी जीवनी का विकास व आलोचनात्मक समझ
CO3	हिंदी निबंध की समझ विकसित करना
CO4	हिंदी रेखाचित्र का विकास व आलोचनात्मक समझ
MA/HIN/1/DS5 कबीरदास: एक विशेष अध्ययन	
COs: After successfully completing this course,students will be able to	
CO1	कबीरदास के जीवन , साहित्य और दर्शन का बोध होगा
CO2	कबीरदास के साहित्यिक अवदान की समझ
CO3	कबीरदास के साहित्य सरोकारों व मूल्यों का बोध
CO4	कबीर चिंतन की भारतीय लोकजीवन में उपस्थिति का बोध
MA/HIN/1/DS8 तुलसीदास: एक विशेष अध्ययन	
COs: After successfully completing this course,students will be able to	
CO1	तुलसीदास के जीवन , साहित्य और दर्शन का परिचय
CO2	तुलसीदास के साहित्यिक अवदान की समझ
CO3	तुलसीदास के साहित्य सरोकारों व मूल्यों का बोध
CO4	तुलसीदास के चिंतन की भारतीय लोकजीवन में उपस्थिति का बोध होगा
MA/HIN/1/SEC1 हिंदी सम्भाषण एवं सम्प्रेषण कौशल	
COs: After successfully completing this course,students will be able to	
CO1	सार्वजनिक मंचो पर अभिव्यक्ति की क्षमता विकसित होगी
CO2	वैयक्तिक , सामाजिक, व व्यावसायिक व्यवहार में संवाद क्षमता विकसित होगी
CO3	हिंदी भाषा में अपेक्षित सम्प्रेषण कर पाएगा
CO4	सम्प्रेषण की विधियों को सीखकर हिंदी भाषा में मौखिक व लिखित रूप में अपेक्षित व प्रभावी सम्प्रेषण करने में सक्षम होगा
MA/HIN/3/CC8 भारतीय काव्यशास्त्र के सिद्धांत	
COs: After successfully completing this course,students will be able to	

CO1	भारतीय ज्ञान की परम्पराओं का बोध होगा।
CO2	संस्कृत भाषा में साहित्य चिंतन की जानकारी प्राप्त होगी।
CO3	हिंदी व अन्य भारतीय भाषाओं में साहित्य चिंतन की जानकारी प्राप्त होगी।
CO4	साहित्य की आलोचना और मूल्यांकन की दृष्टि का विकास होगा।
MA/HIN/1/CC9 स्वातंत्र्योत्तर आधुनिक हिंदी काव्य	
COs: After successfully completing this course, students will be able to	
CO1	स्वातंत्र्योत्तर हिंदी कविता, आधुनिक हिंदी कविता की पृष्ठभूमि की जानकारी प्राप्त।
CO2	स्वातंत्र्योत्तर हिंदी कविता संवेदना, शिल्प, सामाजिक सरोकारों से परिचय होगा।
CO3	स्वातंत्र्योत्तर हिंदी कविता के विभिन्न कवियों के काव्य वैशिष्ट्य का बोध हो सकेगा।
CO4	स्वातंत्र्योत्तर हिंदी कविता का नवजागरण और राष्ट्रीय आंदोलन से सम्बन्धों का बोध हो सकेगा।
MA/HIN/1/CC10 स्वातंत्र्योत्तर हिंदी उपन्यास	
COs: After successfully completing this course, students will be able to	
CO1	हिंदी उपन्यास की समझ विकसित होगी।
CO2	भारतीय मध्यवर्ग, किसान व अन्य वर्गों की उपन्यासों में उपस्थिति का बोध।
CO3	स्वतंत्रता पूर्व व स्वतंत्र भारत की नब्ज को उपन्यास साहित्य के माध्यम से विद्यार्थी चिन्हित कर सकेंगे।
CO4	हिंदी उपन्यासों की संरचना व शिल्प का बोध।
MA/HIN/1/CC11 हिंदी आलोचना	
COs: After successfully completing this course, students will be able to	
CO1	हिंदी आलोचना के विकास का परिचय हो सकेगा।
CO2	हिंदी समीक्षा की आलोचनात्मक समझ विकसित होगी।
CO3	हिंदी आलोचना के विकास व विभिन्न आलोचकों की आलोचना दृष्टि से परिचय प्राप्त हो सकेगा।
CO4	साहित्यालोचना की क्षमता विकसित होगी।
MA/HIN/1/DSC9 प्रेमचंद : एक विशेष अध्ययन	
COs: After successfully completing this course, students will be able to	
CO1	प्रेमचंद के जीवन, साहित्य और दर्शन का बोध होगा।
CO2	प्रेमचंद के साहित्यिक अवदान की समझ विकसित होगी।
CO3	प्रेमचंद के साहित्य सरोकारों व मूल्यों का बोध होगा।
CO4	नवजागरण व राष्ट्रीय आंदोलन में हिंदी साहित्य के योगदान की समझ विकसित होगी।

	MA/HIN/1/SEC2 कंप्यूटर का हिंदी में अनुप्रयोग
	COs: After successfully completing this course, students will be able to
CO1	विद्यार्थियों की हिंदी टंकण के प्रति जानकारी बढ़ेगी
CO2	कंप्यूटर व उसके उपकरणों के प्रति ज्ञान में वृद्धि
CO3	कंप्यूटर क माध्यम से विद्यार्थियों को अद्यतन जानकारी मिलेगी
CO4	हिंदी भाषा के विकास में कंप्यूटर के योगदान का महत्व समझा जायेगा
	MA/HIN/4/CC12 पाश्चात्य काव्य शास्त्र के सिद्धांत
	COs: After successfully completing this course, students will be able to
CO1	पाश्चात्य ज्ञान की परम्पराओं का बोध होगा
CO2	पाश्चात्य साहित्य चिंतन की जानकारी विकसित होगी
CO3	पाश्चात्य साहित्य चिंतन में विभिन्न विचारधाराओं,वादों, पद्धतियों का परिचय होगा
CO4	साहित्य की आलोचना और मूल्यांकन की दृष्टि का विकास होगा
	MA/HIN/4/CC13 भारतीय साहित्य
	COs: After successfully completing this course, students will be able to
CO1	भारतीय साहित्य की अवधारणा की समझ विकसित होगी
CO2	भारतीय साहित्य में अभिव्यक्त मूल्यों से परिचय होगा
CO3	भारतीय साहित्य में राष्ट्रीय एकता के सूत्रों का बोध होगा
CO4	हिंदी साहित्य की हिंदी से इतर भाषाओं के साहित्य की तुलनात्मक बोध हो सकेगा
	MA/HIN/4/CC14 हरियाणा की लोक संस्कृति एवं साहित्य
	COs: After successfully completing this course, students will be able to
CO1	लोक संस्कृति की अवधारणा की समझ विकसित होगी
CO2	हरियाणवी साहित्य की विशेषताएँ व परिचय का बोध होगा
CO3	हरियाणवी साहित्य में रचित लोक गीत व सांग का बोध होगा
	MA/HIN/1/DSC12 जनसंचार माध्यम एवं हिंदी
	COs: After successfully completing this course, students will be able to
CO1	हिंदी पत्रकारिता के विकास की समझ विकसित होगी
CO2	जनसंचार के सिद्धान्तों व व्यावहारिक पहलुओं की समझ विकसित होगी
CO3	जनसंचार के प्रिंट माध्यमों के लिए लेखन की क्षमता में अभिवृद्धि विकसित होगी

CO4	जनसंचार के इलेक्ट्रॉनिक व इंटरनेट के लिए लेखन की क्षमता में अभिवृद्धि विकसित होगी
MA/HIN/1/DSC13 हिंदी नाटक	
COs: After successfully completing this course, students will be able to	
CO1	रंगमंच का व्यावहारिक स्तर पर अवलोकन होगा
CO2	नाटक के माध्यम से विद्यार्थी अभिनय की बारीकियों को भी समझेंगे
CO3	ऐतिहासिक नाटक को पढ़ते हुए विद्यार्थियों की ऐतिहासिक दृष्टि का विकास होगा
CO4	नाटक के माध्यम से भारतीय संस्कृति का ज्ञान प्राप्त करेंगे
DEPARTMENT OF ENGLISH	
PROGRAM: MASTER OF ARTS(M.A.ENGLISH)	
PO No	Program Outcome (PO) After completing the two year master degree program, student will be able to:
PO-1	Knowledge: Prepare students academically by imparting a detailed knowledge and understanding of selected fields of study in the core disciplines of Humanities and languages (Hindi, Punjabi, Sanskrit and English) in order to promote their cognitive growth and enable them apply this knowledge in their personal, professional and social life.
PO-2	Specialization and Employability: Enhance communication skills, soft skills and linguistic proficiency to make them successful in the career they opt.
PO-3	Orientation towards Inter-disciplinarity: Demonstrate a general understanding of the concepts and principles of selected areas of study outside core disciplines of humanities and languages.
PO-4	Application Development: Students shall be introduced to Indian and western aesthetics and works in translation to enable them to critically analyse all literary genres by applying theoretical concepts derived from various disciplines while situating them in the broader frameworks of historical movements, literary criticism and theory.
PO-5	Critical Thinking: Develop critical skills to analyse literatures in English, Punjabi, Sanskrit and Hindi with focus on issues relating to ethnic groups, race, class, gender and alternative sexualities, exclusion, representation, environment and ecological issues and trends like multiculturalism, post colonialism, post-humanism, migration etc.
PO-6	IT-based Skills and Research Ethics: Introduce students to basics of research methodology, research ethics, computer application and ICT- enabled learning practices.
PO-7	Problem Solving: Train the students for innovative practices which will help them understand the underlying connection between literature, politics and society.
PO-8	Ethics and Leadership: Enhance their ability to embrace and practice moral and ethical values so as to enable them to take leadership roles in their personal, professional and social life.

	Program Specific Outcome (PSO)
PSO No	After Completing MA(ENGLISH), the student will be equipped to :
PSO-1	Development of cognition and a healthy moral sense through incisive understanding of human motives and behaviours as gathered from in-depth study of literary texts and critical works.
PSO-2	Ability to utilize the principles of Indian as well as western aesthetics, literary criticism and theory, and interdisciplinary perspectives in the interpretation of the literary texts.
PSO-3	Application of ICT in teaching and learning of English language and literature.
PSO-4	Development of effective communicative skills in English and a literary and critical sense that would enable to them to think critically, write creatively, script effectively and edit texts successfully.
PSO-5	Knowledge of various perspectives, literary movements and cultural trends in India and the world through literary and critical works in translation and its applicability for problem solving in personal, social and professional life.
	MA/ENG/1/CC1 Introduction to English Literature
	At the end of course student should be able to:
CO-1	Be exposed to the basic functions and nature of literature.
CO-2	Understand literature and its place in society.
CO-3	Get to know various domains of knowledge and their relationship with literature
CO-4	Know various genres in literature and their types
	MA/ENG/1/CC2 Early British Drama up to The Restoration Age
	At the end of course student should be able to:
CO-1	Get acquainted with selected masterpieces of British Drama up to the Restoration Age.
CO-2	Be able to learn and appreciate 'the structure of feelings' i.e. the subtle connection between literature and society
CO-3	Learn about the generic differences between the various forms of drama emerging and evolving in different ages
CO-4	Understand and appreciate the theatrical conventions as they evolve with the passage of time
	MA/ENG/1/CC3 History of English Literature- I
	At the end of course student should be able to:
CO-1	Be exposed to the historicity of literature.
CO-2	Understand the philosophical strain in different ages.
CO-3	Learn the domino effect of literary ages.

CO-4	Be able to understand the subtle connection between literary trends and the social changes in different ages.
MA/ENG/1/CC4 Pre-Independence Indian Writings in English	
At the end of course student should be able to:	
CO-1	Be able to trace the origin of Indian English Literature.
CO-2	Be able to understand how and why Indian English Literature has been able to establish itself as an important field of study in the World
CO-3	Be able to understand and analyse the Indian culture and society as present in different texts of the contemporary times.
CO-4	Get well acquainted with the literary luminaries of Indian English Literature.
MA/ENG/1/DSC1 Study of a Dramatist Option-(i) William Shakespeare	
At the end of course student should be able to:	
CO-1	Understand the Renaissance and its impact on English Literature.
CO-2	Learn the specific characteristics of Elizabethan period
CO-3	Learn about the genre of sonnet, especially that of Shakespearean sonnets
CO-4	Learn how to critically analyse and evaluate a play by identifying its themes, characters, plot, setting etc.
MA/ENG/1/SEC1 Language and Linguistic Skills in English	
At the end of course student should be able to:	
CO-1	Understanding of phonology as mechanics of language.
CO-2	Better understanding of the language
CO-3	Better English pronunciation and better usage of English in real- life situations.
CO-4	Understanding the evolution of English Language from ancient times to the modern.
MA/ENG/2/CC5 19th Century American Literature	
At the end of course student should be able to:	
CO-1	Be exposed to the emergence of America as a nation and society.
CO-2	Understand the philosophical strains of America
CO-3	Be able to learn about American Culture.
CO-4	Be able to understand the basics of American identity.
MA/ENG/2/CC6 Literary Criticism and Theory - I	
At the end of course student should be able to:	

CO-1	Develop critical sense to read and critique literature through various theoretical and critical frameworks.
CO-2	Develop a thorough understanding of the fundamentals of literary criticism and theory
CO-3	Understand the trajectory of English literary criticism from the Classical Age up to 19th cc., with focus on seminal texts and concepts.
CO-4	Develop understanding about the principles of literary criticism and theory.
MA/ENG/2/CC7 Early British Poetry up to the Neo-Classical Age	
At the end of course student should be able to:	
CO-1	Thoroughly acquainted with selected masterpieces of British poetry from the Age of Chaucer up to the Neo-classical Age.
CO-2	Learn and appreciate the subtle connection between literature and society.
CO-3	Learn about the generic differences between the various forms of poetry emerging and evolving in different ages
CO-4	Understand and appreciate the language of poetry which is markedly different from the language of prose.
MA/ENG/2/CC8 History of English Literature-II	
At the end of course student should be able to:	
CO-1	Understand the growth and development of English literature.
CO-2	Understand how various genres evolved.
CO-3	Learn about prominent writers and famous works in English literature from Romantic Age to Postmodernism.
CO-4	Understand the subtle connection between literary trends and the social changes in different ages.
MA/ENG/2/DSC4 Study of a Poet Option-(II) William Wordsworth	
At the end of course student should be able to:	
CO-1	Understand Wordsworth as a representative poet. 2.3.
CO-2	Understand the Romantic theory of poetry.
CO-3	Exposed to the philosophical strain of pantheism.
CO-4	Make an in-depth study of various poetic devices -- imagery, idiom, symbolism etc.-- used by William Wordsworth as a poet.
MA/ENG/2/SEC2 (With Practical Exam) Communication Skills in English	
At the end of course student should be able to:	
CO-1	A thorough understanding of various aspects of effective communication.
CO-2	Better understanding of the subtle nuances of Listening and Speaking skills.

CO-3	Competence in Reading and Writing skills, which will further facilitate their academic pursuits
CO-4	Better understanding of vocabulary and its appropriate usage.
MA/ENG/3/CC9 20th Century American Literature	
At the end of course student should be able to:	
CO-1	Display a working knowledge of the cultural and historical contexts of 20th century American literature.
CO-2	Identify and describe distinct literary characteristics of 20th century American literature
CO-3	Analyze literary works for their structure and meaning, using correct terminology.
CO-4	Write analytically about 20th century American literature using MLA guidelines
MA/ENG/3/CC10 Literary Criticism and Theory-II	
At the end of this course, the learner will be able to:	
CO-1	Understand the trajectory of English literary criticism and theory from the early twentieth century to the present times.
CO-2	Develop a thorough understanding of the fundamentals of literary criticism and theory.
CO-3	Develop critical sense to read and critique literature from the standpoint of various theoretical and critical frameworks.
CO-4	Develop understanding about the intimate connexion between literature, politics and society.
MA/ENG/3/CC11 Postcolonial Indian Literature	
At the end of this course, the learner will be able to:	
CO-1	Identify key questions, authors, and literary forms in postcolonial literature.
CO-2	Analyse literary texts in relation to postcolonial theory.
CO-3	Situate these works in their larger cultural contexts.
CO-4	Develop interpretative skills of close reading.
MA/ENG/3/DSC 6 Diasporic Literature	
At the end of this course, the learner will be able to:	
CO-1	Develop an understanding of the cultural and literary issues from the standpoint of diasporic writers.
CO-2	Understand diasporic literature and its place in society.
CO-3	Get to know various concepts of diasporic literature.
CO-4	Develop an understanding of the subtle nuances of diasporic literature.
MA/ENG/3/DSC 7 Indian Partition Literature	

	At the end of this course, the learner will be able to
CO-1	Gain knowledge of a very important phase of Indian history.
CO-2	Learn about the politics behind the partition of India.
CO-3	Understand the psychology of mob violence.
CO-4	Get aware of the trauma faced by the marginalized people such as children, women and the poor during partition.
MA/ENG/4/CC12 British Literature in Twentieth Century	
	At the end of this course, the learner will be able to:
CO-1	Analyse the cultural and literary characteristics of modernity and post modernity and its influence on contemporary British literature.
CO-2	Understand the contemporary traditional literary and cultural structures and concepts.
CO-3	Identify and define experimentation in narrative, poetic, and dramatic forms through close textual reading of representative contemporary British literary texts.
CO-4	Contemplate how "Britain" and being "British" evolved since the beginning of the twentieth century.
MA/ENG/4/CC13 Indian Classics and Aesthetics in English Translation	
	At the end of this course, the learner will be able to:
CO-1	Develop foundational competence in the basic principles involved in reading and critiquing of Indian Classics and Aesthetics.
CO-2	Develop familiarity with canonical texts related to the fields indicated in the title.
CO-3	Develop familiarity with rich intellectual heritage of India.
CO-4	Develop ability to situate literary texts within historical, political, and cultural contexts.
MA/ENG/4/CC14 Research Methodology	
	At the end of this course, the learner will be able to:
CO-1	Understand the nature and definition of research.
CO-2	Understand some basic concepts of research and its methodologies.
CO-3	Write a research paper as per the proper format.
CO-4	Prepare for the Ph. D entrance Test and NET examination.
MA/ENG/4/DSC 9 Study of a Genre- Short story	
	At the end of this course, the learner will be able to develop:
CO-1	Ability to understand and appreciate the genre of short story.

CO-2	Understanding of various elements of short stories.
CO-3	Ability to critically understand the various aspects and nuances of short stories.
CO-4	Ability to compare and contrast the art of storytelling of a number of short story writers of the world.
MA/ENG/4/DSC 11 Literature and Gender	
At the end of this course, the learner will be able to:	
CO-1	Develop an understanding of gender essentialism and discrimination, gender fluidity and gender equality.
CO-2	Understand the gendered identity.
CO-3	Understand the reasons and impact of sexual oppression and gender discrimination.
CO-4	Understand the nuances of gendered language.
MA/ENG/4/DSC 13 Literature and Culture	
At the end of this course, the learner will be able to:	
CO-1	Read and interpret texts in relation to the cultural matrix of the society.
CO-2	Use theoretical frames for literary and cultural interpretation.
CO-3	Grasp underlying connection between 'structure of feeling' and art forms.
CO-4	Notice how culture evolves and how it varies across the array of contexts in which we engage daily.
DEPARTMENT OF POLITICAL SCIENCE	
PROGRAM: MASTER OF ARTS (M.A.POL. SCI.)	
Program Outcome (PO)	
PO No	After completing the two year master degree program, student will be able to:
PO-1	Knowledge: Demonstrate knowledge of historical emergence, questions asked, and distinctive contributions of the social science disciplines to analysis human behaviour and social issues
PO-2	Problem Solving: Visualize, conceptualize, articulate, and solve complex problems through experimentation and observation using theoretical framework of social science disciplines
PO-3	Critical Thinking: Critically analyze everyday problems faced by the society, evaluate specific policy proposals, compare arguments with different conclusions to a specific societal issue, and assess the role played by assumptions in such arguments.
PO-4	Scientific Enquiry and Usage of Analytical Tools: Develop the capability to define problems, formulate hypothesis, collect relevant data, develop empirical evidence and interpret the results of such analyses. Develop the ability to apply appropriate quantitative/qualitative techniques used in social science disciplines along with ICT, softwares etc.

PO-5	Specialization and Employability: Develop deeper understanding, creativity, originality, analytical and critical skills in chosen specialized areas of Social Science disciplines leading to employability.
PO-6	Interdisciplinary Knowledge & Adaptation: Enhance the ability to integrate as well as synthesize the acquired knowledge within the social sciences and beyond.
PO-7	Self Directed Learning: Develop the ability to work independently as well as effectively in the changing environment.
PO-8	Ethics and Leadership: Articulate and apply ethics, values and ideals that demonstrate awareness of current societal challenges. Build skills to work as part of a team and lead others, setting directions and formulating inspiring vision.
Program Specific Outcome (PSO)	
PSO No	After Completing MA(POL. SC.), the student will be equipped to :
PSO-1	Acquainted with the conceptual understanding of the discipline of Political Science and its locus in Social Sciences context.
PSO-2	Theoretical knowledge of theories, ideologies, paradigms in their intellectual growth perspective.
PSO-3	Comprehensive information about constitutional, Politico-administrative and legal frameworks of the government and administrative system of India in particular.
PSO-4	Informed about the public policies in their different theoretical and applied perspective.
Political Theory-I (MA/PS/1/CC1)	
After the completion of the course, students will be able :	
CO1	To have an insight regarding political theory and its different approaches.
CO2	To be able to know about the state and different theories regarding its origin and nature.
CO3	To be able to understand the sovereignty, government and their constituent sand forms.
CO4	To have an insight regarding the power its different forms and attributes as well as its relations with authority and legitimacy.
CO5	To have the knowledge of rights, their attributes and different forms with special reference to UDHR.
CO6	To have the knowledge eof liberty, equality, justice and their different theories regarding these as well as their relations with one another.
Western Political Thought-I (MA/PS/1/CC2)	
After the completion of the course, students will be able to:	
CO1	helps students discover the political philosophy that forms the basis of politics in the Western world, to interpret the political philosophies of the Greek, Roman, French, and English philosophers in a historical context as well as relate them to contemporary politics.
CO2	Concretizing their base in political thought.

CO3	Differences of thought in the different phases of the History of political thought
CO4	Getting enlightened with fundamental features of political thought.
Comparative Politics –I (MA/PS/1/CC3)	
After the completion of the course, students will be able to:	
CO1	Understand comparative politics and apply their knowledge to make sense of the political dynamics of the wider world.
CO2	Understand important political developments around the globe using the tools of comparative politics.
CO3	Explore questions and concepts related to political culture, socialization, development, and modernization.
CO4	Apply the concepts of comparative politics to various political systems using approaches such as system analysis and structural functionalism.
Public Administration (MA/PS/1/CC4)	
After the completion of the course, students will be able to:	
CO1	To enable, to understand and analyze different theories of administration, evolution and generic of public administration.
CO2	To appreciate the principles of organization with the nature and type of chief executive and its extended agencies.
CO3	To have an insight regarding the evolution and development of administrative theories and concepts
CO4	To be enabled to understand the budgetary process and public policy perspectives.
Indian Constitution (MA/PS/1/DSC1)	
After the completion of the course, students will be able to:	
CO1	To understand the philosophy of the Indian Constitution
CO2	To understand the Fundamental Rights, Duties and Directive principle of state policy
CO3	To learn about the structure and functioning of the Union government
CO4	To learn about the structure and function of state government
CO5	To appreciate the centre state relations in India
International Politics (MA/PS/1/DSC4)	
After the completion of the course, students will be able to:	
CO1	Students will be able to understand the historical genesis of International Politics.
CO2	Students will be able to understand the difference between National policy-making and international policy-making.
CO3	Students will be able to develop in-depth understanding of very prominent theories of International Politics.

CO4	Students will be able to know about the role of UNO and its activeness in promoting international peace through Arms Control and Disarmament Measures.
Political Theory-II (MA/PS/2/CC5)	
After the completion of the course, students will be able to:	
CO1	It helps students to get familiarized with different dimensions and the contemporary relevance of different concepts and theories
CO2	Students will be able to understand and learn the different theories and contemporary debates in democracy
CO3	It helps to make students a strong base in new political theories which emerged after 1990's like globalization and multiculturalism
CO4	Understand the reasons for the emergence of new theories like post-modernism
Western Political Thought-II (MA/PS/2/CC6)	
After the completion of the course, students will be able to:	
CO1	The course will help students to theoretically locate the diverse intellectual traditions in the west
CO2	It helps students to engage and critically examine the significant issues of the western political philosophy
CO3	Students by the end of term will have a comparative perspective of political philosophies in the West and India.
Comparative Politics –II (MA/PS/2/CC7)	
After the completion of the course, students will be able to:	
CO1	Learn about States, Nations, and the basics of democratic and non-democratic regimes.
CO2	Compare state power using the yard sticks of power, authority, legitimacy and capacity.
CO3	Compare and assess political institutions in different political systems.
CO4	Develop a thorough understanding of the interrelationships between organs of government in different political systems.
CO5	Understand the role of political participation, electoral politics, political parties and party systems in democratic regimes.
International Organizations (MA/PS/2/DSC8)	
After the completion of the course, students will be able to:	
CO1	Students will be able to understand how the International Organization came into existence and its aims and objective.
CO2	Students will be able to develop a depth understanding of U.N system.
CO3	Students will be able to know about the engagement of world governments through UN system and beyond UN system.
CO4	Students will be able to understand the difference between regional organizations from World organizations and develop an understanding of the aims and objectives of some measure Regional Organizations.

Governance: Issues and Challenges (MA/PS/2/DSC9)	
	After the completion of the course, students will be able to:
CO1	Students shall be able to comprehend the genealogy of the term Governance and would provide their interpretation of the concept.
CO2	Students shall be able to analyse the factors in nexus with democracy and civil society in connection with governance.
CO3	The broader debates concerning the significance and attributes of good governance shall be well further contributed to by the students in an ever-enhanced interpretation.
CO4	The diversity in types of governance shall provide new avenues for the student's to explore their career choices and overall knowledge of the paper.
Studies on Election and Electoral Behaviour (MA/PS/2/SEC2)	
	After the completion of the course, students will be able to:
CO1	Discuss India's electoral system
CO2	Describe the Indian electorate's voting patterns
CO3	Explain the factors that influence voting behaviour in India
CO4	Discuss the electoral system's flaws and potential reforms
DEPARTMENT OF SCIENCE	
PROGRAM: MASTER OF SCIENCE (M.SC. PHYSICS)	
Program Outcome (PO)	
PO No	After completing the two year master degree program, student will be able to:
PO-1	Knowledge: Demonstrate knowledge of historical emergence, questions asked, and distinctive contributions of the social science disciplines to analysis human behaviour and social issues
PO-2	Problem Solving: Visualize, conceptualize, articulate, and solve complex problems through experimentation and observation using theoretical framework of social science disciplines
PO-3	Critical Thinking: Critically analyze everyday problems faced by the society, evaluate specific policy proposals, compare arguments with different conclusions to a specific societal issue, and assess the role played by assumptions in such arguments.
PO-4	Scientific Enquiry and Usage of Analytical Tools: Develop the capability to define problems, formulate hypothesis, collect relevant data, develop empirical evidence and interpret the results of such analyses. Develop the ability to apply appropriate quantitative/qualitative techniques used in social science disciplines along with ICT, softwares etc.
PO-5	Specialization and Employability: Develop deeper understanding, creativity, originality, analytical and critical skills in chosen specialized areas of Social Science disciplines leading to employability.

PO-6	Interdisciplinary Knowledge & Adaptation: Enhance the ability to integrate as well as synthesize the acquired knowledge within the social sciences and beyond.
PO-7	Self Directed Learning: Develop the ability to work independently as well as effectively in the changing environment.
PO-8	Ethics and Leadership: Articulate and apply ethics, values and ideals that demonstrate awareness of current societal challenges. Build skills to work as part of a team and lead others, setting directions and formulating inspiring vision.
Program Specific Outcome (PSO)	
PSO No	After Completing M.SC. PHYSICS, the student will be equipped to :
PSO-1	Acquainted with the conceptual understanding of the discipline of Political Science and its locus in Social Sciences context.
PSO-2	Theoretical knowledge of theories, ideologies, paradigms in their intellectual growth perspective.
PSO-3	Comprehensive information about constitutional, Politico-administrative and legal frameworks of the government and administrative system of India in particular.
PSO-4	Informed about the public policies in their different theoretical and applied perspective.
Paper(MSc/Phy/1/CC1) Mathematical Physics	
COs: After successfully completing this course,students will be able to	
CO1	Understand and apply the mathematical methods to solve quantitative problems in the study of physics and engineering. Enhance their problem solving ability and critical thinking.
CO2	Demonstrate contour integrals in relevant problems in Physics.
CO3	Enable to apply integral transform to solve mathematical problems of interest in physics. Can use Fourier transforms as an aid for analyzing experimental data.
CO4	Explain basic, preliminary concepts related to Green's function method and group of elements. Formulate and express a physical law in terms of tensors, and simplify it by use of coordinate transforms.
Paper-MSc/Phy/1/CC2–Classical Mechanics	
COs: After successfully completing this course,students will be able to	
CO1	Understand basic formalism of constraints and Lagrangian dynamics. Application of Lagrange's equations in real physical problems
CO2	Understand Lagrangian formalism for solving Kepler's problem
CO3	Apply the Variational principles to real physical and engineering problems
CO4	Enable to solve Hamilton-Jacobi equations and use it for the solution of harmonic oscillator problem
MSc/Phy/1/CC3– Fundamentals of Electronics	

	COs: After successfully completing this course, students will be able to
CO1	Aware of the general characteristics of important semiconductor materials and develop a deep understanding of the basic design, operation and characteristics of a PN-junction and a BJT along with knowledge of the two port network analysis and their application in electronic circuit. Learn to devise and analyze various transistor amplifier models.
CO2	Acquaint with the field effect transistor like JFET, MOSFET MESFET, VMOS and CMOS along with frequency response of variously FET amplifiers and various FET biasing arrangements
CO3	Implement Boolean expression with basic logic gates, design and analysis of different combinational and sequential circuits to achieve desired output. Express numbers, alphabets, special characters etc. in binary representation, perform mathematical operations. Idea of different types of memories and Boolean expression simplification technique are also introduced.
CO4	Explain the basic physics of differential amplifier, operational amplifiers, effect of feedback on opamp parameters and various applications of op-amp
MSc/Phy/1/CC4– Quantum Mechanics-I	
	COs: After successfully completing this course, students will be able to
CO1	General basic foundation of quantum mechanics needed for various quantum mechanical approaches. Three quantum numbers helps to explain atomic structure, H-atom and multi-electron systems.
CO2	Matrix formulation of quantum mechanics and three different pictures with their respective importance in physics.
CO3	Space quantization, commutator algebra, theory of orbital and spin angular momenta. C.G. coefficients for unitary transformation.
CO4	Stationary perturbation theoretical approach for finding approximate solution of quantum mechanical problems
MSc/Phy/1/CC5–Physics Lab-I (General)	
	COs: After successfully completing this course, students will be able to
CO1	Perform the mathematical operations like addition, subtraction using digital circuits.
CO2	Learn the characteristics and applications of semiconductor based FET, MOSFET.
CO3	Understand the working of various types of digital circuits and importance in our daily life.
CO4	Understand the applications of Op-Amp., diodes, resistors and capacitors.
MSc/Phy/1/DSC1-A - Physics Lab–II (Electronics)	
	COs: After successfully completing this course, students will be able to
CO1	Understand the law of Boolean algebra and learn about the working and applications of various types of digital circuits.
CO2	understand the CRO working and its applications
CO3	Study the importance of fourier analysis.

CO4	Acquire the knowledge about the working and importance of BJT, Multivibrators and UJT in our daily life.
MSc/Phy/2/CC6– Solid State Physics	
COs: After successfully completing this course,students will be able to	
CO1	Basic knowledge of lattice structure and diffraction of waves by crystals develop an understanding of solid state
CO2	Formulate basic models for electrons and lattice vibrations for describing the physics of crystalline materials
CO3	Understand the electron states of solid crystals.
CO4	Knowledge of superconductivity and BCS theory will be imparted to the students.
MSc/Phy/2/CC7– Classical Electrodynamics	
COs: After successfully completing this course,students will be able to	
CO1	A student having taken this course will have fair knowledge of conductors and dielectrics and will be able to solve the potential and electric field problems.
CO2	It will help the students to build analogy between electrostatics and magnetostatics.
CO3	Students will have fair knowledge of conservation laws and gauges used in electrodynamics.
CO4	A sound knowledge of electromagnetic waves in various bound and unbound media will help the students to solve the difficult problems of electrodynamics.
MSc/Phy/2/CC8– Atomic & Molecular Physics	
COs: After successfully completing this course,students will be able to	
CO1	Students will learn the details of atomic and diatomic molecular (diatomic) structures in terms of quantum mechanical treatment elaborately beyond the basic models. It will give the descriptions of fine and hyperfine structure of atoms and molecular.
CO2	The various coupling schemes and interactions of fields with spectra will enrich the student's knowledge about transitions. The details of these spectroscopies would serve as the fundamentals for various concerned experimental studies.
CO3	Students learn to analyze the polyatomic molecules (including diatomic) and to predict the nature of their vibrational spectra depending on their symmetry using IR Raman Spectroscopy.
CO4	The complete picture of rotational, vibrational and electronic spectra of polyatomic molecules will be comprehended. This kind of specialization is expected to provide a larger scope for research in the various related and interdisciplinary areas.
MSc/Phy/2/CC9– Quantum Mechanics-II	
COs: After successfully completing this course,students will be able to	
CO1	Students would be able to explain the fundamentals of quantum mechanical approximation methods like WKB approximation, time dependent perturbation theory and semi- classical theory of radiations and its applications

CO2	Students get enabled to understand the basics of quantum theory of scattering and various associated scattering phenomena like partial wave analysis, scattering by perfect rigid sphere, square well potential, Born approximation.
CO3	Students would be capable to learn about symmetric and anti-symmetric wave function identical particles, commutation relations, spin-statistics connection and He-atom.
CO4	Students would be introduced to KG equation, Dirac equation, spin orbit energy and negative energy states in relativistic quantum mechanics and its contribution for advancement in quantum physics
MSc/Phy/2/CC10–Physics Lab–III (General)	
COs: After successfully completing this course, students will be able to	
CO1	understand the meaning and importance of Stefan's constant, capacitance of capacitor and Op-Amp
CO2	Gain the knowledge about the Network theorems.
CO3	understand applications of Thomson method and various types of digital circuits
CO4	Design the different types of electronic circuits using different ICs on bread board.
MSc/Phy/2/DSC2-A– Physics Lab-IV (Electronics)	
COs: After successfully completing this course, students will be able to	
CO1	Understand the working of various applications of transistor based apparatus.
CO2	Design the circuits of various types of filters and amplifiers.
CO3	Understand the different applications of Op-Amp
CO4	Learn about the importance of oscillators based electronics devices in our daily life.
MSc/Phy/2/CC11- Seminar	
COs: After successfully completing this course, students will be able to	
CO1	Students would be able to create, revise and present ideas in spoken and written forms. Acquired listening, questioning and critical thinking skills. Demonstrate ability to defend and support ideas/claims with appropriate evidence. Students gained experience for how to organize and deliver/disseminate knowledge before audience
MSc/Phy/3/CC12– Nuclear & Particle Physics	
COs: After successfully completing this course, students will be able to	
CO1	Impart knowledge of introductory nuclear physics and deuteron as the smallest fundamental nucleus helps to understand strongest force of the nature
CO2	Stability and properties of different nuclei explained by various nuclear models
CO3	Radioactive α , β , γ -decay of nuclei by their respective quantum mechanical theories. Conservation laws and various nuclear reactions

CO4	Elementary particles as the building blocks of matter and interacting fields. Conservation laws and quantum numbers for production and decay of particles
MSc/Phy/3/CC13-A – Electrodynamics & Plasma Physics	
COs: After successfully completing this course, students will be able to	
CO1	Acquire basic knowledge of plasma, its occurrence and applications
CO2	Acquire fair knowledge of special theory of relativity, Lorentz transformations, four vectors and Minkowski space.
CO3	A student will be able to apply the concept of four vectors in electrodynamics and will be able to interpret the relativistic effect on a charged particle in EM fields.
CO4	A student will be able to understand the radiations produced by the accelerated charges.
Paper (MSc/Phy/3/SEC1-A)– Laser & Spectroscopy-I	
COs: After successfully completing this course, students will be able to	
CO1	Understanding Einstein’s postulates and laser field with unique properties not found in ordinary light.
CO2	Educate for optical resonators and generation of laser beam
CO3	Educate for optical resonators and generation of laser beam
CO4	Laser spectroscopy methods applicable to characterize various materials for their potentiality in different technologies
Paper(MSc/Phy/3/DSC3-A)– Materials Science-I	
COs: After successfully completing this course, students will be able to	
CO1	Study of defects present in the crystal will help the students to understand how properties of material can be modulated by adding impurities to the crystals/semiconductors
CO2	Semiconductors are the basis of micro-technology. After studying this course, students will be able to understand the electronic and optical properties of semiconductors.
CO3	Students will gain ample knowledge about dielectric materials and their properties and applications.
CO4	Students will be able to differentiate between diamagnetic, paramagnetic, ferromagnetic, antiferromagnetic and ferrimagnetic (ferrite) materials and their properties.
Paper (MSc/Phy/3/SEC2-A)– Physics Lab–V (A) (Laser & Spectroscopy-I)	
COs: After successfully completing this course, students will be able to	
CO1	Calibration of experimental setups and evaluate physical parameters using experimental observations
CO2	Having a basic understanding of the subject related lab concepts & contemporary issues.
CO3	Develop problem solving ability especially in optics, material science, engineering and related technology.

CO4	Analyze the characteristics of spectrometers, solar cells, LED's, lasers and optical fiber.
Paper (MSc/Phy/3/DSC4-A–Physics Lab–VI (A) (Materials Science-I)	
COs: After successfully completing this course,students will be able to	
CO1	By practically performing the experiments students will be able to better understand the theoretical concepts of materials.
CO2	Students will be able to critically analyse the parameters that may affect the properties of materials.
CO3	Design and develop analogue systems to study the properties of any material / system.
CO4	Concept building by performing the experiment and deriving relationship between variables using observed data.
Paper (MSc/Phy/3/CC14)– Cardinal Principals of Academic Integrity and Research Ethics	
COs: After successfully completing this course,students will be able to	
CO1	Academic Integrity, Plagiarism (prevention and detection) and UGC regulations
CO2	Research and Publications ethics and best practices
Paper (MSc/Phy/4/CC15)– Statistical Mechanics	
COs: After successfully completing this course,students will be able to	
CO1	A student will be able to understand the basic concepts of thermodynamics and set a relation between thermodynamics and statistics.
CO2	A fair knowledge about the various ensembles and learn about the behavior of classical Ideal gas under various ensembles.
CO3	A student will acquire sound knowledge of M.B., B.E. and F.D. statistics and understand the phenomenon of Bose-Einstein condensation and black body radiations.
CO4	A student will have fair knowledge of Landau theory of phase transition, Ising model, Langevin theory of Brownian motion.
Paper (MSc/Phy/4/CC16-A – Radiation Physics	
COs: After successfully completing this course,students will be able to	
CO1	Nuclear radiation and its detection procedure, nuclear spectrometry.
CO2	Applications of nuclear spectrometry.
CO3	Nuclear radiation for diagnosis in medical field
CO4	Problems related to safety aspect of nuclear radiation.
Paper (MSc/Phy/4/SEC3-A– Laser & Spectroscopy-II	
COs: After successfully completing this course,students will be able to	
CO1	Understanding about optical amplifier, oscillation, power output, and efficiency and laser rate equations.

CO2	Working principle of some important laser systems with their pumping methods, energy levels and applications.
CO3	techniques to generate short and ultra-short high power laser pulses
CO4	high sensitivity laser spectroscopy methods to explore optical properties of various materials for their potential use in technology
Paper MSc/Phy/4/DSC5-A – Materials Science-II	
COs: After successfully completing this course, students will be able to	
CO1	The learner will be able to understand how on reducing the size of a material to nanoscale, can change the electronic energy states and hence properties of the materials.
CO2	The learner will have an in depth knowledge of the characteristic change in properties of nanomaterials.
CO3	The learner will have ample knowledge about the various top down and bottom up techniques for synthesis of nanomaterials.
CO4	Learner will be aware about the various characterization tools for nanomaterials.
Paper MSc/Phy/4/SEC4-A–Physics Lab–VII (A) (Laser & Spectroscopy-II)	
COs: After successfully completing this course, students will be able to	
CO1	Evaluate practically by measurement skills using experimental observations.
CO2	Design and develop various types of experimental systems to analyse properties of materials and optical fibers.
CO3	Adopting group working competency by working in teams on various experimental methods.
CO4	Having experimentation, computational approach, and innovative skills & data analysis ability.
Paper MSc/Phy/4/DSC6-A–Physics Lab–VIII (A) (Materials Science-II)	
COs: After successfully completing this course, students will be able to	
CO1	This course will equip the students with the practical knowledge of the devices and effects observed in solids.
CO2	Students will be able to understand how analogue to a system are designed to study a system.
CO3	Students will be able to better understand the properties of solids like heat capacity, refractive index, magnetic susceptibility etc.
CO4	Performing the experiments like photoelectric effects and black body radiation will help the students to understand the dual nature of matter
Paper MSc/Phy/4/CC14– Seminar	
COs: After successfully completing this course, students will be able to	
CO1	Students would be able to create, revise and present ideas in spoken and written forms. Acquired listening, questioning and critical thinking skills. Demonstrate ability to defend and support ideas/claims with appropriate

	evidence. Students gained experience for how to organize and deliver/disseminate knowledge before audience.
DEPARTMENT OF SCIENCE	
PROGRAM: MASTER OF SCIENCE (M.SC. MATHS)	
Program Outcome (PO)	
PO No	After completing the two year master degree program, student will be able to:
PO-1	Knowledge: Demonstrate knowledge of historical emergence, questions asked, and distinctive contributions of the social science disciplines to analysis human behaviour and social issues
PO-2	Problem Solving: Visualize, conceptualize, articulate, and solve complex problems through experimentation and observation using theoretical framework of social science disciplines
PO-3	Critical Thinking: Critically analyze everyday problems faced by the society, evaluate specific policy proposals, compare arguments with different conclusions to a specific societal issue, and assess the role played by assumptions in such arguments.
PO-4	Scientific Enquiry and Usage of Analytical Tools: Develop the capability to define problems, formulate hypothesis, collect relevant data, develop empirical evidence and interpret the results of such analyses. Develop the ability to apply appropriate quantitative/qualitative techniques used in social science disciplines along with ICT, softwares etc.
PO-5	Specialization and Employability: Develop deeper understanding, creativity, and originality, analytical and critical skills in chosen specialized areas of Social Science disciplines leading to employability.
PO-6	Interdisciplinary Knowledge & Adaptation: Enhance the ability to integrate as well as synthesize the acquired knowledge within the social sciences and beyond.
PO-7	Self-Directed Learning: Develop the ability to work independently as well as effectively in the changing environment.
PO-8	Ethics and Leadership: Articulate and apply ethics, values and ideals that demonstrate awareness of current societal challenges. Build skills to work as part of a team and lead others, setting directions and formulating inspiring vision.
Program Specific Outcome (PSO)	
PSO No	After Completing M.SC. MATHS, the student will be equipped to :
PSO-1	Acquainted with the conceptual understanding of the discipline of Political Science and its locus in Social Sciences context.
PSO-2	Theoretical knowledge of theories, ideologies, paradigms in their intellectual growth perspective.
PSO-3	Comprehensive information about constitutional, Politico-administrative and legal frameworks of the government and administrative system of India in particular.
PSO-4	Informed about the public policies in their different theoretical and applied perspective.

PAPER (MSc/Maths/1/CC1) Abstract Algebra	
	COs: After successfully completing this course, students will be able to
CO-1	Understand concepts of automorphism, normalize, conjugacy classes, class equation normal series, composition series, alternating group A_n , simplicity of A_n for $n \geq 5$, Sylow's theorems and its applications.
CO-2	Learn about commutator subgroup, three subgroup lemma of P.Hall, nilpotent groups, solvable groups, upper and lower central series
CO-3	Understand concepts of modules, submodules, finitely generated modules, direct sum, R-homomorphism, quotient module, completely reducible modules, free modules, representation of linear mappings and their ranks.
CO-4	Learn about Ascending and descending chains, Noetherian modules and Noetherian rings, Hilbert Basis Theorem, Wedderburn-Artin theorem
PAPER (MSc/Maths/1/CC2) Real Analysis	
	COs: After successfully completing this course, students will be able to
CO-1	Understand the concept of Riemann-Stieltjes integral along its properties; integration of vector-valued functions with application to rectifiable curves.
CO-2	To know about convergence of sequences and series of functions; construct a continuous nowhere-differentiable function; demonstrate understanding of the statement and proof of Weierstrass approximation theorem.
CO-3	Understand differentiability and continuity of functions of several variables and their relation to partial derivatives; apply the knowledge to prove inverse function theorem and implicit function theorem.
CO-4	Learn about the concepts of power Series, Abel's theorem, Tauber's theorem, Taylor's theorem, exponential & logarithmic functions, trigonometric functions, Fourier series and Gamma function.
PAPER (MSc/Maths/1/CC3) Mechanics	
	COs: After successfully completing this course, students will be able to
CO-1	Understand moments and products of inertia, kinetic energy of a rigid rotating body and general motion of a rigid body
CO-2	Learn about three dimensional rigid body dynamics, generalized coordinates, Lagrange's equations.
CO-3	Understand Hamiltonian, Hamilton's variable, Hamilton's principle and Jacobi equations.
CO-4	Understand concepts of Canonical transformations and Hamilton Jacobi equation
PAPER (MSc/Maths/1/CC4) Complex Analysis	
	COs: After successfully completing this course, students will be able to
CO-1	Understand the concepts of differentiation and integration for functions defined over a complex plane in different regions and domains along with the fundamental results.
CO-2	Learn about various formulae through the relevant theorems which form the base of complex analysis.
CO-3	Understand various complex variable functions, transformations and series representation of complex functions.

CO-4	Understand the concept of singularities, residues, poles and apply the results to solve the improper integrals
PAPER (MSc/Maths/1/CC5) Ordinary Differential Equations	
COs: After successfully completing this course, students will be able to	
CO-1	Understand concepts of an initial value problem and its exact and approximate solutions, existence of solutions, uniqueness of solutions and continuation of solutions of an initial value problem of order one. Apply the knowledge to prove specified theorems and to solve relevant exercises
CO-2	Learn about Linear differential equation (LDE) of order n , Linear dependence and linear independence of solutions. Wronskian theory, Fundamental set. Non-homogeneous LDE. Theory of Adjoint equations and standard theorems related to these topics.
CO-3	Have deep understanding of theory of Linear second order equations. Sturm theory and related basic theorems. Oscillatory and non-oscillatory equations.
CO-4	Understand Second order linear, nonlinear, regular and singular boundary value problems (BVP), Sturm-Liouville BVP, eigen values and eigen functions and related theorems, Green's function and its applications for solving boundary value problem so as to be able to develop research aptitude in this area
PAPER (MSc/Maths/1/SEC1) Computer Programming in ANSI C (Practical)	
COs: After successfully completing this course, students will be able to	
CO-1	Know the syntax of expressions, statements, structures and to write source code for a program in C.
CO-2	Edit, compile, Debug, verify/check and execute the source program for practical problems to get the desired results.
PAPER (MSc/Maths/2/CC6) Advanced Abstract Algebra	
COs: After successfully completing this course, students will be able to	
CO-1	Understand concepts of Characteristic of a ring with unity, field extension, algebraic and transcendental extension, algebraically closed field, splitting fields.
CO-2	Have deep understanding of Finite fields. Roots of unity. Cyclotomic polynomials and their irreducibility over \mathbb{Q} . Normal extension, multiple roots and separable extension.
CO-3	Learn about automorphism of fields, fundamental theorem of Galois theory, roots of unity, Construction with ruler and compass.
CO-4	Have understanding of similar linear transformations. Invariant subspaces of vector spaces. Reduction of a linear transformation to triangular form, Primary decomposition theorem. Jordan blocks and Jordan canonical forms. Cyclic module relative to a linear transformation
PAPER (MSc/Maths/2/CC7) Measure and Integration theory	
COs: After successfully completing this course, students will be able to	
CO-1	Understand the concepts of measurable sets and Lebesgue measure, Borel sets and their measurability, construct a non-measurable set.

CO-2	Know about Lebesgue measurable functions and their properties; and apply the knowledge to prove Egoroff's theorem, Lusin's theorem and F.Riesz theorem.
CO-3	Understand the requirement and the concept of the Lebesgue integral (as a generalization of the Riemann integration) along its properties and demonstrate understanding of the statement and proofs of the fundamental integral convergence theorems.
CO-4	Know about the concepts of differentiation of monotonic function, functions of bounded variations, differentiation of an integral and absolutely continuous functions.
PAPER (MSc/Maths/2/CC8)Mechanics of Solids	
COs: After successfully completing this course,students will be able to	
CO-1	Understand the concept of tensors as a generalized form of directional entities and to explore their properties through the operations of algebra and calculus.
CO-2	Understand the affine transformation, infinitesimal deformation, analysis of strain and stress tensors.
CO-3	Learn about equations of equilibrium, examples of stress, about homogeneous isotropic elastic medium and anisotropic symmetries.
CO-4	Learn about elastic constants, dynamical equations for an isotropic elastic media, Strain energy function and Saint-Venant's principle.
PAPER (MSc/Maths/2/CC9)System of Differential Equations	
COs: After successfully completing this course,students will be able to	
CO-1	Understand linear homogeneous and non-homogeneous differential systems and theory
CO-2	Have good understanding of System of differential equations, Existence theorem for solution of system of differential equations. Dependence of solutions on initial conditions and parameters, and Floquent theory.
CO-3	Know critical points of linear and quasilinear system of differential equations, their types and stability. Apply the gained knowledge to determine type and stability of critical points and check for existence of limit cycles of given systems.
CO-4	Understand stability of linear and quasi-linear systems. Learn to apply Liapunov direct method to determine stability of such systems, Understand about limit cycles, periodic solutions and half-path or semiorbit.
PAPER (MSc/Maths/2/DSC1)Methods of Applied Mathematics	
COs: After successfully completing this course,students will be able to	
CO-1	Understand Curvilinear Co-ordinates, areas, volumes and surface areas in Cartesian, Cylindrical and spherical co-ordinates.
CO-2	Know about Fourier Transform, its properties. Fourier transform of some elementary functions. Finite Fourier sine transform, finite Fourier cosine transform, Application of Fourier transform to solve ordinary and partial differential equation.
CO-3	Know Hankel transforms and its properties, application of Hankel transform to Boundary Value Problem, relation between Fourier and Hankel transforms,
CO-4	Know about Motivating problems of calculus of variations, fundamental lemma of calculus of variations.

	PAPER (MSc/Maths/2/SEC2)Computer Programming in FORTRAN 90 & 95 (Theory)
	COs: After successfully completing this course,students will be able to
CO-1	Get familiar with the importance and working of FORTRAN 90/95 as computation platform through the knowledge of constants and variables, expressions, implicit declaration, input/output and Format specifications
CO-2	Get familiar with Logical expressions, control flow, conditional flow, Loops. Functions, subroutines, arrays, strings, array arguments.
	PAPER (MSc/Maths/2/SEC2)Computer Programming in FORTRAN 90 & 95 (Practical)
	COs: After successfully completing this course,students will be able to
CO-1	Know the syntax of expressions, statements, structures and to write source code for a program in FORTRAN 90 & 95.
CO-2	Edit, compile and execute the source program for desired results.
	PAPER (MSc/Maths/3/CC10)Topology
	COs: After successfully completing this course,students will be able to
CO-1	Know about topological spaces, understand neighbourhood system of a point and its properties, interior, closure, boundary, limit points of subsets, and base and subbase of topological spaces, first and second countable spaces, separable and Lindelof spaces, continuous functions.
CO-2	Learn about comparison of topologies on a set, characterization of continuous functions, Tychonoff product topology, projection maps.
CO-3	Separation axioms and their properties Urysohn's Lemma, Tietze's extension theorem.
CO-4	Know about connected spaces and their properties, compactness in topological spaces, regularity and normality of a compact Hausdorff space.
	PAPER (MSc/Maths/3/CC11)Fluid Mechanics
	COs: After successfully completing this course,students will be able to
CO-1	Be familiar with continuum model of fluid flow, classify fluid/flows, Stream, path and streak lines, rotational and irrotational motion. Understand Eulerian and Lagrangian descriptions of fluid motion, law of conservation of mass and boundary surfaces. Attain ability to derive equation of continuity and problem solving.
CO-2	Learn to derive equations of motion, Bernouli equation, vorticity equation corresponding to different problems of fluid dynamics and to solve those equations. Prove theorems on circulation and energy in fluid flow. Make strong foundation for doing research in the area of fluid mechanics and bio-mechanics.
CO-3	Understand motion of sphere in a fluid and fluid flow past a sphere at rest; sources, sinks, doublets and their images. Learn to solve three dimensional flow problems of fluid dynamics.

CO-4	Understand two dimensional flow problems, stream function, axi-symmetric flow, complex potential, source, sink and doublets in two dimensions, Milne-Thomson circle theorem, Blasius theorem. Attain skills to solve fluid flow problems in two dimensions. Get exposure to research problems in fluid dynamics.
PAPER (MSc/Maths/3/DSC4)Integral Equations	
COs: After successfully completing this course,students will be able to	
CO-1	Understand the concept of integral equations, to classify them and to apply the eigen-system method for solving the Fredholm type with separable kernel. Eigen values and eigen functions, method of successive approximations, resolvent kernel, iterated kernels and Neumann series for Fredholm integral equations
CO-2	Derive method of successive approximations, resolvent kernel, iterated kernels and Neumann series, Laplace transform method for Volterra integral equations.
CO-3	Solve singular, Cauchy and Hilbert integral equation.
CO-4	Design methods for reduction of a boundary value problem to a Fredholm integral equation with kernel as Green function. Apply the knowledge to solve problems.
PAPER (MSc/Maths/3/DSC5)Mathematical Statistics	
COs: After successfully completing this course,students will be able to	
CO-1	Understand probability and various approaches of probability, addition theorem, Boole inequality, conditional probability , multiplication theorem, independent events, mutual and pairwise independence of events, Bayes theorem and its applications.
CO-2	Understand random variable and probability functions, mathematical expectation, moment generating functions and their properties.
CO-3	To learn about Uniform, Bernoulli, Binomial, Poisson and Geometric distributions with their properties, Uniform, Exponential and Normal distributions with their properties
CO-4	To learn about parameter and statistic, sampling distribution and standard error of estimate, null and alternative hypotheses, simple and composite hypotheses, critical region, level of significance, one tailed and two tailed tests, two types of errors, large sample tests for single mean, single proportion, difference between two means and two proportions.
PAPER (MSc/Maths/3/DSC11)Number Theory	
COs: After successfully completing this course,students will be able to	
CO-1	Understand the concept of greatest integer function, arithmetic function, mobiusinversion formula, recurrence function, combinatorial number theory .
CO-2	Find solution of Diophantine equations and rational points on curve.
CO-3	Understand concept of Farey fractions, irrational numbers and geometry of numbers.
CO-4	Have deep understanding of simple continued fractions, approximation to irrational number, Pell's equation.

	PAPER (MSc/Maths/3/SEC3)Computer Programming in MATLAB (Theory)
	COs: After successfully completing this course,students will be able to
CO-1	Get familiar with the importance and working of MATLAB as computation platform through the knowledge of characters, variables, operators, functions and expressions as used for elementary operations in matrix algebra along with the editing, load/save data and compilation/execution/quitting of source programs.
CO-2	Learn the process of writing a source program in MATLAB as high-level language making use of the statements for input/output, conditional/non-sequential processing involving functions, arrays and structures.
	PAPER (MSc/Maths/3/SEC3)Computer Programming in MATLAB (Practical)
	COs: After successfully completing this course,students will be able to
CO-1	Know syntax of expressions, statements, data types, structures, commands and to write source code for a program in MATLAB.
CO-2	Edit, compile/interpret and execute the source program for desired results.
	PAPER (MSc/Maths/4/CC12)Functional Analysis
	COs: After successfully completing this course,students will be able to
CO-1	Know about the requirements of a norm; completeness with respect to a norm; understand relation between compactness and dimension of a space; check boundedness of a linear operator and its relation to continuity, convergence of operators by using a suitable norm, dual spaces.
CO-2	Learn about Hahn Banach Theorem and its applications, Riesz-representation theorem for bounded linear functionals on $C[a,b]$, know about adjoint of operators; understand reflexivity of a space, Uniform boundedness theorem.
CO-3	Know about strong and weak convergence; understand open mapping theorem, bounded inverse theorem and closed graph theorem; distinguish between Banach spaces and Hilbert spaces; decompose a Hilbert space in terms of orthogonal complements, Projection theorem.
CO-4	Learn about orthonormal sets and sequences, Bessel's inequality, total or complete orthonormal sets, Parseval's identity, Representation of functionals on Hilbert spaces, Riesz representation theorem for bounded linear functionals on a Hilbert space, sesquilinear form, Riesz representation theorem for bounded sesquilinear forms on a Hilbert space. Hilbert adjoint operator, its existence and uniqueness, properties of Hilbert adjoint operators, self adjoint, unitary, normal, positive and projection operators.
	PAPER (MSc/Maths/4/CC13)Partial Differential Equations
	COs: After successfully completing this course,students will be able to
CO-1	Classify the PDE of different orders into elliptic/ parabolic/ hyperbolic types and work on the methods to solve homogeneous and non-homogeneous PDEs.

CO-2	Understand the role of Green's function in solving PDE and work on the methods/principle used to derive formulas for solutions of homogeneous and non-homogeneous parabolic/heat equations.
CO-3	Use various methods to solve the homogeneous and non-homogeneous wave equations in different coordinate systems. Capacity to apply those techniques/methods to numerous problems that arise in science, engineering and other disciplines.
CO-4	Learn to solve non-linear first order PDEs through complete integrals, envelopes, characteristics and solve Laplace, heat and wave equations using method of separation of variables and using integral transforms.
PAPER (MSc/Maths/4/CC14) Cardinal Principles of Academic Integrity and Publications Ethics	
COs: After successfully completing this course, students will be able to	
CO-1	Know Academic Integrity, Plagiarism (prevention and detection) and UGC regulations.
CO-2	Research and Publications ethics and best practices
PAPER (MSc/Maths/4/DSC14) Operation Research	
COs: After successfully completing this course, students will be able to	
CO-1	Understand Operation Research and its scope, graphical method and Simplex method for finding solutions of linear programming problems.
CO-2	Know about primal problem and its dual problem, dual simplex method.
CO-3	Understand to find solutions of transportation problems, assignment problems, traveling salesman problem.
CO-4	Understand game theory, rule of dominance, solution of game theory problems by simplex method, nonlinear programming.
PAPER (MSc/Maths/4/DSC16) Boundary Value Problems	
COs: After successfully completing this course, students will be able to	
CO-1	Reduce boundary value problems involving ODEs to the equivalent integral and to solve such problems with Green's function and Modified Green's function approaches. Apply these techniques in problem solving.
CO-2	Learn to find solutions of boundary value problems involving Laplace's equation, Poisson's equation and Helmholtz's equation by using theory of integral equations and Green's function. Attain skill to solve such BVP which arise frequently in different branches of engineering and sciences.
CO-3	Learn to solve the integral equations by integral transform methods. Apply the gained knowledge in solving mixed boundary problems.
CO-4	Understand Perturbation methods and attain capability to apply perturbation techniques in solving different listed boundary value problems of Electrostatics, Hydrodynamics and Elasticity.
PAPER (MSc/Maths/4/DSC16) Boundary Value Problems	
COs: After successfully completing this course, students will be able to	
CO-1	Understand concept of integral bases and discriminant of algebraic number field, ring of algebraic integers and ideal in the ring of algebraic integers

CO-2	Learn about integrally closed domains, Dedekind domain, fractional ideals and unique factorization, different of an algebraic number field, Dedekind theorem
CO-3	Learn about Hurwitz's lemma, Hurwitz constant, finiteness of the ideal class group, class number of an algebraic number field, Diophantine equations, Minkowski's bound
CO-4	Understand Legendre symbol, Gauss sums, law of quadratic reciprocity, quadratic field, primes in special progression, class number of quadratic fields
PAPER (MSc/Maths/4/SEC4) Computer Programming in LATEX	
COs: After successfully completing this course, students will be able to	
CO-1	Know the mathematical notations, consistent handling of intra-document references and bibliography and to write typesetting code for a program in LATEX.
CO-2	Collaborative editing, interpret and execute the source program for desired results.
DEPARTMENT OF SCIENCE	
PROGRAM: MASTER OF SCIENCE (M.Sc. Chemistry)	
Program Outcome (PO)	
After completing the two year master degree program, student will be able to:	
PO N0	After completing this programme students will be able to:
PO-1	Students become eligible to join as Quality Control Manager in private Sector (Industries) as well as government sector
PO-2	Students can join M.Sc. in Physics, Chemistry, and Mathematics.
PO-3	Students become eligible to serve as pharmacologist, Chemist, Research scientist, Laboratory technician.
PO-4	Course Outcomes of Chemistry
Program Specific Outcome (PSO)	
PSO No	After Completing M.Sc. Chemistry, the student will be equipped to :
PSO-1	Comprehensive understanding of chemistry principles.
PSO-2	Proficiency in lab techniques.
PSO-3	Strong problem-solving skills.
PSO-4	Ability to conduct and analyze research.
PSO-5	Effective communication abilities.
PSO-6	Commitment to ethical conduct.
PSO-7	Capacity for interdisciplinary collaboration.
PAPER (MSc/Chem/1/CC1) Inorganic Chemistry-I	

	After successfully completing this course, students will be able to
CO1	Describe advanced symmetry concepts of chemical molecules and its applications.
CO2	Able to analyze the axis, plane, center and point group, polarity, dipole moment, product of symmetry operation and character table of chemical compounds.
CO3	Explains about VBT, crystal field theory and its effects in coordination complexes.
CO4	Apply the concept of molecular orbital theory to tetrahedral square planar and octahedral complexes
CO5	Demonstrate the factors affecting stability of metal ligand complexes.
CO6	Able to use the various methods for the determination of stability constant.
CO7	Discuss the various possible arrangements of electrons in terms of term of symbols.
CO8	Able to describe the magnetic properties of free ions and calculate magnetic moments.
CO9	Calculate the spectral terms for d1 -d 9 metal ions.
CO10	Illustrate the Orgel diagrams, Tanabe-Sugano diagrams for transition metal complexes (d1 -d 9 states)
CO11	Derive the term symbol for closed subshell.
PAPER (MSc/Chem/1/CC2) Physical Chemistry-I	
	After successfully completing this course, students will be able to
CO1	Recapitulation of thermodynamic laws.
CO2	Explain thermodynamic functions of mixing (free energy, entropy, volume, and enthalpy), concept of escaping tendency and chemical potential.
CO3	Explain Collision theory of reaction rates, steric requirement, Arrhenius equation and activated complex theory (ACT).
CO4	Demonstrate thermodynamic formulations of activated complex theory.
CO5	Study of photochemical reactions and Rice-Herzfeld mechanism of organic molecules.
CO6	Discuss the various postulates of quantum mechanics.
CO7	Solve Schrödinger equation for a particle in a box and for a one-dimensional box with a finite barrier and its application to quantum mechanical tunnelling.
CO8	Solve Schrödinger equation for linear harmonic oscillator and its solution and Learn about operators and their properties.
CO9	Perform operator mathematics including commutation of operators.
PAPER (MSc/Chem/1/CC3) Organic Chemistry-I	
	After successfully completing this course, students will be able to
CO1	Describe reaction intermediates, energy profile diagrams and establish mechanism of organic reaction simultaneously understand effect of structure

	on reactivity and application of Hammett /Taft equations, Curtin-Hammett principles, Hammond postulates in theoretical treatment of organic reactions
CO2	Understand mechanistic details of different types of aliphatic nucleophilic substitution reactions and factors affecting them and the terminology involved therein.
CO3	Understand mechanistic details of different types of and factors affecting aliphatic nucleophilic substitution reactions and the terminology involved therein.
CO4	Know mechanistic details of different types of elimination reactions, Saytzeff and Hoffman rules and application of these in prediction of product formation in various elimination reactions.
CO5	Master stereo-chemical terms, inter-convert stereo-structural formulae of organic molecules, analyze configurations, create stereo-structures and correlate configuration by applying the concept of chemical correlation.
CO6	Describes stability of different configurations and conformations of acyclic and cyclic organic compounds, sugars, decalins.
CO7	Describe the concepts of prochirality, topicity related terms, asymmetric synthesis, its main categories vis-à-vis application of Cram's, Prelog and Horeaus rule, Felkin Ahn Model.
CO8	Understand the concept of aromaticity and explain examples.
PAPER (MSc/Chem/1/NC1) Mathematics for Chemists	
After successfully completing this course, students will be able to	
CO1	Explain definitions of vectors, representation and properties of vectors.
CO2	Perform vector mathematical operations
CO3	Explain scalar and vector products of vectors.
CO4	Describe the definition and properties of matrices and determinants
CO5	Demonstrate matrix mathematics.
CO6	Apply and analyse linear equations using matrices
CO7	Describe rules of differentiation and be able to find out the derivative of a function by applying various methods of differentiation.
CO8	Describe rules and methods of integration.
CO9	Perform integration between limits and apply in chemistry.
PAPER (MSc/Chem/1/NC2) Biology for Chemists	
After successfully completing this course, students will be able to	
CO1	Describe and draw the prokaryotic and eukaryotic cell Structure, metabolic processes occurring in cell. Able to discuss the Carbohydrate metabolism- glycolysis, Kreb's cycle, glycogenolysis, glycogenesis pentose phosphate pathway and gluconeogenesis.
CO2	Demonstrate the Structure and functions of important derivatives of monosaccharides like glycosides, deoxy sugars, myoinositol, structural

	polysaccharides - cellulose and chitin. Storage polysaccharides-starch and glycogen
CO3	Analyze the structure and functions of fatty acids, triacylglycerols, β -oxidation of fatty acid, Fluid mosaic mode of cell membrane.
CO4	Describe the concept of the amino acids, peptides and proteins. Able to describe the primary, secondary structure of proteins and forces responsible for holding these structures.
CO5	Identifies enzymatic and chemical cleavage of polypeptide chain, sequencing of amino acids in a polypeptide segment, concept of denaturation of proteins.
CO6	Describe and draw the Structure of nucleotides, nucleosides, DNA (Watson-Crick model) RNA and their conformation.
PAPER (MSc/Chem/1/CC4) Inorganic Chemistry Practical-I	
After successfully completing this course, students will be able to	
CO1	Explains the basic concept about qualitative analysis.
CO2	Describes the concept of quantitative analysis and its application
CO3	Separate and quantify the presence of two metal ions in a solution.
CO4	Prepares mentally to face viva-voce.
PAPER (MSc/Chem/1/CC5) Physical Chemistry Practical-I	
After successfully completing this course, students will be able to	
CO1	Determine extent of adsorption and verify Freundlich and Langmuir adsorption isotherms.
CO2	Determine the molecular weight of a given substance i.e., naphthalene and biphenyl by Rast method.
CO3	Understand the concept of surface tension and its determination for various organic solvents.
CO4	Know the concept of viscosity and its determination.
CO5	Determine the viscosity averaged molar mass of a polymer.
CO6	Determine the partition coefficient of a solute between two immiscible solvents by using distribution law.
PAPER (MSc/Chem/1/CC6) Organic Chemistry Practical-I	
After successfully completing this course, students will be able to	
CO1	Demonstrate the basic principle and apply the techniques of separation of binary organic mixture.
CO2	Analyze qualitatively the presence of extra elements and functional groups in the binary organic mixture along with understanding of chemical reaction involved.
CO3	Differentiate between aromatic/aliphatic, saturated/unsaturated, hydrocarbon/heterocycles.
CO4	Understand and develop the capabilities of preparing derivatives of different organic compounds bearing various organic functionalities.

CO5	Identify the significance of melting point, mixed melting point, boiling point in identification of organic compounds.
CO6	Demonstrate the basic laboratory & purification techniques in organic chemistry
CO7	Develop the skill of performing experiments and analyzing data to evaluate results
CO8	Develop the ability to compile interpreted information in the form of lab record.
CO9	Prepare mentally and academically to face viva-voce.
PAPER (MSc/Chem/2/CC7) Inorganic Chemistry-II	
After successfully completing this course, students will be able to	
CO1	Understand the MO Diagram of Diatomic molecules, especially of Carbonyl.
CO2	Describe Magnetic and IR studies of Carbonyl complexes.
CO3	Know the HSAB concept with their applications.
CO4	Understand Mulliken symbols and describe applications of group theory in analysis of molecular structure of different molecules.
CO5	Know the concepts of nuclear and radiochemistry and discuss the structure and functioning of various counters use in radiochemistry
CO6	Describe the radiotracer technique, activation analysis and its applications in various aspects.
PAPER (MSc/Chem/2/CC8) Physical Chemistry-II	
After successfully completing this course, students will be able to	
CO1	Discuss scope of irreversible thermodynamic
CO2	Explain phenomenological laws
CO3	Describe specific laws of entropy production.
CO4	Discuss coupled reactions & unimolecular reactions.
CO5	Determination of partial molar volume, thermodynamic functions of mixing.
CO6	Knowledge about fundamental concepts of phase equilibrium and their applications in studying one and two-component systems including eutectics.
CO7	Understand the concept of fugacity and its determination.
CO8	Basic information of photochemistry and laws of photochemistry.
CO9	Learn about Phosphorescence and fluorescence.
CO10	Discuss Debye-Hückel theory of ion-ion interaction and activity coefficient, its applicability, limitations and its modification for finite-sized ions, effect of ion-solvent interaction on activity coefficient.
CO11	Derive D-H-O equation - its applicability and limitations, Pair-wise association of ions (Bjerrum treatment) and its modifications for ion-pair formation

PAPER (MSc/Chem/2/CC9) Organic Chemistry-II	
	After successfully completing this course, students will be able to
CO1	Describe the concept of aliphatic electrophilic substitution reaction and illustrate the aliphatic electrophilic substitutions mechanisms - SE2, SE1.
CO2	Understands and illustrate the neighbouring group participation, classical and nonclassical carbocation and describe the role of non-bonding electrons, sigma, and π -bonds in NGP.
CO3	Describes the concept of carbocations rearrangements and migratory aptitudes.
CO4	Discuss the concept of Aromatic Nucleophilic Substitution by diazonium salts, arynes.
CO5	Describes the mechanisms of Aromatic Electrophilic Substitution and their applications.
CO6	Discuss about the generation, structure, stability, and reactivity of free radicals
CO7	Know mechanistic details of different types of elimination reactions, Saytzeff and Hoffman rules and application of these in prediction of product formation in various elimination reactions
CO8	Able to draw the mechanisms of addition to alkenes and alkynes.
CO9	Describes the reactivity of carbonyl compounds in various reactions & addition to carbonyl group of aldehydes, ketones and acids.
PAPER (MSc/Chem/2/SEC1) Computer for Chemists	
	After successfully completing this course, students will be able to
CO1	Describe about the basic functioning of computer, memory devices, storage devices and different generations of computer.
CO2	Get the knowledge of MS-word and apply it
CO3	Demonstrate how to use MS-Excel, MS-Power Points & making slides and how to apply the formulas
CO4	Learn about the presentations, chem draw tools and Plotting tools.
PAPER (MSc/Chem/2/CC10) Inorganic Chemistry Practical-II	
	After successfully completing this course, students will be able to
CO1	Prepare the sample of various coordination complexes and their spectroscopic study.
CO2	Develop the ability to compile interpreted information in the form of lab record.
CO3	Perform experimentation and evaluate the results.
CO4	Prepare mentally to face viva-voice
PAPER (MSc/Chem/2/CC11) Physical Chemistry Practical-II	
	After successfully completing this course, students will be able to

CO1	Determine the molar refractivity of given compounds.
CO2	Study and conduct experiments related to chemical kinetics for the determination of the order and rate constant of the reaction.
CO3	Determine the solubility of an inorganic salts
CO4	Understand and master the fundamentals of potentiometric experiments.
PAPER (MSc/Chem/2/CC12) Organic Chemistry Practical-II	
After successfully completing this course,students will be able to	
CO1	Describes the concept of stepwise synthesis of a product and their purification
CO2	Explore various combinations of reactions that can be exploited to form a product.
CO3	Perform experimentation and evaluate the results.
CO4	Develops the ability to compile interpreted information in the form of lab record.
PAPER (MSc/Chem/3/CC13) Cardinal Principles of Academic Integrity and Publications Ethics	
After successfully completing this course,students will be able to	
CO1	Academic Integrity, Plagiarism (prevention and detection) and UGC regulations.
CO2	Research and Publications ethics and best practices.
PAPER (MSc/Chem/3/CC14) Spectroscopy	
After successfully completing this course,students will be able to	
CO1	Describes the basic concept of microwave spectroscopy and able to interpret the rotational spectra of rigid diatomic and polyatomic linear molecules and symmetric top molecules.
CO2	Explains the principle of Vibrational spectroscopy and able to solve numerical problems.
CO3	Know about NQR and ESR spectroscopy and illustrate their applications in chemistry.
CO4	Discuss the Raman spectroscopy and its application in physical chemistry
CO5	Explains the principle of AAS and calculate percentage of alkali and alkaline earth metals.
CO6	Understand the basic concept of reciprocal lattice related to X-ray crystallography and interpretation of powder X-ray diffraction patterns.
CO7	Able to determine interplanar spacing for different crystal systems and structure factors for different types of lattices.
Paper (MSc/Chem/3/DSC1-I) Inorganic Chemistry Special-I	
After successfully completing this course,students will be able to	
CO1	Explain basic concepts of photochemistry viz photochemical laws, quantum yield, electronically excited states, lifetime –measurements

CO2	Describes the Energy dissipation by radiative and non-radiative processes along with Franck Condon principle, photochemical kinetics.
CO3	Demonstrates chemiluminescence and electronically excited states of metal complexes.
CO4	Give details about Metal complex sensitizer and explains photosensitized reactions in metal complexes.
CO5	Elaborate photo substitution, photoreduction etc.
CO6	Discuss the Kinetics and draw mechanism of coordination reactions in non-aqueous media.
Paper (MSc/Chem/3/DSC2-I) Inorganic Chemistry Special-II	
CO NO	After successfully completing this course, students will be able to
CO1	Describe Silicates, minerals, and its types in detail.
CO2	Discuss and draw structures and properties of Oxoacids of Nitrogen, Phosphorus, and sulphur
CO3	Explains Metal Carbides & Xenon compounds - its types, Structure, preparation, and properties of.
CO4	Give details about the preparation, properties and characterisation of hydride complexes.
CO5	Explain different complexes of lanthanides and actinides with focus on spectral & magnetic properties.
Paper (MSc/Chem/3/DSC3-I) Inorganic Chemistry Special-III	
	After successfully completing this course, students will be able to
CO1	Explain various rings, cages and chains
CO2	Describe the concept and language of supramolecular Chemistry
CO3	Demonstrate the various supramolecules and their role in catalysis
CO4	Give details about Metal Storage, their Transportations in living organisms and Biomineralization.
CO5	Discuss the role of iron in biological systems
CO6	Elucidate the structural characteristics and role of vitamin B12 in living systems.
CO7	Describes the types of zinc containing metalloenzymes, their structure and mechanistic approach in involving various reactions occurring in living organisms.
CO8	Able to draw the structure and role of copper and molybdenum enzymes in biological systems.
Paper (MSc/Chem/3/DSC4-I) Inorganic Chemistry Special Practical-I	
	After successfully completing this course, students will be able to
CO1	Discuss the basic concept about the qualitative analysis.
CO2	Analyse the given mixture for the presence of one acidic radical, two rare earth metal ions and one insoluble salt.

CO3	Prepare a sample of various coordination complexes.
CO4	Prepare mentally to face viva-voce.
Paper (MSc/Chem/4/SEC2) Applied Spectroscopy	
After successfully completing this course,students will be able to	
CO1	Describes the basic concept of Ultraviolet and Visible Spectroscopy
CO2	Elaborates the Beer-Lambert law, effect of solvent on electronic transitions & apply Fieser-Woodward rules for calculating λ_{\max} for conjugated dienes and carbonyl compounds.
CO3	Discuss the methods of fragmentation of organic compounds - EI, CI, FD and FAB, factors affecting fragmentation, ion analysis, ion abundance.
CO4	Able to apply the concept of mass spectrometry for the determination of structure of organic compounds based on fragmentation
CO5	Give details about principle of IR spectroscopy and various absorption bands and apply the knowledge in interpreting organic compounds.
CO6	Describes the basic concept behind NMR spectroscopy and its application for the structure elucidation.
CO7	Discuss the chemical shift and coupling constant of $^1\text{H-NMR}$ in relation to stereochemical structure of the organic compound.
CO8	Explains the difference between First order & non-first order NMR spectra and Tools used for simplification of complex NMR spectrum (instrumental and chemical).
CO9	Give the details, chemical shifts of $^{13}\text{C-NMR}$ and their applications in structure determination of organic compounds.
CO10	Demonstrate NOSY, COSY and NOE
Paper (MSc/Chem/4/DSC5-I) Inorganic Chemistry Special-IV	
After successfully completing this course,students will be able to	
CO1	Discuss the synthesis, structure characteristic and chemical properties of metal carbonyls, metal nitrosyls.
CO2	Understand the synthesis and structural characteristics and important reactions of dinitrogen and dioxygen complexes.
CO3	Describe the various classifications of metal cluster compounds.
CO4	Understand various characteristics of metal boranes carboranes, metalloboranes and metallo-carboranes and learn about their various aspects.
CO5	Discuss the existence, stability and formation of metal-metal multiple bonds.
CO6	Understand the basics of organometallics and their applications.
CO7	Understand the classification of inorganic polymers and their comparison with organic polymers
CO8	Know about boron-nitrogen polymers, silicones, coordination polymers, phosphorusnitrogen compounds.
CO9	Describe the concept of Fluxionality and its dynamic equilibria in compounds such as η^2 -olefin, η^3 -allyl and dienyl complexes.

Paper (MSc/Chem/4/DSC6-I) Inorganic Chemistry Special-V	
	After successfully completing this course,students will be able to
CO1	Discuss the Reaction Mechanism of Transition Metal Complexes
CO2	Know the kinetics of octahedral substitution, acid hydrolysis, factors affecting acid hydrolysis, base hydrolysis, and conjugate base mechanism.
CO3	Describe the Substitution reactions in square planar complexes, with reference to Trans effect and their mechanism
CO4	Describe electron transfer reactions and mechanism of one electron transfer reactions, outer-sphere type reactions, cross reactions.
CO5	Learn about ESR spectroscopy and its application in inorganic analysis
CO6	Know about basic concept of NMR and its utilization in the structural determination of inorganic compounds.
CO7	Discuss the basic principles, spectral parameters and display in Mossbauer spectroscopy to explain the oxidation states, coordination number and nature of metal ligand bond.
CO8	Understand Mossbauer technique for the determination of structure and bonding in iron and tin complexes
CO9	Understand the Fundamental concepts, instrumentation application of absorption spectroscopy to analysis of inorganic substances
Paper (MSc/Chem/4/DSC7-I) Inorganic Chemistry Special-VI	
	After successfully completing this course,students will be able to
CO1	Know about use of alkene and alkynes as ligands in organometallics.
CO2	Understand the synthesis and reactions of carbene and carbynes in organometallic chemistry.
CO3	Describe the oxidative addition, reductive elimination and migratory reactions in organometallics.
CO4	Know about various types of homogenous catalysis reactions and their utility in organic synthesis.
CO5	Know about use of organometallic polymers.
CO6	Understand about various types of organometallic compounds as drugs.
CO7	Know about radiopharmaceuticals, ionophores and sensors.
Paper (MSc/Chem/4/SEC3-I) Inorganic Chemistry Special Practical-II	
	After successfully completing this course,students will be able to
CO1	Understand various instrumental techniques present in inorganic laboratories.
CO2	Develop the ability to demonstrate the qualitative and quantitative application of spectrophotometric technique.
CO3	Develop the ability to learn potentiometric pH and conductometric titrations
CO4	Understand to perform experimentation and evaluation of the results

CO4	<p>Explain the concept of the cell and its components. Discuss the structure and function of the cell wall, cell membrane, cytoplasm, nucleus, and organelles. Describe the process of cell division (mitosis and meiosis).</p>
CO5	<p>Explain the concept of tissue and its types. Discuss the structure and function of epithelial, connective, muscle, and nervous tissues. Describe the process of tissue repair and regeneration.</p>
CO6	<p>Explain the concept of the immune system and its components. Discuss the structure and function of the immune system, including the role of white blood cells, antibodies, and the immune response. Describe the process of infection and disease.</p>
Semester 2	
CO1	<p>Explain the concept of the human body and its systems. Discuss the structure and function of the human body, including the role of the skeletal, muscular, and nervous systems. Describe the process of human development and growth.</p>
CO2	<p>Explain the concept of the human respiratory system and its components. Discuss the structure and function of the respiratory system, including the role of the lungs, trachea, and bronchi. Describe the process of breathing and gas exchange.</p>
CO3	<p>Explain the concept of the human digestive system and its components. Discuss the structure and function of the digestive system, including the role of the stomach, intestines, and liver. Describe the process of digestion and absorption.</p>
CO4	<p>Explain the concept of the human circulatory system and its components. Discuss the structure and function of the circulatory system, including the role of the heart, blood vessels, and blood. Describe the process of blood flow and transport.</p>
CO5	<p>Explain the concept of the human excretory system and its components. Discuss the structure and function of the excretory system, including the role of the kidneys, ureters, and bladder. Describe the process of excretion and waste removal.</p>
CO6	<p>Explain the concept of the human reproductive system and its components. Discuss the structure and function of the reproductive system, including the role of the testes, ovaries, and uterus. Describe the process of reproduction and development.</p>

