GOVT. COLLEGE FOR WOMEN, KARNAL

Railway Road, Karnal

NAAC Accredited Grade 'B+' with CGPA 2.52 in the 2nd cycle

College with Potential for Excellence - UGC, New Delhi

DEPARTMENT OF COMPUTER SCIENCE AND APPLICATIONS PROGRAM OUTCOMES (PO), PROGRAM SPECIFIC OUTCOMES (PSO), COURSE OUTCOMES (CO)

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

PO1:	(**Lifelong Learning**) Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the context of technological advancements in computer applications.
PO2:	(**Engineering Knowledge**) Apply the knowledge of mathematics, science, engineering fundamentals, and computer applications to the solution of complex engineering problems.
PO3:	(**Solutions to Complex Problems**) Explore and design solutions for complex engineering problems and design system components or processes using computing technologies to meet the specified needs with appropriate norms.
PO4:	(**Ethics**) Apply ethical principles and commit to professional ethics, responsibilities and norms of the engineering practice.
PO5:	(**Project Management & Team Work**) Function effectively using engineering and management principles as a team leader or team member on multi disciplinary projects.
PO6:	(**Modern Tool Usage**) Select, integrate and apply efficiently the resources and contemporary IT tools to computer applications.
PO7:	(**Investigations of Complex Problems**) Analyze a given real-world problem to propose relevant analysis for use in feasible computing solutions.
PO8	(**Communication**) Ability to communicate effectively on engineering activities with the engineering community and the society at large.
PO9:	(**Environment and Sustainability)** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO10:	(**Decision Making**) Design and conduct experiments, review the research-based knowledge, gather and interpret data to provide valid conclusions in the context of computer applications.
	Program Specific Outcomes (BCA)
PSO-1:	Ability to pursue a career with necessary skills in the area related to Computer Science and Applications.
PSO-2:	Ability to explore emerging technologies and provide innovative solutions to real-life applications

Semester-I

BCA-111	**Computer and Programming Fundamentals**					
Lecture	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
6	**-**	**-**	**80**	**20**	**100**	**3 Hrs.**
Purpose	**Introduces basic concepts of computers, components and functional structure.**					
Course Outcomes (CO)						
CO1	Demonstration and implementation the layers of architectures in computer systems from digital logic to networks.					
CO2	Understanding of CPU components that how they are composed in terms of Digital Logic					
CO3	Design, analysis and implementation of assembly languages including function calls basic control structures					
CO4	Demonstrate functional knowledge of operating system and networks.					

BCA-112	**Windows and PC Software**					
Lecture	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
6	**-**	**-**	**80**	**20**	**100**	**3 Hrs.**
Purpose	**To familiarize the students with the basics of Computer System and Excel concept**					
Course Outcomes (CO)						
CO1	To understand common features and requirements of Windows.					
CO2	To be able to manage hardware and software in Windows.					
CO3	To implement different options in spreadsheet for creating and editing worksheets.					
CO4	To implement advance features of excel for creating and editing worksheets.					

BCA-114	**Logical Organization of Computers-I**					
Lecture	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**

6	**-**	**-**	**80**	**20**	**100**	**3 Hrs.**
Purpose	**Introduces basic concepts of Number System, Boolean algebra, logic gates and combinational circuits.**					
Course Outcomes (CO)						
CO1	Identify, understand and apply different number systems and their codes.					
CO2	Analyze and apply the binary logic to simply the Boolean functions.					
CO3	Understand the different types of logic gates and their implementation.					
CO4	Understand the general concepts in digital logic design, including logic elements and their use in combinational logic circuit design.					

BCA-116	**Programming in C**					
Lecture	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
6	**-**		**80**	**20**	**100**	**3 Hrs.**
Purpose	**Introduces basic concepts of Programming and Solving Problems using C Language**					
Course Outcomes (CO)						
CO1	Develop their programming skills					
CO2	Be familiar with programming environment with C Program structure.					
CO3	Declaration of variables and constants and Understand operators, expressions and preprocessors.					
CO4	Understand arrays, it's declaration and uses.					
CO5	Understand the format of functions and their application in solving complex problems.					

BCA Semester-I							
Paper	**Lecture**	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
Mathematic Foundations –I	**6**	**-**	**-**	**80**	**20**	**100**	**3 Hrs.**

Paper- BCA-113 Mathematic Foundations –I

Upon completion of this course, to be able to:

CO 1: To understand the concept of set theory, union of sets, intersection of sets and vein diagram and familiar with propositional calculus.

CO 2: To understand differentiability of different type of functions and to know about Graphs and algorithms Formation and solution of differential equations.

CO 3: To understand basic discrete structures such as numbers, sets, used in computer science.

CO 4: To familiarize with Determinant, Matrices and Formulate Limit, Continuity and Differentiability.

CO 5: To demonstrate a working to knowledge Definite and Indefinite Integrals and apply to knowledge of discrete mathematics appropriate to the discipline.

CO 6: To analyze and solve problems based on Matrix & determinants and to understand Statistics and its applications and also will be able to calculate Mean, median and mode.

Semester-II

BCA-121	Advanced Programming in C					
Lecture	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
6	**-**		**80**	**20**	**100**	**3 Hrs.**
Purpose	**Introduces basic concepts of Programming and Solving Problems using C Language**					
Course Outcomes (CO)						
CO1	Develop their programming skills.					
CO2	Be familiar with strings and their applications					
CO3	Understand the declaration of pointers, their use, their arithmetic and applications with arrays, structures, functions and strings.					
CO4	Understand and implement structures, union and various macros constructs.					
CO5	To Implement the Files Input and output functions.					

BCA-122	Logical Organization-II					
Lecture	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
6	**-**		**80**	**20**	**100**	**3 Hrs.**
Course Outcomes (CO)						
CO1	Understand the concept and components of sequential Logic.					
CO2	Understand the structure, function and characteristics of various sequential circuits.					
CO3	Identify the elements of modern instruction sets and their impact on processor design.					
CO4	Understand the function of each element of a memory hierarchy.					
CO5	Analyze different methods for Computer I/O.					

BCA-124	Office Automation Tools					
Lecture	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
6	**-**	**-**	**80**	**20**	**100**	**3 Hrs.**
Purpose	**Introduces basic concepts of DTP, Components of PageMaker and introduce different options in word processing for creating and editing documents and PowerPoint for creating and editing presentation.**					
Course Outcomes (CO)						
CO1	Understand and apply common features of DTP and PageMaker					
CO2	Understand to create and edit publications in PageMaker					
CO3	Implement different options in word processing for creating and editing documents.					
CO4	Iimplement different options in PowerPoint for creating and editing presentation.					

BCA-125	Structured System Analysis and Design					
Lecture	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
6	**-**	**-**	**80**	**20**	**100**	**3 Hrs.**
Course Outcomes (CO)						
CO1	Analyze and specify the requirements of a system.					
CO2	Design system components and environments.					
CO3	Analyze general and detailed models that assist programmers in implementing a system.					
CO4	Analyze database for storing data, a user interface for data input and output, and controls to protect the system and its data.					

Course Title: Software Lab **Course No. BCA-131**

Course Outcomes	
CO1	Understand arrays, it's declaration and uses.
CO2	Understand the format of functions and their application in solving complex problems.
CO3	Understand the declaration of pointers, their use, their arithmetic and applications with arrays, structures, functions and strings.
CO4	Understand and implement structures, union and various macros constructs.

Course Title: Software Lab **Course No. BCA-132**

Course Outcomes	
CO1	Understand to manage hardware and software in Windows.
CO2	Implement different options in spreadsheet for creating and editing worksheets.
CO3	Implement options for creating and edit publications in PageMaker

CO4	Implement different options in word processing and power point for creating and editing documents.

BCA Semester-II							
Paper	**Lecture**	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
Mathematic Foundations –II	**6**	**-**	**-**	**80**	**20**	**100**	**3 Hrs.**

B.C.A. Semester-II

Paper- BCA-123 Mathematical Foundations-II
Upon completion of this course, to be able to:

CO 1: To understand the concept of relations and functions and measure of Dispersion.

CO 2: To understand the concept of partial derivatives and three dimensional geometry and know about different types of distributions.

CO 3: To estimate different distributions and to understand and evaluate double and triple integrals

CO 4: To learn about how to conduct hypothesis Testing, methods of studying Correlation and tests of significance.

Semester-III

BCA – 231	**OBJECT ORIENTED PROGRAMMING USING 'C++'**					
Lecture	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
6	**-**	**-**	**80**	**20**	**100**	**3 Hrs.**
Course Outcomes						
CO1	Understand and apply the basic concepts of object-oriented programming language and their representation.					
CO2	Implement the dynamic memory allocation functions, access specifier and the behavior of inheritance and its implementation.					
CO3	Understand and deploy the use of constructors and destructors.					
CO4	Understand and implement polymorphism, interface design and overloading of operators.					
CO-5	Apply the I/O operations to handle backup system using file and to develop general purpose templates.					

BCA-232	Data Structures					
Lecture	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
6	**-**	**-**	**80**	**20**	**100**	**3 Hrs.**
Course Outcomes (CO)						
CO1	To implement and analyze algorithms and algorithm correctness.					
CO2	To be able to describe stack, queue and linked list data structures.					
CO3	To implement linear and non-linear data structures.					
CO4	Ability to have knowledge of tree and graph concepts.					

BCA-233	COMPUTER ARCHITECTURE					
Lecture	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
6	**-**	**-**	**80**	**20**	**100**	**3 Hrs.**
Course Outcomes (CO)						
CO1	To understand the functional units of a processor such as the register file and arithmetic-logical unit with the basics of System.					
CO2	To identify different types of Computer Organization and various addressing modes.					
CO3	To analyze the CPU design including the RISC/CISC architectures.					
CO4	To implement the basic knowledge of I/O devices and interfacing of I/O devices with computer.					
CO5	To understand the Direct Memory Access Transfer and CPU-IOP communication.					
CO6	To Explain and Summarize Asynchronous Serial Transfer.					

BCA-234	Software Engineering					
Lecture	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
6	**-**	**-**	**80**	**20**	**100**	**3 Hrs.**
Purpose	Software engineering is an engineering branch associated with development of software product using well-defined scientific principles, methods and procedures. The outcome of software engineering is an efficient and reliable software product.					
Course Outcomes (CO)						
CO1	Apply the concept of the software process models according to user requirement.					
CO2	Understand the fundamental concept of requirements techniques and Analysis Modelling.					
CO3	Understand the different design techniques (Cohesion and Coupling) and their implementation.					
CO4	Design various software reliability measures to access the quality of software in case of various faults and failure.					
CO5	Develop various testing methodologies and maintenance model.					

BCA-235	Fundamentals of Database System					
Lecture	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
6	**-**	**-**	**80**	**20**	**100**	**3 Hrs.**
Purpose	**Introduces basic concepts of Database Management System, architecture of DBMS, models used in database along with ER Diagrams**					
Course Outcomes (CO)						
CO1	Explain the basic concepts and the applications of database systems					
CO2	Understand the three level architecture of DBMS.					
CO3	***Identify*** the basic concepts and various data model used in database design					
CO4	Design ER-models to represent simple database application scenarios.					
CO5	Explain the basic concepts of relational data model					

BCA Semester-III							
Paper	**Lecture**	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
Computer Oriented Numerical Methods	**6**	**-**	**-**	**80**	**20**	**100**	**3 Hrs.**

B.C.A. Semester-III

Paper- BCA-236 Computer Oriented Numerical Methods

Upon completion of this course, to be able to:

CO 1: To understand the concept of computer Arithmetic, Newton Raphson method Iteration method

CO 2: To find solution of differential equations with the help of Gauss method, Runga–Kutta methods and Euler method.

CO 3: To understand the concept of Interpolation and approximation

CO 4: To understand the concept of numerical differentiation and integration and floating-point representation.

CO 5: To find solution of simultaneous linear equations and ordinary differential equations and Interpolation and Approximation.

Semester-IV

BCA-241	Advance Data Structures					
Lecture	**Tutorial**	**Practical**	**External**	**Internal**	**Total**	**Time**
6	-	**-**	**80**	**20**	**100**	**3 Hrs.**
	Course Outcomes (CO)					
CO1	Demonstration of familiarity with algorithms for understanding the abstract properties of various data structures and reorganization of their advantages and disadvantages.					
CO2	Analyze and solve problems related to Arrays and Strings.					
CO3	Understand and implement the stacks and queues in solving problems of searching, sorting.					
CO4	Learn and apply various kinds of trees applications in computer science and to know about height balanced trees and application of trees					
CO5	Apply the Graph and various searching and sorting algorithms along with hash functions in faster access of information.					

BCA-242	ADVANCED PROG. USING C++					
Lecture	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
6	**-**	**-**	**80**	**20**	**100**	**3 Hrs.**
Purpose	**To familiarize the students with the basics of ADVANCED PROG. USING C++**					
Course Outcomes						
CO1	To describe the concept of function and operator overloading, virtual functions and polymorphism.					
CO.2	To perform conversion between different classes and objects.					
CO3	Classify inheritance with the understanding of early and late binding, usage of exception handling, generic programming.					
CO4	Demonstrate a thorough understanding of stream input/output for both console and binary files.					

BCA-243	E-Commerce					
Lecture	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
6	**-**	**-**	**80**	**20**	**100**	**3 Hrs.**
Purpose	**Analysis and evaluate thee commerce model along with the concepts e Governance and Emerging Technologies in E Commerce**					

Course Outcomes (CO)	
CO1	Understand and deploy the importance of Internet, web apps, features and elements in E Commerce to boost up the traditional venture across the globe.
CO2	Understand various types of E-commerce in market i.e., B2B, B2C, C2C, C2B.
CO3	Analyze difference between Governance and E governance.
CO4	Understand the way to explore various sectors i.e. Tourism, Share market, E - Banking, and etc.
CO5	Understand the emerging E- Commerce scenario in India

BCA-244	**RDBMSs**					
Lecture	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
6	**-**	**-**	**80**	**20**	**100**	**3 Hrs.**
Purpose	**To familiarize the students with the basics of RDBMSs**					
Course Outcomes						
CO1	Understand relational database theory.					
CO2	Apply relational algebra expression, tuple and domain relation expression for queries					
CO3	Apply the concept of normalization and functional dependency.					
CO4	Apply SQL queries on data using basic DDL, DML and DCL commands.					
CO5	Understand the concept of views, group and aggregate functions.					
CO6	Apply PL/SQL programming for simple applications					

BCA-246	**Management Information System**					
Lecture	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
6	**-**	**-**	**80**	**20**	**100**	**3 Hrs.**
Purpose	**Introduces basic concepts of Information System, different levels of management, different phases of developing a system and functional MIS.**					
Course Outcomes (CO)						
CO1	Understand the basic principles and working of information technology.					
CO2	Describe the role of information technology and information systems in business.					
CO3	Develop data analyzing skills to evaluate the information.					
CO4	Get an insight on characteristics, components and requirements of decision making and support system.					
CO5	Design, implement and evaluate basic information system.					
CO6	Understand the various functional information systems.					

BCA Semester-IV							
Paper	**Lecture**	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**

Computer Oriented Statistical Methods	**6**	**-**	**-**	**80**	**20**	**100**	**3 Hrs.**

B.C.A. Semester-IV

Paper- BCA-236 Computer Oriented Statistical Methods

Upon completion of this course, to be able to:

CO 1: To understand the concept of computer Arithmetic mean, Geometric mean.

CO 2: To be familiar with Measure of Dispersion.

CO 3: To understand the concept of distributions like Binomial, Poisson, and normal distribution.

CO 4: To understand the concept of significance of test like Z-Test, T-Test, Chi-Square Test.

CO 5: To find the meaning of Anova and its importance.

BCA-251	**LAB-1**					
Lecture	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
6	**0**		**80**	**20**	**100**	**3 Hrs.**
Course Outcomes (CO)						
CO1	**To Deploy the basic concepts of object-oriented programming language and their representation.**					
CO2	**To Implement the dynamic memory allocation functions, access specifier and the behavior of inheritance and its implementation.**					
CO3	**Understand and Implement the use of constructors and destructors.**					
CO4	**To implement polymorphism, interface design and overloading of operators.**					
CO5	**Apply the I/O operations to handle backup system using file and to develop general purpose templates.**					
CO6	**To take practical experience of Handling raised exception while implementing various object-oriented concepts.**					

BCA-252	**LAB-II**					
Lecture	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
6	**0**		**80**	**20**	**100**	**3 Hrs.**

Course Outcomes	
CO1	To Deploy the basic concepts of object-oriented programming language and their representation.
CO2	To Implement the dynamic memory allocation functions, access specifier and the behaviour of inheritance and its implementation.
CO3	Understand and Implement the use of constructors and destructors.
CO4	To implement polymorphism, interface design and overloading of operators.
CO5	Apply the I/O operations to handle backup system using file and to develop general purpose templates.
CO6	To take practical experience of Handling raised exception while implementing various object-oriented concepts.

Semester-V

BCA-351	**Web Designing Fundament5als**					
Lecture	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
6	**-**	**-**	**80**	**20**	**100**	**3 Hrs.**
Course Outcomes						
CO1	Understand the basic concepts of information and web architecture.					
CO2	Analyze and apply the role of languages like HTML in the workings of the web and web applications					
CO3	Understand the skills that will enable to design and build high level web enabled Applications.					
CO4	Understand, analyze and create web pages using HTML, DHTML and Cascading Styles sheets.					

BCA-352		
Lecture	**Tutorial**	**Practical**
6	**-**	**-**
Purpose	**To familiarize the students with the basics of Operating Systems**	
Course Outcomes		
CO1	Understand the basics of operating systems like kernel, shell, types and views of operat	
CO2	Analyze Process management and various CPU scheduling algorithms.	
CO3	Implement the concept of Deadlock and its management.	
CO4	Understand various memory management techniques and concept of thrashing.	
CO5	Implementation of demand paging using virtual memory and various page replacement	

CO6	Understand file system interface, protection and security mechanisms.

BCA-353	**Artificial Intelligence**					
Lecture	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
6	**-**	**-**	**80**	**20**	**100**	**3 Hrs.**
Purpose	**To familiarize the students with concepts of Artificial Intelligence.**					
Course Outcomes						
CO1	To understand the fundamentals of Artificial intelligence and problem-solving using resolution.					
CO2	To understand and apply different ways of representing knowledge in expert system.					
CO3	To learn and implement different search strategies and their properties.					
CO4	To gain insights of architecture and components of Expert System.					
CO5	To analyze and implement different learning strategies of Expert System.					
CO6	To understand the purpose and applicability of NLP.					

BCA-354	**COMPUTER NETWORKS**					
Lecture	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
6	**-**	**-**	**80**	**20**	**100**	**3 Hrs.**
Course Outcomes						
CO1	Understand the basic concept of networking, types, networking topologies and layered architecture.					
CO2	Understand the basics of data link layer and MAC sub-layer`					
CO3	Understand the network Layer functioning					
CO4	Analyze the different types of network devices and their functions within a network					

BCA-355	**Programming Using visual basic**					
Lecture	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
6	**-**	**-**	**80**	**20**	**100**	**3 Hrs.**
Purpose	**To familiarize the students with concepts of visual Basic.**					
Course Outcomes						
BCA-355.1	Compare different programming Languages.					
BCA-355.2	Understand Visual Basic Integrated Development Environment.					
BCA-355.3	Apply different operations on Variables and store results.					
BCA-355.4	Understand the concept of data-driven program execution flow control in Visual Basic programming and					

	Understand loops to do repetition.
BCA-355.5	Understand additional Visual Basic controls.
BCA-355.6	Apply the concept of Functions by using call by value and call by Reference.

BCA-356	**MULTIMEDIA TOOLS**					
Lecture	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
6	**-**	**-**	**80**	**20**	**100**	**3 Hrs.**
Course Outcomes						
CO1	Identify a range of concepts, techniques and tools for creating and editing the interactive multimedia applications.					
CO2	Understand the characteristics of different media; representation of different multimedia data & its formats					
CO3	Analyze the characteristics of Human's visual system & Human's audio system; be able to take into considerations in multimedia techniques, design and implementation;					
CO4	Identify different compression standards learning different compression techniques;					
CO5	Able to design and develop multimedia systems according to the requirements of multimedia applications.					

Semester-VI

BCA-361	**Web Designing using Advancede Tools**					
Lecture	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
6	**-**	**-**	**80**	**20**	**100**	**3 Hrs.**
Course Outcomes (CO)						
CO1	Design and develop the webpages with the help of DHTML, XHTML and CSS.					
CO2	Have rich knowledge of JavaScript to develop a dynamic as well as responsive website along with functionality of form validations.					
CO3	Analyze the way to design, develop and deploy sessions and cookies deliberately in ASP.					
CO4	Understand and develop the concept of XML for transferring data.					

BCA-362	**Operating System-II**					
Lecture	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
6	**-**	**-**	**80**	**20**	**100**	**3 Hrs.**
Course Outcomes (CO)						
CO1	Understand Network Operating System Distributed Operating System.					
CO2	Analyze the problem of process synchronization and its solution.					
CO3	Describe and apply the problem and importance of Disk Scheduling Algorithms and Disk Management Process.					
CO4	Understand about Linux Operating System and Shell Programming.					

BCA-363	Computer Graphics					
Lecture	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
6	**-**	**-**	**80**	**20**	**100**	**3 Hrs.**
Purpose	**Introduces basics of graphics, various input/output devices works with graphics, geometric object designing algorithms, 2D and 3D transformations and viewing**					
Course Outcomes (CO)						
CO1	Analyze different graphics and display system.					
CO2	Enumerate the use of different input devices along with the applications of computer graphics.					
CO3	Apply scan conversion algorithms to design various geometric shapes.					
CO4	Illustrate different filling algorithm of basic objects and their comparative analysis.					
CO5	Understand and apply geometric transformations on graphics objects and their application in composite form.					
CO6	Extract scene with different clipping methods and its transformation to graphics display device.					

BCA-364	Internet Technologies					
Lecture	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
6	**-**	**-**	**80**	**20**	**100**	**3 Hrs.**
Purpose	**Introduces basic concepts of Internet, TCP/IP model, web protocols and working and importance of Virtual Private Network.**					
Course Outcomes (CO)						
CO1	Understand the working reference and TCP Model along with Web Apps.					
CO2	Analysis the verities of IP address to identify devices on internet.					
CO3	Knowledge about the web protocols.					
CO4	Understand the importance and working of Virtual Private Network.					

BCA-365	Advanced Programming with Visual basic					
Lecture	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
6	**-**	**-**	**80**	**20**	**100**	**3 Hrs.**
Purpose	**To familiarize the students with concepts of adv visual Basic.**					
Course Outcomes						
CO1	Apply different methods and events of form.					
CO2	Understand and Apply the concept of Collection.					
CO3	Create menu driven applications using visual basic					
CO4	Apply the concept of Random Access files and Sequential files.					
CO5	Implement databases with various data controls.					

BCA-366	PROGRAMMING IN CORE JAVA					
Lecture	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
6	**0**		**80**	**20**	**100**	**3 Hrs.**
	Course Outcomes					
CO1	Understand and apply the basic concepts of object-oriented programming language and their representation.					
CO2	Implement the dynamic memory allocation functions, access specifier and the behavior of inheritance and its implementation.					
CO3	Learn and implement use of constructors and destructors.					
CO4	Understand and implement polymorphism, interface design and overloading of operators.					
CO5	Apply the I/O operations to handle backup system using file and to develop general purpose templates.					
CO6	Handle raised exception while implementing various object-oriented concepts.					

BCA-371 Lab	
CO1	Understand the basics of information and web architecture.
CO2	Design web pages using HTML, DHTML and Cascading Styles sheets.
CO3	Analyse JavaScript to enable an interaction between the users and a machine along with functionality of form validations.
CO4	Understand and develop the concept of XML for transferring data.

BCA-372 lab	
Course Outcomes (CO)	
CO1	Understand and implement Basic controls of visual basic.
CO2	Understand and implement various control structures and the concept of functions.
CO3	To create Menu driven Applications.

CO4	Apply the concept of Sequential and Random-access files.
CO5	Apply the concept of databases with the help of various Data controls.

PROGRAM: BACHELOR OF COMPUTER SCIENCE (B.SC (CS))

PROGRAMME OUTCOMES (POS)

On successful completion of Graduate Program, Graduating Students/ Graduates will be able to:

PO 1	Provide students with fundamental knowledge and ability to expertise in Computer Science.
PO 2	Provide insight to problem solving to succeed in Technical Profession through precise education and to prepare students to excel in postgraduate programs.
PO 3	To inculcate in students professional, effective communication skills, team work, multidisciplinary approach and an ability to relate issues to broader social context.
PO 4	Prepare students to be aware of excellence, leadership, written ethical codes and guidelines and lifelong learning needed for successful professional career by providing them with an excellent academic environment.
PO 5	Empower the students in academic, social, psychological and economic arenas by developing relevant competencies.
PO 6	Interpret and apply the implications of environment awareness initiatives incorporated in curriculum.
PO 7	Participation and contribution to community development activities through NCC, NSS etc.
PO 8	Acquire sufficient knowledge base in the Domain Specific area leading to the pursuit of advanced level of study in the chosen Domain Specific area.

PO 9	Adaptability and capacity building to the everchanging needs of the industry and employment opportunities.
PO 10	Inculcate the human values through curricular, co-curricular and extracurricular activities.

PROGRAMME SPECIFIC OUTCOMES (PSOs)

The Department of Computer Science, GCW karnal ,offers Three Year (comprising 6 semesters) Undergraduate Program in Computer Science with objective of empowering students to acquire all-inclusive understanding of Computer Knowledge both theoretical and practical as an academic discipline. Upon completion of B.Sc. Computer Science Degree Program successfully, the students shall acquire the following skills and competencies.

PSO 1	Ability to apply foundations of Mathematics, Principles of Physics/Statistics and Theory of Computer Science in solving the real-world problems.
PSO 2	Identify, formulate, review research literature, and analyzes complex problems reaching substantiated conclusions using first principles of mathematics and Computer science.
PSO 3	Design solutions for complex problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
PSO 4	Create, select, and apply appropriate techniques, resources, and modern IT tools including prediction and modeling to complex activities with an understanding of the limitations.

Course Outcomes of Computer Science Courses in B.Sc

Semester -I

Paper-1	Computer And Programming Fundamentals					
Lecture	Tutorial	Practical	Major Test	Minor Test	Total	Time
3	-	-	40	10	50	3 Hrs.
Course Outcomes (CO)						

CO1	Know the basic components of computer and functionality of each components of computer.
CO2	To Design algorithm, flowchart and decision table.
CO3	To Know the difference between assembler, compiler and interpreter
CO4	To Know about the various types of memory used in the computer system and Understand the functions of Operating system
CO5	Understand different types of searching, sorting and merging algorithm

Paper-II	**PC software**					
Lecture	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
3	**-**	**-**	**40**	**10**	**50**	**3 Hrs.**
Course Outcomes (CO)						
CO1	Understand the basic concept and functioning of an Operating system and to Know the basic features of MS Word					
CO2	Understand the concept of mail merge, hyperlink, book mark, tables and macros in MSWord.					
CO3	Understand the concept of worksheet and to Design the worksheets using different formulas and functions.					
CO4	Under the concept of PowerPoint presentation.					
CO5	Understand how to add different animations and sound effects in a presentation.					

Semester-II

Paper-I	**Programming in C**					
Lecture	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
3	**-**	**-**	**40**	**10**	**50**	**3 Hrs.**
Course Outcomes (CO)						
CO1	Understand the fundamentals of C programming language.					
CO2	Choose the loops and decision making statements to solve the various programming problems					
CO3	Understand the concept of various types of data handling techniques.					
CO4	Use of modular approach to solve the complex problem					
CO5	Understand the concepts of storage classes and to Know about to use recursion to solve the problem in an efficient manner.					

Paper-II	**Logical organization of computers**					
Lecture	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
3	**-**	**-**	**40**	**10**	**50**	**3 Hrs.**
Course Outcomes (CO)						
CO1	Understand different number systems, Coding techniques, Logic gates, Boolean algebra. • Solve the problem using K-Map.					
CO2	Understand different types of sequential and combinational logic					
CO3	Design and implement different types of Registers, counters, multiplexers, demultiplexers					
CO4	Design and implement different types of Registers, counters, multiplexers, demultiplexers.					

	and to Understand adder, subtractor, Comparators and code convertors.
CO5	Understand different coding techniques. • Designing truth tables for different circuits.

Semester-III

Paper-I	**Data structures**					
Lecture	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
3	**-**	**-**	**40**	**10**	**50**	**3 Hrs.**
Course Outcomes (CO)						
CO1	Know the basic components of computer and functionality of all data structures. Learn how to store string in a computer					
CO2	Study the concepts and utilization of arrays, different Storage Classes					
CO3	Understand the purpose of different data structures					
CO4	Learn to use Stack, Queue and Linked List.					
CO5	Understand Searching, Sorting and merging algorithm					

Paper-II	**Software Engineering**					
Lecture	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
3	**-**	**-**	**40**	**10**	**50**	**3 Hrs.**
Course Outcomes (CO)						
CO1	Understand the basic concept of Software engineering and various matrices to evaluate the parameters.					
CO2	Learn various models for the solution of a problem					
CO3	Understand the various life cycles in process of software development.					
CO4	Learn about the importance of specifications and Feasibility Study.					
CO5	Study the role of system analyst in designing software.					

Semester-IV

Paper-I	**Programming in C++**					
Lecture	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
3	**-**	**-**	**40**	**10**	**50**	**3 Hrs.**
Course Outcomes (CO)						
CO1	Understand the Basic concepts of object oriented programming languages..					
CO2	Studies concepts of OOPs in C++ like classes, inheritance, polymorphism, and Encapsulation, operators.					

CO3	Learn how operators can be modified to perform various user defined operations by using operator overloading.
CO4	Understand the concepts of storage classes and scope of variables.
CO5	Understand the concepts of objects and pointers and functional overloading to create uniform plate-form for the same type of functions.

Paper-II	**Operating System**					
Lecture	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
3	**-**	**-**	**40**	**10**	**50**	**3 Hrs.**
Course Outcomes (CO)						
CO1	Understand concepts of different types of operating system					
CO2	Learn the various methods to achieve multiprogramming environment.					
CO3	Understand the concepts of CPU Scheduling.					
CO4	Study how different CPUs work together in multiprocessor environment.					
CO5	Understand how can we prevent and recover from a deadlock.					
CO6	Understand the various methods of process synchronization.					

Semester-V

Paper-I	**Fundamentals of Database Systems**					
Lecture	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
3	**-**	**-**	**40**	**10**	**50**	**3 Hrs.**
Course Outcomes (CO)						
CO1	Have a broad understanding of database concepts & DBMS.					
CO2	Have a high- level understanding of major DBMS components & their function.					
CO3	Be able to model an application data requirements using conceptual modelling tools like ER diagrams & design database schemas based on the conceptual model.					
CO4	They can analyze a problem & identify &define the computing requirements appropriate to its solution					

Paper-II	Web Designing					
Lecture	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
3	**-**	**-**	**40**	**10**	**50**	**3 Hrs.**
Course Outcomes (CO)						
CO1	Create an information architecture document for a website.					
CO2	Construct a website that conforms to the web standards of today..					
CO3	Publish the website to a remote server using FTP.					
CO4	Select & use appropriate technology tools to efficiently & effectively complete a task or project					

Semester-VI

Paper-I	Relational Database Management System					
Lecture	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
3	**-**	**-**	**40**	**10**	**50**	**3 Hrs.**
Course Outcomes (CO)						
CO1	Understand & effectively explain the underlying concepts of database technologies.					
CO2	Design & implement a database schema for a given problem- domain. And Normalize a database. .					
CO3	Populate & query a database using SQL DML/DDL commands. And Declare & enforce integrity constraints on a database using RDBMS					
CO4	Programming PL/SQL including stored procedures & functions.					

Paper-II	Computer Networks					
Lecture	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
3	**-**	**-**	**40**	**10**	**50**	**3 Hrs.**
Course Outcomes (CO)						
CO1	Build an understanding of the fundamental concepts of Computer networking					
CO2	Familiarize the student with the basic taxonomy & terminology of the Computer networking area. .					
CO3	Introduce to advanced networking concepts, prepare the student for entry Advanced courses in Computer networking					
CO4	Understand & building the skills of sub netting & routing mechanisms.					
CO5	Have familiarity with the basic protocols of Computer networks & how they can be used to assist in network design & implementation.					

PROGRAM: BACHELOR OF SCIENCE (B.SC(NM))

PROGRAMME OUTCOMES (POs)

Students graduating with the B.Sc. NM degree should be able to acquire:

PO1:	Capability of demonstrating comprehensive knowledge of B.Sc. programme.
PO2:	Ability to employ critical thinking in understanding the concepts in every area of B.Sc. PCM programme.
PO3:	Ability to analyze the results and apply them in various problems.
PO4:	Develop a sense of research to predict cause-and-effect relationships.
PO5:	Capability to solve problems by using research-based knowledge and research methods.
PO6:	Create, select, and apply appropriate techniques, resources, and modern science and IT tools.
PO7:	Ability to work independently and do in-depth study of various notions of courses.
PO8	Ability to communicate various concepts of B.Sc. programme effectively using examples and their geometrical visualizations.
PO9:	Possess knowledge of the values and beliefs of multiple cultures and a global perspective; and capability to effectively engage in a multicultural society and interact respectfully with diverse groups.
PO10:	Self-motivating and inspiring team members to engage with the team objectives by using management skills.
PO11	Ability to think, acquire knowledge and skills through logical reasoning and to inculcate the habit of self-learning.
PO12	Ability to identify unethical behavior and adopting objective, unbiased and truthful actions in all aspects of their programme.
PO13	This programme will also help students to enhance their employability for

	jobs in different sectors.
	Program Specific Outcomes (PHYSICS)
PSO1	The students are expected to understand the fundamentals, principles, concepts and recent developments in the Physics.
PSO2	The practical course is framed in relevance with the theory courses to improve the understanding of the various concepts in Physics.
PSO3	It is expected to inspire and boost interest of the students in Physics.
PSO4	: To develop the power of appreciations, the achievements in science and role in nature and society.
PSO5	To enhance student sense of enthusiasm for science and to involve them in an intellectually stimulating experience of Course in a supportive environment.
PSO6	Have a new perspective to look at everything from 'Scientific' point of view that enabling them to pursue higher studies at postgraduate & research level.
	Program Specific Outcome (MATHS)
PSO1	The students are expected to formulate and develop mathematical arguments in a logical manner. .
PSO2	The practical work will help students to take decisions at intellectual, organizational and personal from different perspectives of life using analysis
PSO3	It is expected to be well grounded in the basic manipulative skills.
PSO4	To develop the power of appreciations, the achievements in science and role in nature and society.

PSO5	To enhance the critical thinking of the students.
PSO6	Students can join M.Sc. in Maths.
	Program Specific Outcome (CHEMISTRY)
PSO1:	Understand about the fundamental concepts of chemistry. They will work effectively in diverse teams in both classroom and laboratory. They will be able to use knowledge efficiently in areas related to current updates in the subject and specializations.
PSO2	Communicate clearly and effectively. They will able to apply subject knowledge for research and technology. They will able to develop communication skills, critical thinking, analytical reasoning, problem solving skills and research skills requiring for the application of chemical principles.
PSO3	Identify chemistry related problems, analyze and apply data using appropriate methodologies. They Will able to solve societal problems related to the application of chemistry in day to day life.
PSO4	Students become eligible to join as Quality Control Manager in private Sector (Industries) as well as government sector.
PSO5	Students can join M.Sc. in Chemistry
PSO6	Students become eligible to serve in DRDO, defense, public sector and private Sector.

Course Outcomes (B.Sc. Non-Med)

Subject: Chemistry

CH-101	
Maximum Marks	**Time**
32	**3 Hrs.**
Purpose	**To make familiar with the basic concepts of Inorganic Chemistry**
Course Outcomes (CO) After successfully completing this course, students will be able to	
CO1	Discuss Atomic Structure, Idea of de Broglie matter waves, Heinsenberg's uncertainty principle, atomic orbitals, quantum numbers, radial and angular wave functions, Aufbau and Pauli exclusion principles, Hund's multiplicity rules, Electronic configuration of elements, effective nuclear charge, Slater's rules.
CO2	Discuss Periodic Table and Atomic Properties viz. Ionization Energy, Electron Affinity and electronegativity definition, methods of determination or evaluation, trend in periodic table (in s and p-block elements), Pauling, Mulliken, Sanderson's electron density ratio.
CO3	Study the formation of Covalent Bond, Valence bond theory (Heitler-London and Pauling approach) and its limitation, directional characteristics of covalent bond, Hybridization, Bond Energy, Bond Length, Molecular orbital theory of homonuclear, heteronuclear diatomic molecules and ions, bond energy, bond angle, bond length and dipole moments, percentage ionic character from dipole moment and electronegativity difference.
CO4	Explain Crystal Structure (NaCl, CsCl, ZnS (Zinc blende), CaF2) size effects, radius ratio rule and its limitations, Lattice Energy and Born- Haber cycle, Crystal Defects, Solvation Energy and Fajan's Rule.

CH-102	
Maximum Marks	**Time**
32	**3 Hrs.**
Purpose	**To make familiar with the basic concepts of Physical Chemistry**
Course Outcomes (CO) After successfully completing this course, students will be able to	
CO1	To learn about Role of temperature and pressure to establish the state of gases and describe the Concept of critical temperature, pressure and volume of real gases.

CO2	To study the Physical properties of liquids like surface tension, viscosity and their measurements.
CO3	To understand the morphology of crystalline solids and have knowledge about various types of symmetries present in different solids .To be able to describe X-rays diffraction and Bragg's law.

CH-103		
Maximum Marks **32**		**Time** **3 Hrs.**
Purpose	**To make familiar with the basic concepts of organic Chemistry**	
Course Outcomes (CO) After successfully completing this course, students will be able to		
CO1	Have sound knowledge of the basic organic chemistry like electron displacement effects with suitable examples.	
CO2	Get information about the types of structural and stereoisomers, optical isomerism, and different nomenclature like D/L, RS, cis/trans, E/Z etc. of various organic compounds.	
CO3	Learn nomenclature of various types of alkanes and cycloalkanes, preparation and their chemical reactions.	

CH-104		
Maximum Marks **32**		**Time** **3 Hrs.**
Purpose	**To enhance knowledge about the properties of elements of Periodic Table.**	
Course Outcomes (CO) After successfully completing this course, students will be able to		
CO1	Elaborate Hydrogen Bonding, Vander Waal's forces, Metallic bond, semiconductors,	
CO2	To study the Compounds of s-block Elements.	
CO3	To study the Noble gases, bonding in Compounds of Noble gases.	
CO4	Discuss about p-block elements, structure, bonding and compounds of Boron, Carbon, Nitrogen and halogen family.	

CH-105		
Maximum Marks **32**		**Time** **3 Hrs.**
Purpose	**To enhance knowledge about the physical chemistry concepts of chemical reactions.**	
Course Outcomes (CO) After successfully completing this course, students will be able to		
CO1	To have the knowledge about the concepts of rates of chemical reactions and its applications in derivation of reactions of various orders and half-life.	
CO2	To have information about conductance and its applications to deduce various parameters related to electrolytic solutions, to know about pH and conductometric titrations.	
CO3	To have knowledge about theories of reaction rate – Simple collision theory, transition state theory.	

CH-106		
Maximum Marks **32**		**Time** **3 Hrs.**
Purpose	**To enhance knowledge about mechanisms in organic chemistry**	
Course Outcomes (CO) After successfully completing this course, students will be able to		
CO1	Sound knowledge of alkenes, alkynes, dienes and their chemical reactions.	
CO2	Know about Huckel's rule of aromaticity and various methods of preparation of aromatic Hydrocarbons.	
CO3	Get knowledge about the mechanism of S_N1 and S_N2 reactions and other various chemical reactions of aryl and aryl halides.	

CH-201		
Maximum Marks **32**		**Time** **3 Hrs.**
Purpose	**Discussion about the classification of elements and the bonding in their compounds**	
Course Outcomes (CO) After successfully completing this course, students will be able to		
CO1	Discuss the Classification, properties, Comparison of properties of 3d, 4d and 5d elements, Latimer and Forst diagrammes, Structure and properties of Transition element compounds.	
CO2	Study nomenclature, Isomerism and bonding in Coordination compounds,	
CO3	Get knowledge about the types of Solvents, Physical properties with special reference to liq. NH_3 and SO_2.	

CH-202		
Maximum Marks **32**		**Time** **3 Hrs.**
Purpose	**Discussion about the laws and Basic concepts of important physical phenomenon.**	
Course Outcomes (CO) After successfully completing this course, students will be able to		
CO1	To know about the 1st law and concepts of chemical thermodynamics and their applications.	
CO2	To understand the basic terms related to chemical equilibrium and derive the law thermodynamically, deduce relation between various equilibrium constants and determining partition coefficient of a solvent dissolved in two immiscible solvents.	
CO3	To have good knowledge about fundamental concepts of Nernst Distribution Law and their applications.	

CH-203	
Maximum Marks **32**	**Time** **3 Hrs.**

Purpose	**Discussion about the various methods of preparation of organic compounds and laws of organic spectroscopy**
Course Outcomes (CO) After successfully completing this course, students will be able to	
CO1	Know about alcohols, phenols, epoxides and their chemical reactions.
CO2	Knowledge about various methods for the preparation of carboxylic acid, carboxylic derivatives (ester, amide, acid chlorides, anhydrides) and their chemical reactions.
CO3	To know about Absorption Laws (Ultraviolet spectroscopy) , Chromophore, auxochromes. Applications of UV-Spectroscopy.

CH-204	
Maximum Marks **32**	**Time** **3 Hrs.**
Purpose	**To have knowledge about the properties of f-block elements and qualitative analysis of radicals**
Course Outcomes (CO) After successfully completing this course, students will be able to	
CO1	Discuss about the Electronic configuration, properties of Lanthanides, Lanthanide Contraction.
CO2	Discuss about the Electronic configuration, properties of actinides, Separation of Np, Pu, Am fro Uranium, Trans-uranic Elements.
CO3	Elaborate the basic and acidic radicals, their identification, Interference by acidic radicals, solubility product, common ion effects.

CH-205	
Maximum Marks **32**	**Time** **3 Hrs.**
Purpose	**To have knowledge about the laws and their applications in physical chemistry.**
Course Outcomes (CO) After successfully completing this course, students will be able to	
CO1	To know about the 2^{nd}& 3^{rd} law of Thermodynamics and Carnot Cycle.
CO2	To have knowledge about electrolytic concentration cells with and without transference and their EMF calculation.
CO3	To study the applications of the concept to determine liquid junction potential, pH determination using potentiometry and potentiometric titrations.

CH-206		
Maximum Marks **32**		**Time** **3 Hrs.**
Purpose	**To have knowledge about applications of spectroscopy**	
Course Outcomes (CO) After successfully completing this course, students will be able to		
CO1	Able to describe absorptions of various functional groups and applications of IR spectroscopy.	
CO2	To synthesize and know reactions of amines. To discuss synthetic application of diazonium salt.	
CO3	Know about the preparation of aliphatic, aromatic aldehydes and ketones and various important name reactions of aldehydes and ketones.	

CH-301		
Maximum Marks **32**		**Time** **3 Hrs.**
Purpose	**Elaborative study of crystal field theory and selection rules of transitions**	
Course Outcomes (CO) After successfully completing this course, students will be able to		
CO1	To discuss the Crystal field theory and metal ligand bonding, Splitting octahedral, tetrahedral and square planar complexes, thermodynamic stability of metal complexes, trans effect.	
CO2	To discuss the magnetic materials, magnetic susceptibility, method of determining magnetic susceptibility, spin only formula, orbital contribution to magnetic moments, application of magnetic moment data	
CO3	Get knowledge about Selection rules for d-d transition, orgel energy level diagram.	

CH-302		
Maximum Marks **32**		**Time** **3 Hrs.**
Purpose	**Elaborative study of quantum mechanics concepts**	
Course Outcomes (CO) After successfully completing this course, students will be able to		
CO1	To know about dual characteristic of matter and extend this fact to obtain postulates of quantum mechanics and quantum-mechanical operators, apply Schrödinger	

	equation to determine the physical observables for particle in a box.
CO2	To have sound knowledge about the consequences of interaction of radiation with matter resulting into various types of spectra.
CO3	To be able to solve various numerical problems related to spectroscopy.

CH-303		
Maximum Marks **32**		**Time** **3 Hrs.**
Purpose	**Elaborative discussion about Resonance spectra and carbohydrates**	
Course Outcomes (CO) After successfully completing this course, students will be able to		
CO1	Get knowledge about the principle of nuclear magnetic resonance and the PMR spectra of the various molecules.	
CO2	Brief description of organometallic compounds	
CO3	To have knowledge about classification, structures and important reactions of carbohydrates.	

CH-304		
Maximum Marks **32**		**Time** **3 Hrs.**
Purpose	**Description of Bioinorganic Chemistry, and concepts of acids and Bases**	
Course Outcomes (CO) After successfully completing this course, students will be able to		
CO1	To study the concepts of Acids and bases, HSAB principle and its applications	
CO2	Structure and bonding in organometallic compounds.	
CO3	To discuss the metal ions present in biological system, Cooperative effect, Bohr effect,	
CO4	Description of Nomenclature, classification, preparation and uses of silicones, and phosphazenes.	

CH-305		
Maximum Marks **32**		**Time** **3 Hrs.**
Purpose	**Description of statistical mechanics and phase equilibria**	

Course Outcomes (CO) After successfully completing this course, students will be able to	
CO1	To understand the need of statistical mechanics and Maxwell-Boltzmann distribution, partition function and its significance.
CO2	To study about solutions, colligative properties. Applications in calculating molar masses of associated &disscociated solutions.
CO3	To have knowledge of terms phase component and degree of freedom & to study phase equilibria of One & Two Component system.

CH-306	
Maximum Marks **32**	**Time** **3 Hrs.**
Purpose	**Description of Amino acids chemistry and heterocyclic chemistry.**
Course Outcomes (CO) After successfully completing this course, students will be able to	
CO1	Get knowledge aromatic behaviour and basicity of simple heterocyclic compounds.
CO2	Get knowledge about the acidity of α-hydrogens of diethyl malonate, ethyl acetoacetate and the synthesis and Keto-enol tautomerism of ethyl acetoacetate.
CO3	To have knowledge about classification, structures and important reactions of amino acids. Polymer Chemistry.

Course Outcomes (B.Sc. Non-Med)

Subject: Physics

Semester	**Paper code and nomenclature of the papers**	**Marks Theory**	**Time**
1st	PH-101 Classical Mechanics and theory of relativity	40+10* =50	3 Hours

CO-1	Learn the concept of conservation of energy, momentum, angular momentum and apply them to understand the basic problems in physics.
CO-2	Understand and explain the Hamilton's variational principle, derive Lagrange's equation of motion from Hamilton's principle and be able to apply these principles to derive the Lagrangian and Hamiltonian for various simple mechanical systems such as Linear Harmonic oscillator, Simple pendulum, Atwood's machine.
CO-3	Differentiate between inertial and Non-inertial frame of references and Describe how fictitious forces arise in a non-inertial frame. Understand the importance of Michelson Morley's experiment in reference to special theory of relativity.
CO-4	Describe special relativistic effects and their effects on the mass and energy of a moving object and appreciate the nuances and important outcomes of Special Theory of Relativity.

Semester	**Paper code and nomenclature of the papers**	**Marks Theory**	**Time**
1st	PH-102 Electricity, Magnetism and Electromagnetic Theory	40+10* =50	3 Hours

CO-1	Explain and differentiate the vector and scalar formalisms of electrostatics. Also be able to Apply Gauss's law of electrostatics to solve a variety of problems.
CO-2	Describe the important properties of magnetic field. Understand the properties and theories of dia-, para- & ferromagnetic materials.
CO-3	Derive Maxwell equations and understand the role of displacement current, scalar and vector potentials and boundary conditions at the interface between different media. The students will also be able to have basic idea about the propagation of electromagnetic waves.
CO-4	Analyze AC circuits consisting of parallel and/or series combinations of voltage sources and resistors and to describe the graphical relationship of resistance, capacitor and inductor.

Semester	**Paper code and nomenclature of the papers**	**Marks Theory**	**Time**
2nd	PH-201 Properties of Matter and Kinetic Theory of Gases	40+10* =50	3 Hours

CO-1	Understand the application of both translational and rotational dynamics motions simultaneously in analyzing rolling with slipping. Write the expression for the moment of inertia about the given axis of symmetry for different uniform mass distributions.
CO-2	Understand the principles and basic terms related to elasticity through the study of Young Modulus and modulus of rigidity.
CO-3	Understand assumptions of kinetic theory of gas, identify degree of freedom and specific heat of gases and write expression for real gases.
CO-4	For the molecules of an ideal gas, relate the root-mean-square speed V_{rms} the average speed V_{avg} and understand various transport phenomenon.

Semester	**Paper code and nomenclature of the papers**	**Marks Theory**	**Time**
2nd	PH-202 Semiconductor Devices	40+10* =50	3 Hours

CO-1	Understand the basic concepts and different applications of PN junction diode in different type of rectifiers, voltage regulators, solar cell, LED's etc.
CO-2	Describe the basic structure, working principle and characteristics of Bipolar Junction transistors.
CO-3	Understand and explain the classification of Amplifiers and the various coupling & feedback methods in BJT amplifiers.
CO-4	Understand the principle of oscillations and classification of oscillators & principal and working of cathode ray oscilloscope (CRO)

Semester	**Paper code and nomenclature of the papers**	**Marks Theory**	**Time**
3rd	PH- 301 Computer Programming and Thermodynamics	40+10* =50	3 Hours

CO-1	Learn about Computer organization, FORTRAN Preliminaries, built in functions, Fortran statements, Dimension arrays, statement function and function subprogram.

CO-2	Learn about the FORTRAN programming including Algorithm and Flow Chart for different problems.
CO-3	Understand the thermodynamic system and laws of thermodynamics with their significance, P-V diagram, Carnot theorem and its applications, Joule Thomson effect and its applications. Entropy, T-S diagram, entropy of a perfect gas, Liquefaction of gases etc.
CO-4	Derivation of Clausius-Clapeyron and Clausius latent heat equation and their significance, specific heat of saturated vapours, Maxwell thermodynamical relations, Thermodynamical functions and the relations between them, Application of Maxwell relations etc.

Semester	**Paper code and nomenclature of the papers**	**Marks Theory**	**Time**
3rd	PH-302 Wave and Optics -I	40+10* =50	3 Hours

CO-1	Have understanding of Interference - by Division of Wave front, Fresnel's biprism, Llyod mirror.
CO-2	Have understanding of Interference - by Division of Amplitude and Interference due to transmitted light & reflected light, , Newton's rings, Michelson's interferometer and its applications
CO-3	Learn about Huygens-Fresnel's theory, diffraction at a straight edge and at a circular aperture, diffraction due to a narrow slit and due to a narrow wire.
CO-4	Understand and explain the Fraunhoffer diffraction, dispersive power of grating, Rayleigh's criterion and resolving power of telescope & a grating.

Semester	**Paper code and nomenclature of the papers**	**Marks Theory**	**Time**
4th	PH- 401 Statistical Physics	40+10* =50	3 Hours

CO-1	Learn about statistical physics, Probability and its types,

	probability theorems, Tossing of Coins, Permutations and combinations, distributions of particles , Micro and Macro states, β-parameter, Entropy and Probability (Boltzman's relation).
CO-2	Learn about the three kinds of statistics, M. B. statistics applied to an ideal gas in equilibrium- energy distribution law and its applications, Expression for average speed, r.m.s. speed, average velocity, r. m. s. velocity, most probable energy & mean energy for Maxwellian distribution.
CO-3	Understand about the Quantum Statistics: Bose-Einstein statistics and Fermi Dirac statistics with their applications, Specific heat anomaly of metals and its solution.
CO-4	Understand the Dulong Petit's law, Specific heat at low temperatures, Einstein theory and Debye model of specific heat of solids.

Semester	**Paper code and nomenclature of the papers**	**Marks Theory**	**Time**
4th	PH- 402 Wave and Optics -II	40+10* =50	3 Hours

CO-1	Understand the theories and laws of polarization along with understanding of the production and detection of (i) Plane polarized light (ii) Circularly polarized light and (iii) Elliptically polarized light.
CO-2	Learn the Fourier analysis of periodic functions and their applications in physical problems
CO-3	Learn the Fourier transform of periodic functions and their applications in doing integrations.
CO-4	Have the idea of optical fibres, their properties and principle of propagation of electromagnetic waves through optical fibres.

Semester	**Paper code and nomenclature of the papers**	**Marks Theory**	**Time**
5^{th}	PH- 501 Quantum & Laser Physics	40+10* =50	3 Hours

CO-1 Know main aspects of the inadequacies of classical mechanics and understand historical development of quantum mechanics and understand the theory of quantum measurements, wave packets and uncertainty principle. Understand the central concepts of quantum mechanics: wave functions, Interpretation of Wave Function, momentum and energy operator, expectation values, the Schrodinger equation, time dependent and time independent cases, probability density, the normalization techniques, Eigen functions, Eigen values and their significance.

CO-2 Understanding the behavior of quantum particle encountering a i) barrier & ii) potential.

CO-3 Familiar with optical phenomena and different concepts related laser physics.

CO-4 Qualitative understanding of basic lasing mechanism, types of Lasers, characteristics of Laser Light.

Semester	**Paper code and nomenclature of the papers**	**Marks Theory**	**Time**
5th	PH- 502 Nuclear Physics	40+10* =50	3 Hours

CO-1 After taking this course, students are able to determine the charge, mass of any nucleus by using various spectrographs, size of nucleus and all its properties.

CO-2 This course has led the students to understand interaction of various types of radiation with matter which they observe in their daily life.

CO-3 Students now know various methods of accelerating various types of particles to perform scattering experiments.

CO-4 Students are able to understand the detecting methods and instruments for different types of charged and neutral particles.

Semester	**Paper code and nomenclature of the papers**	**Marks Theory**	**Time**
6^{th}	PH- 601 Solid State and Nano Physics	40+10* =50	3 Hours

CO-1 Understand the crystal lattice and its types.

CO-2 Formulate the theory of X-ray diffraction in the reciprocal lattice (k-space) formalism and apply this knowledge to generalize the formulation for matter waves, structure determination of simple structures.

CO-3 Understand the superconductivity and its applications.

CO-4 Learn about nanotechnology & nano science, practical applicability of nanotechnology.

Semester	Paper code and nomenclature of the papers	Marks Theory	Time
6th	PH- 602 Atomic & Molecular Physics	40+10* =50	3 Hours

CO-1 Acquire knowledge about the historical background and developments of atomic spectroscopy through the study of spectral series in Hydrogen atom, effect of nuclear motion on line spectra (correction of finite nuclear mass), short comings of Bohr's theory, Wilson sommerfeld quantization rule, Sommerfeld's extension of Bohr's model, Sommerfeld relativistic correction, Short comings of Bohr-Sommerfeld theory and finally Vector atom model.

CO-2 Understand and explain the vector atom model, various coupling schemes and atomic spectra of one and two electron atoms.

CO-3 Explain the influence on the spectra of atoms in the presence of external applied electric and magnetic field i.e. Zeeman effect, Paschen-Back effect, Stark effect.

CO-4 Have basic idea about the rotational, vibrational and rotational-vibrational spectra of diatomic molecules and basic idea of Raman Effect.

COURSE OUTCOMES (COS)
DEPARTMENT OF MATHEMATICS

B.Sc. Semester-I							
Paper	**Lecture**	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
Algebra	**6**	**-**	**-**	**40**	**10**	**50**	**3 Hrs.**
Calculus	**6**	**-**	**-**	**40**	**10**	**50**	**3 Hrs.**
Solid Geometry	**6**	**-**	**-**	**40**	**10**	**50**	**3 Hrs.**

B.Sc. Semester-I

Paper-I, Name of the Paper: Algebra

This course will enable the students to:

CO 1: To determine rank of a matrix, Eigen values, Eigen vectors, characteristic equation and characteristic polynomial of square matrices. To understand unitary and orthogonal matrices and to solve related problems.

CO 2: To find solution of homogeneous and non-homogeneous system of linear equations using matrices.

CO 3: To determine relation between roots and coefficients of a general polynomial equation.

CO 4: To identify multiple roots. Application of Descarte's rule of sign. Solve cubic and biquadratic equations.

B.Sc. Semester-I

Paper-II, Name of the Paper: Calculus

This course will enable the students to:

CO 1: To learn how to calculate the limit of functions, examine the continuity of functions, and to understand differentiability of different type of functions, successive differentiation of functions and series expansions.

CO 2: To understand concepts of tangents, normals, asymptotes, curvature, evolutes and involutes of a curve; the geometrical meanings of these terms and to solve related problems

CO 3: To determine singular points of a curve and their types. To understand rectification of curves and to apply the reduction formulae.

CO 4: To determine area bounded by curves and volumes and surface area of solids.

B.Sc. Semester-I

Paper-III, Name of the Paper: Solid Geometry

This course will enable the students to:

CO 1: To understand the concept of a second degree equation representing different conic sections and its classification and properties.

CO 2: To know representation of system of conics and confocal conics and related results. To learn general form of equation of a sphere and to solve problems related to intersection of spheres.

CO 3: To learn equations of cones and cylinders and then to solve related problems. Apply To knowledge for problem solving and life-long to learning.

CO 4: To familiarize with concepts of conicoids and related tangent plane.

B.Sc. Semester-II							
Paper	**Lecture**	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
Number Theory and Trigonometry	**6**	**-**	**-**	**40**	**10**	**50**	**3 Hrs.**
Vector Calculus	**6**	**-**	**-**	**40**	**10**	**50**	**3 Hrs.**
Ordinary Differential Equations	**6**	**-**	**-**	**40**	**10**	**50**	**3 Hrs.**

B.Sc. Semester-II

Paper-I, Name of the Paper: Number Theory and Trigonometry

This course will enable the students to:

CO 1: To know De Moirvre's Theorem and its Applications.

CO 2: To understand the basic concepts of number theory and their applications in problem solving

CO 3: To understand the concepts of Number Theory.

CO 4: To understand the application and use of Number Theory.

B.Sc. Semester-II

Paper-II, Name of the Paper: Vector Calculus

This course will enable the students to:

CO 1: To understand and solve problems related to scalar and vector product of vectors.

CO 2: To learn gradient, divergence and curl operators.

CO 3: To understand vector identities, Laplacian operator. To learn vector integration and line integral.

CO 4: To learn surface and volume integral formulations and their evaluation. Prove Gauss Divergence, Green's and Stoke's theorems. Realize importance of Green, Gauss and Stokes' theorems.

B.Sc. Semester-II

Paper-III, Name of the Paper: Ordinary Differential Equations

The course will enable the students to:

CO 1: To understand the basic concepts of ordinary differential equations and to learn various techniques of finding exact solutions of certain solvable first order differential equations.

CO 2: To develop the skills of solving homogeneous and non-homogeneous second order linear ordinary differential equations with constant coefficients and with variable coefficients.

CO 3: To understand orthogonal trajectories.

CO 4: To understand total differential equations and basic concepts of Ordinary simultaneous differential equations.

B.Sc. Semester-III							
Paper	**Lecture**	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
Advanced Calculus	**6**	**-**	**-**	**40**	**10**	**50**	**3 Hrs.**
Partial Differential Equations	**6**	**-**	**-**	**40**	**10**	**50**	**3 Hrs.**
Statics	**6**	**-**	**-**	**40**	**10**	**50**	**3 Hrs.**

B.Sc. Semester-III

Paper-I, Name of the Paper: Advanced Calculus

This course will enable the students to:

CO 1: To understand and to prove Rolle's Theorem, mean value theorems and their geometrical interpretations.

CO 2: To learn conceptual variations while advancing from one variable to several variables in calculus, limit and continuity, partial differentiation of such functions.

CO 3: To understand differentiability of real valued functions of two variables and to prove associated results. To determine maximum and minimum of functions of two variables.

CO 4: To evaluate double and triple integrals. To learn about Dirichlet integrals, Beta and Gamma functions and to solve related problems.

B.Sc. Semester-III

Paper-II, Name of the Paper: Partial Differential Equations

This course will enable the students to:

CO 1: To learn classification of second order partial differential equations, their canonical forms.

CO 2: To learn Model physical phenomena using partial differential equations such as the Laplace, heat and wave equations and to solve these equations.

CO 3: To learn solving non-linear equations by Monge's method.

CO 4: To understand the use of PDE.

B.Sc. Semester-III

Paper-III, Name of the Paper: Statics

This course will enable the students to:

CO 1: To understand basic concepts of forces, their resultant and moment; couples and their moments.

CO 2: To learn the concepts of friction and laws of friction, centre of mass and centre of gravity and to solve problems related to these concepts.

CO 3: To learn fundamentals of Virtual work. Forces in three dimensions. Poinsots central axis.

CO 4: To understand concepts of Wrenches, Null lines and planes

B.Sc. Semester-IV							
Paper	**Lecture**	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
Sequence Series	**6**	**-**	**-**	**40**	**10**	**50**	**3 Hrs.**
Special Functions and Integral Trans	**6**	**-**	**-**	**40**	**10**	**50**	**3 Hrs.**
Prog. in-C and Num. Methods	**6**	**-**	**3**	**30**	**Practical 20**	**50**	**3 Hrs.**

B.Sc. Semester-IV

Paper-I, Name of the Paper: Sequence and Series

This course will enable the students to:

CO 1: To understand sequence, infinite series and its basic properties.

CO 2: To Attain skills to determine convergence of a series of real numbers by applying various tests.

CO 3: To understand absolute and conditional convergence of alternating series and related tests. To learn the basic concepts of pointwise convergence.

CO 4: To understand and use of uniform convergence of sequence and series of functions.

B.Sc. Semester-IV

Paper-II, Name of the Paper: Special Functions and Integral Transforms

This course will enable the students to:

CO 1: To understand solve differential equation by power series method.

CO 2: To attain skills to make use of Bessel functions in scientific problem solving.

CO 3: To familiarize with Legendre's and Hermite differential equation.

CO 5: To know about Laplace transforms and its properties in detail and to apply those in solving differential equations.

CO 6: To Develop skill of applying Fourier transforms to solve differential equations.

B.Sc. Semester-IV

Paper-III, Name of the Paper: Programming in-C and Numerical Methods

This course will enable the students to:

CO 1: To familiarize with C programming language. To learn elements of C, data types, constants and variables, operations and operators, statements and expressions. Use these tools for writing C programs.

CO 2: To learn Input/ Output functions in C, to write reading and writing statements in C.

CO 3: To attain the skill to write C programs which involve arrays and multiple iterations.

CO 4: To learn strings of characters, their declaration, input/ output, operations on strings and functions which handle strings. To learn declaration, types and calling of user defined functions in C.

B.Sc. Semester-V							
Paper	**Lecture**	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
Real Analysis	**6**	**-**	**-**	**40**	**10**	**50**	**3 Hrs.**
Groups, Rings	**6**	**-**	**-**	**40**	**10**	**50**	**3 Hrs.**
Numerical Analysis	**6**	**-**	**3**	**30**	**Practical 20**	**50**	**3 Hrs.**

B.Sc. Semester-V

Paper-I, Name of the Paper: Real Analysis

This course will enable the students to:

CO 1: To understand basic concepts of real number system and set theory. Preliminary results on neighborhood of a point, interior and limit points, open sets, closed sets etc.

CO 2: To learn real sequences, their limit, boundedness and convergence.

CO 3: To find convergence and divergence of a sequence.

CO 4: To understand Cauchy sequence, subsequence and to prove related theorems.

CO 5: To understand infinite series and its basic properties. Attain skills to determine convergence of a series of real numbers by applying various tests.

CO 6: To understand absolute and conditional convergence of alternating series and related tests. To learn the basic concepts of pointwise convergence and uniform convergence of sequence and series of functions.

B.Sc. Semester-V

Paper-II, Name of the Paper: Groups and Rings

The course will enable the students to:

CO 1: To recognize the mathematical objects called groups, their elementary properties, order of a group, subgroup, cyclic groups and their properties.

CO 2: To understand the notions of costs, normal subgroups, and quotient groups. To know homomorphisms, isomorphisms and their properties and to prove three isomorphism theorems.

CO 3: To learn about ring, subring, integral domain, field and ideal and related results.

CO 4: To understand quotient rings, Euclidean ring, ring homomorphisms, ring isomorphisms.

B.Sc. Semester-V

Paper-III, Name of the Paper: Numerical Analysis

This course will enable the students to:

CO 1: To learn techniques to obtain numerical solutions of algebraic and transcendental equations.

CO 2: To attain numerical skills to find solutions of system of linear equations by different methods.

CO 3: To learn different interpolation and extrapolation methods and their applications.

CO 4: To learn numerical methods for evaluating integrals and solving differential equations and to develop skill of applying these methods for future use in scientific problems.

B.Sc. Semester-VI							
Paper	**Lecture**	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
Real and Complex Analysis	**6**	**-**	**-**	**40**	**10**	**50**	**3 Hrs.**
Linear Algebra	**6**	**-**	**-**	**40**	**10**	**50**	**3 Hrs.**
Dynamics	**6**	**-**	**3**	**40**	**10**	**50**	**3 Hrs.**

B.Sc. Semester-VI

Paper-I, Name of the Paper: Real and Complex Analysis

This course will enable the students to:

CO 1: To visualize complex numbers as points of $R^2$and stereographic projection of complex plane on the Riemann sphere.

CO 2: To understand the significance of differentiability and analyticity of complex functions leading to the Cauchy-Riemann equations. Apply To knowledge to solve related problems.

CO 3: To understand the concept of Beta function, Gamma function and relation between them.

CO 4: To understand the concept of Fourier series.

B.Sc. Semester-VI

Paper-II, Name of the Paper: Linear Algebra

This course will enable the students to:

CO 1: To understand the concepts of vector spaces.

CO 2: To understand the concepts of subspaces, bases and their properties; linear transformations and their rank and nullity and to use those concepts for problem solving.

CO 3: To learn to determine Eigen values, Eigen vectors and characteristic polynomial of linear transformations and their further use in investigation and solution of problems.

CO 4: To have to knowledge of inner product spaces, orthogonalization and diagonalization of matrices/ linear transformations and to apply that in further To learning and for scientific applications.

B.Sc. Semester-VI

Paper-III, Name of the Paper: Dynamics

This course will enable the students to:

CO 1: To understand basic concepts of forces, their resultant and moment; couples and their moments.

CO 2: To learn the concepts of friction and laws of friction, centre of mass and centre of gravity.

CO 3: To learn fundamentals of dynamics like velocity, acceleration, angular velocity and acceleration, and to develop the skill of solving simple dynamical problems.

CO 4: To learn about central orbit and Kepler's laws of the planetary motions.

DEPARTMENT OF COMMERCE PROGRAM OUTCOMES (PO), PROGRAM SPECIFIC OUTCOMES (PSO),

PSO1	Finding out challenges in the commerce education sector.
PSO2	Identifying future trends in commerce education
PSO3	Fighting challenges in commerce education by promoting its importance in business andfinance.
PSO4	To develop skills suchas conceptual skills, technical skills and practical skills in the field ofindustry, commerce, management and accounting
PSO5	To prepare a student for career in business or to start a business enterprise of his/ her own
PSO6	As a branch of knowledge ,commerce imparts experience of business world at largein all itsmanifestations.
PSO7	The subject of commerce is skill oriented and life centric in nature

COURSE OUTCOMES (CO)

PROGRAM: BACHELOR OF COMMERCE (B.COM)

Commerce

Business management (BC-103)

1.Understand and identify the management structures a business can adopt 2.Identify their individual skills and knowledge needed to be an effective manager

3.Understand that business management is the use and coordination of all resources in abusiness

Business communiation(BC-106)

1. Discuss the importance of effective communication in business Effective Communication in Business
2. Differentiate between different methods of communication Methods of Communication
3. Discuss the importance of ethical communication Ethics in Business Communication
4. Discuss the importance of staying connected with colleagues, other professionals, and

customers in the digital age

Financial accounting (BC-101)

1. To enable senior secondary school students appreciate the business rules, functions and principles of accounting,
2. To lay proper foundation for the study of accounting and allied courses at higher level.
3. To enable students to understand basic accounting principles, practice and their applications tomodern business activities.

Business economics (BC-102)

1. To expose students of Commerce to basic Micro Economics Concepts and inculcate and the analytical approach to the subject matter.

2. To stimulate the student's interest by showing the relievable and use of various economic theories.

3. To apply economic reasoning to problems of business.

Business mathematics(BC-105)

1. For a business, it is a vital subject that a student has to deal with.

2. It acts as a tool that helps in solving and controlling various business problems.

3. The basic objective to learn this subject is to adapt the knowledge of various math practices Students will be able to apply in practical life

Computer applicaton in business(BC-104)

Students will get knowledge about.

1.Storage of information.

2.Quick data processing. 3.Audio-visual aids in teaching.4.Better presentation of information.Access to the Internet.

Fundamental of marketing(BC-203)

1. To understand the classical marketing perspectives and contrasts these with newer views from relational and service-based schools of marketing

2.To understand the dynamics of various environmental factors on marketing so as that students can think about a feasible marketing plan (process)

3.To understand the utility of STP of marketing (i.e. Segmentation, Targeting, Positioning)

4.To have an elementary knowledge of marketing mix, consumer behavior, and other preliminary concepts and roles of marketing in society

Business environment in Haryana(BC-206)

1. Business environment in haryanana will helps students in identifying business opportunities, tapping useful resources,

2. Assists in planning, and improves the overall performance, growth, and profitability of the business n Haryana

3. There are various types of Business Environment like Micro Environment and Macro Environment.get complete practical knowledge about it

E commerce(BC-204)

1.E-commerce enables the students' community to learn and acquire knowledge through online.2**.**Students can complete assignments and download information at anytime.

3.Discussions with the tutors and with other students can take place with the help of internet

Business statistics(BC-302)

1.Generating better ideas and decisions applicable to the business.

2.Identifying flawed departments and working on their improvement.

3.Detecting early warning signs for problems that may arise gives a company the much-neededcompetitive edge in the market.

Corporate accounting(BC-301)

1. Demonstrate awareness of the global economic, environmental, political, ethical, legal, and regulatory contexts of business practice.

2. Assess how organizations create value in their global supply chains through the integrated production and distribution of goods, services and information.

3. Describe the concept of competitive advantage and how it may be achieved through strategicand tactical methods.

Company law (BC-304)

1. To inform the students about the elementary ideas and the logic of the corporate law.

2. In that respect, the students will be acquainted with the legal norms regulating the subjects of the corporate law, their legal structure and the position (status) of the trading subjects.

Business law(BC-303)

1. Any law or rule ensures that things run smoothly, healthily, and transparently.

2. Formulate legal and ethical rules – It formulates business-related legal and ethical regulations, procedural and substantive laws, court structure, etc.

Indian financial system(BC-305)

1. The ability to manage money properly is made possible by having a solid understanding of finance.

2. Without financial literacy, one's actions and decisions about savings and investments would be weak and unsupported.

3 .One can manage their finances effectively by learning financial principles.

Rural marketing(BC-306)

1. There are many sectors originating out of the rural society driving the economy in india students need to hav complete information about that and rural mkting helps in that

2. With education, the rural population can apply new knowledge and implement better technology and practices into their businesses.

3. This will even help in bringing the per capita income of the country up and reducing poverty.

Advertising(BC-406)

1. Students will state that the reason businesses advertise is to increase revenues.

2. Students will describe different kinds of advertising appeals. Students will choose a way to advertise their product or service.

3. Students will attempt to increase sales of their product or service by advertising it.

Computerized accounting system(BC-405)

1. Computerized accounting increases accuracy by eliminating human errors in calculation.

2. Manual bookkeeping processes are prone to making a lot of mathematical calculations inaccurately early in the process which would have a great impact on the end balance

Inome tax (BC-504)

1.Comprehend the difference between tax evasion and tax avoidance.2.Understand the legal implications of tax evasion.

3.Identify the proper role to follow regarding the client and taxing authorities.Understand the responsibility of a tax professional.

Goods and service tax(BC-503)

1. The learning Goods and Services Tax (GST) enables the commerce students and the business community to ease interaction with GST authorities.

2. Especially for the students it will give the scope for self-employment as well as for getting goodjobs of the competitive market.

Cost accounting(BC-501)

1. To enable the students to understand the importance of analysis and interpretation of FinancialStatements,

2. To equip the students with the skills to prepare various types of analytical statements and to help students to prepare Cost and M anagement reports for decision making.

Financial management(BC-502)

1. By teaching students about money management, schools can help reduce poverty and financialinequality.

2. Financial literacy can help students understand the importance of saving, investing, andavoiding debt,

3. These skills can help them achieve financial stability and independence in the future.

Auditing(BC-505)

1. It is to ensure that financial information is represented fairly and accurately.

2. Also, audits are performed to ensure that financial statements are prepared in accordance with the relevant accounting standards.

3. The three primary financial statements are: Income statement

4. Auditing also allows students with different learning styles to develop new skills and pursue interests they're passionate about.

Supply chain management(BC-506)

It provide inrmation to students about1.Impacts of a

supply chain crisis. ...

2. Reduce operating costs Increase revenue. ...

3. Boost customer satisfaction. Increase competitive advantage....

4. Reliable delivery of essential services. ...

Management accounting(BC-601)

1. Management accounting extracts reports and insights from the actual data to answer important questions.

2. Management accounting helps in making decisions based on the actual accounting data.

3. It also helps study trends and the effects of past decisions.

4. To enable the students to understand the importance of analysis and interpretation ofFinancialStatements,

Business environment(BC-605)

1. Recognize the ethical dilemmas in a business situation and recommend courses of actions to address the issues.

2. Identify legal issues in a business situation and evaluate the interrelationship between regulatory requirements and strategic decision making.

3. Recognize the environmental and social impacts of business decisions and recommend appropriate sustainable practices.

4. Ematical tools and techniques and models which helps in dealing with real-life businesssituations

Fundamental of insurance(BC-602)

1. It gives you financial assistance for your losses and damage.
2. The basic function of all types of insurance coverages is to provide damage control to the insured by bringing in a lot of people who pay to cover their risks.
3. The fund is further used for capital formation through investment in the markets.

Human resource management(BC-603)

Students get knowledge about

1. Acquire a Universal Skillset and jb diversity andjob satisaction. ...
2. Stay Up to Date with the Current Developments in HR. ...
3. Knowledge of Conflict Resolution. .and improve employee

turnoverBe Better Equipped to Budget and Control.

Retail management(BC-606)

1. Retail Management helps in saving time
2. Ensures that customers easily locate their desired merchandise and return home satisfied.
3. Effective management avoids unnecessary chaos at the store and controls shoplifting to a large extent.

PROGRAM: BACHELOR OF BUSINESS ADMINISTRATION (BBA)

PROGRAM AND COURSE OUTCOMES- 2020-2023

No.	Program Outcome
PO1	Upon completion of the BBA program, the individual must present professionalism and team working skills.
PO2	Upon completion of the BBA program the students will have basic idea of business operations.
PO3	Upon completion of the BBA program, the students will be having specialized skills to deal with area specific issues of concern.
PO4	Upon completion of the BBA program, the individual will be able to apply technological skill and knowledge for business enhancement.
PO5	Upon completion of the BBA program, the individual will be capable of analyzing, investigating and Solving critical business issues.

Program Educational Objectives

- To develop students professionally to handle business issues.
- To develop students to be a better team worker.
- To bridge the gap between theoretical and practical knowledge of the students by adopting innovative teaching pedagogy.
- To develop socially, ethically responsible business leaders.
- To sharpen soft and hard skills among the students.
- To promote entrepreneurial skills among students.

SEMESTER I

S. No	Course code	Course Name	Course Outcomes
1	101	Business Organisation	CO1: Become effective leaders by addressing the human side of enterprise. CO2: Understand individual behavior in organizations, including attitudes, job satisfaction, emotions, personality, values, perception, decision making, and motivational theories. CO3: Understand group behavior in organizations, including communication, leadership, power and politics, conflict, and negotiations. CO4: Understand the organizational system, including organizational structures, culture, human resources, and change.

2	102	Business Accounting	**CO1:** Demonstrate a good understanding the concept of double entry system and principles of accounting. **CO2:** Apply critical thinking and problem solving skill for preparation of trading and profit and loss account and balance sheet of sole trader. **CO3:** Understand of various methods of maintaining accounts of Departments. **CO4** learn accounting for branches and departments **CO5:** develop understanding about the accounting of single entry system and its difference with double entry system.
3	103	Managerial Economics-1	CO1: Develop Understanding to take business decisions in different business situation using theory and concept. CO2: Analyzing consumer behavior and their utility for their consumption through utility, consumer equilibrium, indifference curve & demand concept. CO3: Apply the concept of demand and elasticitypractically**.** CO4: Evaluate the relationship between price and output determination in different market structure. CO5: Demonstrate future demand of a product using qualitative and quantitative techniques.
4	104	Business Mathematics-1	CO1. Explain the concepts and use equations, formulae, and mathematical expressions and relationships in a variety of contexts. CO2. Apply the knowledge in mathematics (algebra, matrices) in solving business problems CO3. Analyse and demonstrate mathematical skills required in mathematically intensiveareas in Economics and business. CO4. Integrate business concepts with functioning of global trade
5	105	Hindi	**CO1:** Students will review the grammatical forms of Hindi and the use of these forms in specific communicative contexts, which include: class activities, homework assignments, reading of texts and writing. **CO2:** Develop reading, writing and analytical skills and communicate their ideas critically, creatively, and persuasively through the medium of language. **CO3:** Increase confidence in their ability to read, comprehend, organize, and retain written information. **CO4:** Improve their ability to read and understand the written word in everyday life through the study of literary text

6	106	Computer Fundamentals	**CO1:** The student will understand the basic working of computers and about hardware and softwares. **CO2:** They will come to know working with MS Office, MS excel and MS office **CO3:** They will come to know concept of database management system **CO4:** They will understand communications system,
7	107	Seminar	**CO1**To make the students aware about the dimensions and importance of effective personality. **CO2**. To understand personality traits and formation and vital contribution in the world of business. **CO**3. To make the students aware about the various dynamics of personality development

BBA Semester-I							
Paper	**Lecture**	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
Business Mathematics-I	**6**	**-**	**-**	**80**	**20**	**100**	**3 Hrs.**

B.B.A. Semester-I

Paper-Business Mathematics-I

This course will enable the students to

CO 1: To understand the concept of set theory, union of sets, intersection of sets and vein diagram.

CO 2: To learn quadratic equations and their solutions

CO 3: To study permutation combination and binomial theorem, Limits and continuity.

CO 4: To understand the concept of matrices and determinants.

SEMESTER II

S. No	Course code	Course Name	Course Outcomes
8	108	Principles of management	CO1: Understand the concept of Management, its levels and functions. CO2: Determine the managerial roles and skills, with special attention to managerial responsibility for effective and efficient achievement of goals. CO3: Understand the planning process, its types and various decision making models. CO4: Ascertain the nature of organization structure,.

9	109	Analysis of financial statements	**CO1**:To prepare students for interpretation and analysis of financial statements effectively. **CO2** To make the student well acquainted with current financial practices. **CO3** Understanding of users of financial statements as part of their professional responsibilities. **CO4 U**nderstanding the Basic Financial Statement and to determine the ability of a business to generate cash, Working capital sources and uses of that cash,and fund through the study of Cash flow and Fund flow statement. **CO5**To investigate the details of certain business transactions, as outlined in the disclosures that accompany the statements.
10	110	Managerial Economics	CO1: understanding of different school of thoughts of Macro economics CO2: Demonstrate a way to measure concepts of national income and its related measure CO3: Examine the GAP between theory of money and the present concepts of money along with concepts of supply of money CO4: Analyze determinants of consumption and investment in the macro economic environment CO5: Evaluate in-depth causes of unemployment and inflation and apply remedies over them in economic policy
11	111	Understanding social behaviour	CO1: Define culture, communication, intercultural communication, ethnocentrism, and multiculturalism. CO2: Identify and describe the various aspects of culture which affect a person's worldview, values, and behaviour. CO3: Understand the diversity of worldviews, values, behavior, traditions, and experiences of co- cultures and their interactions. CO4: Understand the diversity of worldviews,
12	112	Business mathematics	CO1. Explain the concepts and use equations, formulae, and mathematical expressions and relationships in a variety of contexts. CO2. Apply the knowledge in mathematics (algebra, matrices) in solving business problems CO3. Analyse and demonstrate mathematical skills required in mathematically intensiveareas in Economics and business. CO4. Integrate business concepts with functioning of global trade

13	113	Business Communication	**CO1**The objective of business communication is to convey information effectively and efficiently to achieve the goals and objectives of the organization. **CO2**To understand the concept, process and importance of communication. **CO3**To provide knowledge of various media of communication. **CO4** To develop business communication skills through the application and exercises. **CO5**To know various theories related to personality development **CO6**To understand various factors that impact personality development of and individual. **CO7** To understand the relationship between personality and various business management roles and responsibilities.
14	114	Viva-Voce	To check the comprehensive knowledge of subjects in students.

15	115	Environmental studies	CO1. Memorizing the concepts related to the ecological biodiversity of our planet. CO2. Interpreting important processes associated with the evolution of life on earth. CO3. Applying the concepts related to ecology for sustainable life on earth. CO4. Analyzing the importance of wildlife protection and its role in preserving the food chain. CO5. Evaluating the methods of prevention and safety from pollutants. CO6. Formulating the plan for environmental disaster management.

SEMERTER-3

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16	201	Understanding human Behaviour	CO1: Develop an understanding of the concepts of human resourceand its importance in the organization. CO2: Inculcate the essential skill sets required to function as an HR manager. CO3: Integrate the knowledge of human behaviour to take the best managerial decisions. CO4: Contribute to the implementation and evaluation of plans related to employee recruitment, selection, appraisal processes in an organization
17	202	Micro Business environment	**CO1**Familiarize with the nature of the Business Environmen components. **CO2** Able to demonstrate and develop a conceptual framew Environment and generate interest in business. **CO3**Sketch out how an entity operates in a Business Environment. **CO4 A**nalyse the key decisions that the firms make in relati

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			choice of markets and entry strategies. **CO5**Apply an understanding of the different modes of engagement with markets and know the interrelatedness between these and the economic, legal, governmental, political, regulatory, cultural and other environments in which expanding companies operate

18	203	Business Statistics	CO-1. Understand the meaning of statistical terms used in business statistics. CO-2. Analyze statistical data using measures of central tendency, dispersion and skewness. CO-3. Calculate and interpret the simple correlation for a set of data. CO-4. Construct Index numbers and its use. CO-5. Test the adequacy of Index number formulae.
19	204	Management accounting	CO1: Acquaint with the fundamentals principles of management accounting. CO2: Prepare; analyze and interpret financial statements. CO3: Analyze typical business transactions to determine their effects on the principal elements of financial statements CO4: Take decisions using management accounting tools. CO5: Understand the role of management accounts in planning, control and decision making in an organization

20	205	Fundamentals of DBMS and ORACLE	**CO1:** The student will understand the basic working of computers and about hardware and softwares. **CO2:** They will come to know concept of database management system **CO3:** They will understand communications system **CO4** They will come to know concept of ORACLE **CO5** They will came to know about uses of DBMS and ORACLE in business.

21	206	Business Communication	CO1: Understanding the basic fundamentals of English Grammar required for effective communication. CO2: Enhancing English vocabulary & Improving English Speaking Skills (Accent, Intonation & pronunciation) CO3: Enhancing confidence articulation Skills (to listen, speak and write in English at workplace. CO4: Demonstrating instant sophistication through soft skills, body language & presentation skills CO5: Grooming for corporate etiquettes, group discussion, resume writing (basic ingredients) & mock Interviews

22	207	Seminar	**CO1**To make the students aware about the dimensions and importance of effective personality. **CO2**. To understand personality traits and formation and vital contribution in the world of business. **CO**3. To make the students aware about the various dynamics of personality development

Semester 4

23	208	Human behaviour at work	CO1: Develop an understanding of the concepts of human resource and its importance in the organization. CO2: Inculcate the essential skill sets required to function as an HR manager. CO3: Integrate the knowledge of human behaviour to take the best managerial decisions. CO4: Contribute to the implementation and evaluation of plans related to employee recruitment, selection, appraisal processes in an organization
24	209	Macro Business Environment	CO1: Understand the concept, factors of the business environment and five year plans of India. CO2: Examine the concept and role of social environment, ethics and corporate governance. CO3: Understand various government policies, institutions and its role in business. CO4: Develop insights of economic policies, RBI role process of economic reforms. CO5: Develop knowledge of Technological environment, issues in technology acquisition and transfer.,

25	210	Business statistics	CO-1. Understand the meaning of statistical terms used in business statistics. CO-2. Analyze statistical data using measures of central tendency, dispersion and skewness. CO-3. Calculate and interpret the simple correlation for a set of data. CO-4. Construct Index numbers and its use. CO-5. Test the adequacy of Index number formulae.
26	211	Marketing Management	**CO1**Identify the foundation terms and concepts that are normally used in Marketing. **CO2**Learn to find the essential Elements for effective Marketing. **CO3**Understand the Nature, Scope and basic Marketing Concepts and Strategies. **CO4** Use Marketing information and research to develop Marketing strategies.
27	212	Financial managemnt	**CO1:** Demonstrate a good understanding of concepts, goals and functions of financial management. **CO2:** Analyze the pattern of fund requirement and associated risk through financial planning. **CO3:** Evaluate various theories of dividend and capital budgeting techniques to allocate funds to the most attractive investment opportunity **CO4:** Estimate various capital structure theories and factors affecting capital structure decisions in a firm. **CO5:** Determine optimum capital structure and cost of capital of various sources like equity, debt, preference and retained earnings. **CO6:** Examine the determinants of working capital requirement of the company and its tools for smooth functioning of business.
28	213	Principles of Material managemnt	CO1: Analyze the Network Design and Logistics Management of a firm CO2: Apply the concepts of Vendor Management. CO3: Understand the Inventory Management concepts. CO4: Learn and understand the key issues of IT in SCM

29	214	Viva Voce	To check the comprehensive knowledge of subjects in students

Semester 5

30	301	Business law	**CO1**The objective is to acquaint the student with a basic and elementary knowledge of the various business laws like - The companies Act, Negotiable Instruments Act, The Law of Contract, etc. **CO2** To have basic knowledge of various business laws prevailing in business environment
31	302	Principles of retailing	**CO1:** Memorize the concepts related to retail management. **CO2:** Explain the reasons for the growth of retailing in India. **CO3:** Illustrate the various types of retail formats. **CO4:** Examine the store design, location, and layout planning. **CO5:** Evaluate the retail sales promotion strategy. **CO6:** Synthesize the plan for retail store operation.
32	303	Principles of banking	CO1: Demonstrate a good understanding of the Banking system, their challenges and functions. CO2: Analyze critically the role of RBI , its function s and schemes in India CO3:Examine relationship between banker and customer and their obligations CO4: Evaluate the various types of accounts and problems faced by the customers CO5: Applying bank committees report and bank credit policy

33	304	Fundamentals of E commerce	CO1: Demonstrate an in-depth knowledge of the roots, concepts and evolution of E-Business and E- Commerce along with its benefits and limitations CO2: Develop an understanding of the concepts related to EDI and web-based tools used for electronic marketing CO3: Demonstrate the awareness about security risks pertaining to E-Commerce and digital tools that can help prevent and/or overcome these threats CO4: Build and understanding of various concepts related to E-Payment Systems and Internet Banking CO5: Exhibit the knowledge of various applications of E-Business laterally with legal and social impact of E-Commerce
34	305	Export procedure and Documentation	CO1: Develop an understanding of the concepts related to export managements. CO2: Demonstrate the awareness about risks pertaining to Exports and tools that can help prevent and/or overcome these threats and risks CO3: Build and understanding of various concepts related to export documentations. CO4 Role of financial institutions in export management and documentations
35	306	Principles of production management	CO1: Analyze the Network Design and Logistics Management of a firm CO2: Apply the concepts of Vendor Management. CO3: Understand the Inventory Management concepts. CO4: Learn and understand the key issues of IT in SCM
36	307	Training report	CO1To provide practical exposure to students CO2 To provide vocational training to students CO3To make understand practical applicability of theortical concepts of business

Semester 6th

37	308	Entrepreneurship development	**CO1:** Define the concepts related to entrepreneurship: entrepreneur, functions, development programs, motivation; rural and small scale enterprise. **CO2:** Explain the concepts related to entrepreneurship: entrepreneur, functions, development programs, motivation; rural and small scale enterprise. **CO3:** Illustrate the concepts related to entrepreneurship: entrepreneur, functions, development programs, motivation; rural and small scale enterprise. **CO4:** Examine the concepts related to entrepreneurship: entrepreneur, functions, development programs, motivation; rural and small scale enterprise. **CO5:** Evaluate the concepts related to entrepreneurship: entrepreneur, functions, development programs, motivation; rural and small scale enterprise. **CO6:** Synthesize the concepts related to entrepreneurship: entrepreneur, functions, development programs, motivation; rural and small scale enterprise
38	309	Business laws	**CO1** To understand basic legal terms and concepts used in law pertaining to business. **CO2** To comprehend applicability of legal principles to situations in Business world by referring to few decided leading cases
39	310	Logistic management	CO1: Analyze the Network Design and Logistics Management of a firm CO2: Apply the concepts of supplier Management. CO3: Understand the logistic Management concepts. CO4: Learn and understand the key issues of IT in logistic management

40	311	Principles of insurance	CO1: Understanding various concepts of Insurance CO 2: Learning different terminologies and stages involved in insurance clearance process CO 3: Understanding and Evaluating insurance premiums risk analysis. CO4 Understading of various types of insurance like marine insurance,motor insurance,crop insurance .
41	312	Introduction to Financial services	CO1: Understanding various concepts of Merchant Banking Services. CO 2: Learning different terminologies and stages involved in issue management. CO 3: Understanding and Evaluating fund and fee based financial services namely leasing; Insurance; hire purchase; venture capital financing; credit rating; and securitization.
42	313	Viva voce	To have comprehensive knowledge of various subjects of BBA. To evalauate presentation skill and confidence among students.

Masters in Commerce

Programme Objective

1. ***This masters programme aims to develop Commerce professionals, provide the students with practical skills and their applicability.***
2. ***To help in improving the theoretical competencies in subjects, especially finance and marketing. Also to build up a conceptual structure for research.***
3. ***To familiarize the students with the structure of market and acquainting them with the contemporary needs of the industry.***
4. ***Students who desire to pursue a career in Banking, Accounting, Financial and Investment sectors. Students should have knowledge of economics and business in order to pursue this two-year programme, especially those who are inclined toward the teaching profession.***
5. ***To focus on the development of Conceptual, Analytical and Management skills in the fields of Banking, Stock Markets, Insurance and other Financial services and Institutions.***

6. ***To focus on the holistic development of the student with conceptual clarity, analytical ability, critical thinking and communication skills.***
7. ***To gain practice in recognizing managerial problems and taking. To facilitate entrepreneurial or self employment options.***
8. ***To prepare corporate minds with a positive mental attitude for optimum performance, committed service and independent thinking.***
9. ***To develop management professionals who are able to leverage theoretical knowledge to design sustainable solutions to real world problems.***

Ist Semester

CODE	SUBJECT
MC 101	**Organizational Behaviour**
	This subject aims to get a hold on the intellectual and emotional quotient of people to understand their reactions and different environment. To make students understand the concepts of human behaviour and to make them understand through different models and theories, and how these are applicable in different organizations.
MC 102	**Business Environment**
	This course will prepare the students to plan and grow as entrepreneurs or managers, to understand the context of local, national and global environment. to conduct a business analysis considering the following factors, social, political, legal, cultural, geographical and economical. In addition knowledge about the legal environment of our country.
MC 103	**Managerial Economics**
	The purpose of this subject is to apply micro economic concepts and techniques in evaluating the business decisions. This course involves various tools, helping the future managers in decision making, risk management, pricing, investment, production analysis, business cycles, cost analysis, inflation, etc.
MC 104	**Company Law**
	To acquire knowledge and develop understanding of the regulatory framework of companies with reference to various provisions of Companies Act and its schedules, rules, notifications, circulars, clarifications there under including case laws and standards.
MC 105	**Accounting for managerial decisions**

	The main objective of managerial accounting is to make students use various techniques so as to minimize losses and maximize profits. Also to prepare students to analyse the accounting information and make accurate decisions for the business organization.
MC 106	**Marketing Management**
	This course enables a student to understand the 'Marketing Mix' elements and the strategies, to enhance the knowledge of students about marketing theories, principles and concepts and how are they applied. The programme aims to produce critical, reflective marketers and emphasises the integration of theory and practice with the skills and knowledge required by employers.

IInd Semester

CODE	**SUBJECT**
MC 201	**Human resource Management**
	The aim of the Human Resource Management (HRM) is to give students the knowledge, understanding and key skills that are required by today's HR professionals and to enable students to effectively contribute to dynamic organisations. Effectively manage and plan key human resource functions within organizations. Examine current issues, trends, practices, and processes in HRM.
MC 202	**International Business Environment**
	This course is designed to introduce students to the international business environment. The course highlights how economic, political, social, legal, and cultural environment affect business in a global economy. the overview of the unique problems faced by firms engaging in international activities; the importance of understanding the foreign economic, social, political, cultural, and legal environment; the mechanics of importing and exporting; joint venture, franchising, and subsidiaries, international dimensions of management, marketing and accounting, and international financial management.
MC 203	**Strategic Marketing**
	The concept of marketing and focuses on the creation of Customer Value. The course emphasizes market analysis, target customer identification, and the development of marketing-mix strategies structured to deliver superior customer value proposition and organizational performance.
MC 204	**Financial Management and policy**
	Explain the concept of fundamental financial concepts, especially time value of money. Apply capital budgeting projects using traditional methods. Analyze the main ways of raising capital and their respective advantages and disadvantages in different circumstances. Integrate the concept and apply the financial concepts to calculate ratios and do the capital budgeting
MC 205	**Corporate Accounting**
	Construct the financial statements of company within the frame work of Ind AS. Develop a process for redemption of Preference shares. Construct the Restructuring of capital structure in the financial statement of Joint stock company ltd. Calibrate the

	procedure involved in Amalgamation of companies. Calibrate the procedure involved in Absorption of companies. Explain the implication of unethical accounting practices on the society
MC 206	**Business Statistics**
	To develop the students ability to deal with numerical and quantitative issues in business. To enable the use of statistical, graphical and algebraic techniques wherever relevant. To have a proper understanding of Statistical applications in Economics and Management.

IIIrd Semester

CODE	**SUBJECT**
MC 301	**Information Technology**
	To provide education in the use of Information and Communication Technology or IT. To encourage higher-level thinking and creativity through IT. To deliver students with a learning experience in instructional technology.
MC 314	**Entrepreneurship Development**
	The main aim of ED is to train the next generation of entrepreneurs, how to master different areas of business to cater the best to the customers. Also how to grow and develop as an entrepreneur in today's dynamic environment, including market survey, project report preparation and environmental considerations
MC 316	**Human Resource Development**
	The purpose of HRD is to enhance student learning of human potential, and high performance in work-related systems and contribute to sustainable human development.
MC 309	**Advertising Management**
	This lesson is designed to help students understand the different functions and goals of marketing, advertising and public relations. To teach students how to solve problems creatively and using advertising as tool in projecting sales and profit.
MC 308	**Marketing Research**
	To make students understand how to identify the consumer response to the company's product. Know the consumer's needs and expectations. Seek maximum information about the customer. Apply different methods to conduct research and analyse the various outcomes.
MC 302	**Financial Management**
	Improving students' understanding of the time value of money concept and the role of a financial manager in the current competitive business scenario. To develop knowledge on the allocation, management and funding of financial resources.

IVth Semester

CODE	SUBJECT
MC 401	**IT and E-Commerce**
	The students have to learn all basic concepts in E-Commerce, Its Business models and how to create a business plan. Every student has to understand the IT and E-Commerce strategy, technology adoption To learn how the importance of digital payment, its methods, gateway options, digital currencies and signature. Students can successfully start their new venture based on E Commerce and Digital Marketing Tools.
MC 402	**Corporate Tax Planning**
	The major objective of tax planning is to reduce your tax liability by reducing your net taxable income. This can be achieved by making tax saving investments or claiming deductions for specific expenses like Section 80D deductions as per applicable income tax laws.
MC 408	**Sales Management**
	The primary objective of this program is to ensure a thorough understanding of the products and services that the salespeople will be selling. Sales guides with product specifications, features and basic pricing should be distributed before the training sessions so that sales representatives can review them beforehand.
MC 409	**Service Marketing**
	To make students understand the unique characteristics of service organizations. Distinguish the role of the service provider and the consumer in the production of services. Develop the ability to apply appropriate services marketing approaches with an intention of attracting, retaining and maximizing customer's levels of satisfaction. Identify and evaluate opportunities for the application of services marketing principles in the service organizations.
MC 403	**Project Planning**
	The goal of the course is to give you the tools to initiate a project plan, manage both stakeholders and relationships, organize their team, develop a project charter, and build a business case for a project.
MC 414	**Corporate Governance**
	The purpose of corporate governance is to encourage the efficient use of resources and to require accountability for those resources. The aim is to balance the interests of individuals, corporations, and the community.

Bachelor of Arts

Program Outcome: After completing this programme students will be able to

1. **Get exposure from a variety of subjects, thereby developing their capability of decision making.**
2. **Develop the ability to find the solutions to a problem with their imagination and critical thinking while taking part in co-curricular activities.**
3. **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.

4. **Become eligible & well-equipped for employment in the government and private sector and also develop entrepreneurial skills after studying Subjects like Economics, Physical Education and Home Science.**
5. **The program builds a strong academic foundation amongst students, thereby preparing them to excel in higher education.**
6. **The objective of the Environment course & various activities carried out under NSS and tree-plantation drive in the campus is to help students understand the importance of environment & sustainable development.**

BA FASHION DESIGNING

COURSE:-101 (SEMESTER-I) Paper: ELEMENTARY TEXTILE SCIENCE (Th.)

Subject Outcomes: -

- Students are accredited with skills of drawing and usage of various art mediums.
- Students are able to create compositions using various color schemes
- They will acquire the ability to perform visual research for application of elements in context of fashion.
- Basic stitching and creative skill will be developed which will help them to construct their garments
- Students will be able to use different stitches and seams as per the requirement of the garment
- - Students will gain proper understanding of basics of patternmaking.
- Students will be able to develop patterns by using the acquired knowledge of patternmaking
- Students will use basic pattern making principles to create design variations. • Students will learn about different techniques of producing fabric like weaving, knitting, felting etc.
- Student learn about different weaves and machines.

COURSE:-101 (SEMESTER-I) Paper: ELEMENTARY TEXTILE SCIENCE (pr.)

- Student learn about Simple sewing machine and machine with special accessories care and usage.
- Student learn about Anthropometry: Taking and recording measurements according to various age groups. Study of **silhouette**
- Student learn about Collection of different textures and their usage.
- Student learn about Garment constructional processes seams, stitches, necklines, collars, sleeves and yokes.

COURSE:-102 (SEMESTER-II) Paper: TRADITIONAL INDIAN TEXTILES(Th.)

Subject Outcomes: -

- Students will be able to explore and bring into practice their ideas through embroidery techniques.
- Student will be able to understand the application of different embroidery to techniques to create 2D and 3D effects.
- Students will be able to create innovative designs by combining number of stitches and by using creative raw material.
- Students will be able to develop utility articles with the help of basic embroidery stitches

COURSE:-102 (SEMESTER-II) Paper: TRADITIONAL INDIAN TEXTILES(pr.)

• Student learn about Drafting cutting and stitching of children's garments. (a) Bib/feeder (b) Panty/Bloomer (c) A-line frock (d) Party frock

(e) Jhabla (f) shorts .

• Student learn about Preparation of embroidery samples-Phulkari, Chikenkari, Kantha, Kutch, Kasuti , Kashida, Chambarumal, applique craft, Manipuri, tribal embroidery.

COURSE:-201 (SEMESTER-III) FASHION DESIGNING(Th.)

Subject Outcomes: -

• Students will gain basic understanding of garments, machines and their use in apparel and fashion industry

• Students will be able to learn different techniques of printing and painting.

• Students will be able to learn tie and dye techniques and their various methods.

• Students will be able to learn the existing designs of women and men wear.

• Study of costumes through ages in relation to art and fabric, footwear, head dresses and other accessories during the following periods.

• Indusvally, Vedic Period, Morgan & Sunga Period, Satavahana Period, Kushan Period, Gupta Period, Mughal Period, British Period, Contemporary Period.

• Elements and principles of design with special emphasis on color, color scheme and optical illusion. • Role of designer in garment industry. (a) Interpreting fabric – silhouette, texture and scale of design

• Students will be equipped with the knowledge and confidence to respond creatively to a design brief within the women's wear market.

• Students will learn about different styles of pockets, sleeves, plackets, yokes, necklines etc.

COURSE:-201 (SEMESTER-III) FASHION DESIGNING(pr.)

• Students will learn about different styles of pockets, sleeves, plackets, yokes, necklines etc.

• Students will learn about Drafting, cutting and stitching of Apron and Blouse, Petticoat

• Students will learn about Preparation of samples using various fabric enrichment techniques – Tie & Dye, Batik, Block Printing and Stencil Painting

• Students will develop understanding about ancient and contemporary costumes of India.

• Students will learn about fabrics, techniques and drapes of different eras and will be able to introduce to today's fashion industry in a more creative way.

COURSE:-202 (SEMESTER-IV) FASHION DESIGNING(Th.)

Subject Outcomes: -

• Students will learn Details – Open necklines, fasteners, coordination of design and fabric, Silhouette and basic structural features, Design feature and utilization.

• Students will learn Developing fashion line – Scope of line.

• Students will learn Flat pattern design. (i) Half scale design and pattern – dress without waistline, emphasis on sleeves. (ii) Tailored dresses – Emphasis on decorative details – binding pockets, collars. (iii) Formal Wear.

• Students will learn Layout and fabric requirement estimate.

• Students will learn Basic draping principles and techniques. (i) Blouse design – Basics and variations of sleeves, neckline and collars. (ii) Skirt design.

• Students will learn an introduction of computer software with special reference to designing and weave design, figure illustration and visualization

COURSE:-202 (SEMESTER-IV) FASHION DESIGNING(pr.)

• Students will learn Drafting, Cutting and Stitching of adult garments – Kameez, Salwar and Churidar, Kurta Pajama, Nightie.

• Students will learn Computer Application – Introduction to computers, Basic Drawings, Paintbrush, PowerPoint, Photoshop and Corel Draw.

COURSE:-301 (SEMESTER-V) FASHION DESIGNING(Th.)

Subject Outcomes: -

- Students will be able to know about different kinds of marketing and merchandising techniques.
- Students will develop knowledge of various national and international stores and there marketing technique
- Students will learn how to operate the computer and its usage in our life.
- Students will learn different software and new technologies.
- Student will be able to showcase their collections and design work through digital media.
- Student will learn Garment design and cost production. (i) Relationship to raw material to unit cost. (ii) Relationship to time and labour to unit cost.
- Student will learn Apparels of unusual design negative and positive aspect.
- Student will learn Skills and techniques of salesmanship.
- Through the understanding of fashion photography student will be able to apply their knowledge in identifying the trends of fashion.
- Student will learn to create still life models and backdrops.

COURSE:-301 (SEMESTER-V) FASHION DESIGNING(pr.)

- Student learn about Method of developing pattern. (i) Flat pattern method (ii) Draping
- Student learn about Designing garments by dart manipulation and various construction method.
- Student learn about Construction of five garments using above techniques and calculating cost.
- Students will be able to learn the existing designs of women and men wear.
- Students will be equipped with the knowledge and confidence to respond creatively to a design brief within the women's wear market.
- Students will learn to draw fashion figures by understanding body proportions.
- Students will develop an understanding of how different constructional tools help to make a perfect garment.
- Students will learn to draw fashion figures by understanding body proportions digitally.
- Students will be able to add marketing/selling in creative products.
- Students will be able to understand various selling techniques.

COURSE:-302 (SEMESTER-VI) FASHION DESIGNING(Th.)

Subject Outcomes: -

- Student will learn Media, Planning, Fashion forecasting, Range development, Production and Quality Control, Packaging and Labeling of Garments
- Student will learn Computer Application 2D and 3D Design.
- Student will learn Pattern Making, Sketching under Corel Draw, Photoshop and Relative Software.
- Learnt to identify a brand's sales model and target customer.
- Gained an understanding of how a brand will research trends for it's target customer.
- Practised predicting colour palettes from emerging trends.
- Students will gain insight about fashion industry.
- Students will develop comprehensive understanding of the fashion industry, its markets, and the particular role of the fashion product designer and developer within the industry.
- Students will understand the importance of labels, it making as well as it connectivity with consumers.
- Implement quality measurement systems in various applications
- The student is able to examine the concepts like product planning, branding decisions, packaging, labeling, marking, Export pricing strategies and various International Commercial Terms in export marketing.

• Students will be able to apply the learned techniques of draping to develop a product.

• Students will be able to apply the technique effectively for a desired fit in a garment

COURSE:-302 (SEMESTER-VI) FASHION DESIGNING(Practical.)

Subject Outcomes

• Portfolio of latest style both Indian and Western.

• Computer Application 2D and 3D Design, Pattern Making, Sketching under Corel Draw, Photoshop and Relative Software.

• Project Work.

• The student is able to examine the concepts like product planning, branding decisions, packaging,

labeling, marking, Export pricing strategies and various

• International Commercial Terms in export marketing.

• Students will be able to develop pattern for adults.

• Students will develop the capability and skills of creating the patterns for designer wear with dart manipulation techniques.

• Students will get to know about the importance of darts and their uses.

• Students will be able to develop commercial paper pattern to meet industry standards.

• Students will be able to create innovative designs by the use of bead work, patch work, quilting, sequins work etc.

• Through grading process, students will be able to develop pattern for different sizes.

B.A FASHION DESIGNING PROGRAM SPECIFIC OUTCOME

• Adapt their artistic abilities to support their future design careers.

• Assess, propose, and apply various techniques related to drafting, draping, and constructing of garments.

• Develop a systematic, critical approach to problem solving at all levels of the design process.

• Relate the design process to the appropriate manufacturing process.

• Demonstrate professionalism by managing time to meet deadlines with quality work and effectively collaborating in teams.

• Research and relate fashion design to a broader socio economic, historical, and environmental context. • Articulate design ideas verbally, visually, and digitally.

• Forecasting about the style and designs that can be implemented in various textile materials.

• Perform textile material analysis using different tools and methods are learned.

• Demonstrate and understand to enhance the person's personality through clothing.

• Entrepreneur can follow the apparel quality standards and the sales can improved through visual merchandising.

• Understand the flow process of garment industry from designing to export the procedures.

• Be able to adopt fashion to our daily life.

• Be able to know about various textile materials where the style and designs suits the particular material.

• Able to know about the tools that works specific functions on textile material.

• Be able to analyze every single person's personality that suits their clothing.

• Entrepreneur can gain knowledge and how to unique their business from others.

• Be able to begin a garment industry.

•Students will adapt their artistic abilities to support their future design careers.

• Assess, propose, and apply various techniques related to drafting, draping, and constructing of garments.

- Develop a systematic, critical approach to problem solving at all levels of the design process.
- Relate the design process to the appropriate manufacturing process.
- Demonstrate professionalism by managing time to meet deadlines with quality work and effectively collaborating in teams.

B.A HOME SCIENCE COURSE OUTCOMES

FAMILY RESOURCE MANAGEMENT COURSE No. 101

Explain the significance of management in day-to-day life and enumerate the steps involved in the management process;

- Identify the motivating factors in management and discuss the role of decision - making in the management process.
- Explain the terms 'resources' and 'management' identify, describe the characteristics and classify resources and describe ways of maximizing satisfaction from the use of resources;
- Awareness on the importance of consumer education and management at individual and family levels • Awareness among the consumers about their problems, rights, responsibilities and food adulteration
- To create an awareness on the importance of management at individual and family levels
- To understand the basics of management to help in identifying and understanding the application of principles of management for different resources
- To create awareness on the importance of consumer education and management at individual and family levels
- To create awareness about human and non –human resource.
- To introduce students about concept and scope of home science.
- To create awareness about elements and principles of art
- Awareness on the importance of layout of different rooms in a house.
- Students also learn types of flower arrangement

HEALTH AND HYGIENE COURSE No. 102

- . Student learns the concepts
- Imparting knowledge regarding Infections, diseases and immunization so that they can keep their families protected.
- Educating them how to maintain high levels of personal hygiene.
- Introducing concepts of mental health, positive health and school hygiene.
- Informing about national health related programmes.
- Knows the importance of health and hygiene
- Understands the importance of water hygiene.

- . Knows the properties of a healthy and clean water.
- Knows the negative effects of hard water.
- To create awareness about water purification (by household and natural methods)
- Students learn about first aid meaning and importance
- This subject create awareness about :
- Infections types infective agents, period of infectivity.
- Types of diseases and their mode of spread.

Human Physiology COURSE No. 201

- Students understand their own body: its structure and functions.
- Learners gain knowledge regarding different systems of human body viz. skeletal system, respiratory, digestive, nervous, endocrine, circulatory, excretory and reproductive systems, etc..
- The paper will help in caring and maintaining their own and their families' physical being.

Clothing and Textile COURSE No. 202

- Introduces students to different natural and man- made fibres, their properties, production processes and by that knowledge the course prepares them to be better buyers and informed consumers and to enter the fibre processing section of textile industry.
- Imparts knowledge regarding yarn making, fabric making methods and prepares students to enter the fabric manufacturing section of textile industry.
- Introduces students to modern laundry equipments, supplies and processes and thereby, help them in better care of fabric products.
- Imparting knowledge regarding basic and special finishes given to fabrics to improve their aesthetics and functionality and thereby, enables them to know about fabric processing section of the textile industry.
- Introduces students to sewing equipments, their use and care. Imparts knowledge regarding different design development techniques thereby, helping them to move forward in fashion designing field.
- Make students learn clothing requirements of different family members according to age, occupation, occasion, physiological conditions, etc. and thereby enabling them to become good wardrobe planners.
- Impart knowledge regarding principles and elements of apparel design and thereby, making them well equipped for fashion designing.
- Introducing students to the rich heritage of Indian Traditional Textiles and Embroideries so that they can be inspired with them for future textile designing.
- Imparting knowledge regarding parameters of selection of household linens so that they can make wise choices in the market place.
- Entrepreneurial Techniques in handicrafts, textile design and fashion design are promoted.

Foods and Nutrition COURSE No. 301

• Food science involves the study of physical, chemical and biological factors that constitute food. This paper provides knowledge of food functions, food groups, cooking methods and ways of improving nutritional value of food.

• Basic concepts of chemistry that are useful in nutrition science are introduced.

• This paper educates about functions, sources, recommended dietary allowances, effects of excess and deficiency of various micro and macro nutrients in food. Students will be given the basis for the next step of diet planning.

• Biochemical study of nutrients and enzymes present in human food. It forms the basis for understanding their importance in maintaining goodness of food and health.

• Dietetics is the branch that deals with the study of diets in health and disease. Students learn planning, calculation and preparation of diets for various age groups and physiological conditions. Knowledge is imparted regarding causes, symptoms, dietary modifications, prevention and nutritional management in various diseases. This prepares students to become future dietitians.

Human development COURSE No. 302

• Introducing the field of human development explaining stages and areas of development. Imparting knowledge regarding different methods used to study lifespan development among human beings.

• Understanding prenatal and postnatal development in humans. By this the students will carry their pregnancy in a better way and will care for their infants effectively. Moreover, common ailments of childhood are also discussed in this paper

. • Making aware with national programmes for women and children and programmes for poverty alleviation so that they get benefits.

• Understanding Physical, Motor, Emotional, Cognitive, Moral, Language, Personality and Social Development in childhood and adolescence. Making students aware about importance of Play in child's life. Common behavioural problems and their remedies in various stages of life are explained which empower the students to help their dear ones and pupils to come out of their problems. By learning these students may become better parents and teachers.

• Child psychology, Learning methods, Concept of intelligence and its measurement also form part of the syllabus which make students understand childhood in a better way.

• Entrepreneurial Techniques in childhood educational material are promoted.

PRACTICALS

Practical SEM 1

1. Students learn flower arrangement for different occasions - Fresh & Dry
2. 2 Learners gain knowledge about preparation of one drift wood for making dry flower arrangement.
3. 3 Learn how to make different types of Rangolies
4. 4 student learn Pot making – by painting and by decoration
5. 5 Table manners & Table setting including napkin folding and menu card are taught.
6. 6. Drawing of layout plans for different rooms

Practical SEM 2

1 Cleaning & polishing of - Brass, Copper, Silver, Aluminum, Steel, Leather, wood, and glass articles are taught.
2. Student learn preparation of polishes for i) wood (ii) leather
3. Preparation of two articles of interior decoration by students.
4. Impart Knowledge of Immunization Schedule Survey in PHC and local hospitals by students.
5. Acquaintance with First aid techniques

Practical SEM 3

A. Study of different parts of sewing machine its care defect and remedies are taught.
B. Samples - Basic stitches – tucking, running stitches, hemming, and button hole stitch. - Seamsplain seam, run and fill seam. - Processes-gathers into a band - Darts (Knife and box) - Placket opening (continues, wrap and two piece placket) - Pen tucks and cross tucks are prepared by students.
C. Students also learn Embroidery – article of fancy embroidery using stitches are prepared.
D. Knitting- Following of knitting instructions preparation of two samples of knitting with different designs are prepared by students.
E. student also learn Tie and Dye (one article) samples using different methods are prepared.

Practical SEM 4

A. Students learn how to take body measurements of different body types.
B. Understanding Drafting of the following: 1. Child's bodice block and its adaptation to a gathered frock. 2. Adult's bodice block and its adaptation to their choice garments 3. Drafting of salwar or petticoat, blouse/nighty and kameez.
C. Understanding Drafting and stitching of following garments: 1. Frock gathered with sleeves (3 to 8 years old) 2. Salwar or Petticoat (any one) 3. Kameez or Nighty/Blouse (any one)

Practical SEM 5

1. Knowledge is imparted regarding causes, symptoms, dietary modifications, prevention and nutritional management in various diseases Students learn planning, calculation and preparation of diets for various age groups and physiological conditions like a) Pre-school and school going child. b) Adolescents boys and girls. c) Adult belonging to low, middle and high income group. d) Pregnant and lactating mother
2. Planning and preparation of invalid diets for the patients suffering from: a) Typhoid fever. b) Diarrhea. c) Constipation. d) Diabetes. e) High blood pressure.

Practical SEM 6

A. Imparting knowledge about preparation of various dishes under following heads using different method of cooking. - Desserts - Snacks - Using the methods of baking, frying, grilling
B. Preparation of various dishes under following heads using different method of cooking. - Salad and salad dressing - Indian and continental - Packed lunch and picnic lunch.
C. Students learn Food preservation of Pickle, Chutney, Jam, Squash, Morrbba
D. Party Dishes and their presentation with table setting are taught.
E. Understanding of Micro wave cookery.

Program Outcome

1. Understand and appreciate the role of inter disciplinary sciences in the development and well being of individuals, family and communities.
2. Understand the sciences and technologies that enhance the quality of life of people.
3. Acquire professional and entrepreneurial skills for economic empowerment of self in particular community in general.
4. Develop professional skills in food, nutrition, textiles, housing, product making, communication and human development.
5. Understand the food composition its physio-chemical, nutritional, microbiological and sensory aspects.
6. Understand various concepts of food processing and preservation techniques.
7. Understand the current state of normal functioning of human system of correlate physiology with various health disorders and their pathogenesis.
8. Understand emergent issues in human development and child studies with respect to human life span and culture and demonstrate the ability to transact knowledge of childhood development and culture with in every day social context and workspaces.
9. Understand the current processes and trend, new development and technological changes in the field of textiles.
10. Study the fabrics, finishes, laundry and selection criteria for textiles used in home.

DEPARTMENT OF PHYSICAL EDUCATION

COURSE OUTCOME

SUBJECT: HEALTH & PHYSICAL EDUCATION

B.A. 1st Semester

1. To introduce the students with Physical Education and its importance. To clarify the misconceptions about physical education.
2. To introduce the students with the meaning of Health and its importance .
3. To introduce the students with Yoga, its types and importance in human life. To enhance the knowledge about Pranayam, their types and benefits of Pranayam.
4. To educate the students about the Human Anatomy and Physiology and introduction about the basic units of human body i.e. Cell, Tissue, organ and Systems.
5. To give basic knowledge about the Badminton game, its rules and marking of its ground.

B.A. 2nd Semester

1. To give knowledge about Health Education and its importance in modern age. To give knowledge about first aid and general principles and importance of first aid.
2. To give knowledge about the history of physical education in pre and post independence period. And to tell about the role of Indian Olympic Association, Sports authority of India and National Institute of Sports in the promotion of physical education and sports in India.
3. To educate the students with various components of Physical fitness and how to develop them.
4. To educate the students with Human Skeleton System, type of Bones, Joints.

5. To give knowledge about the rules regulation and marking of shot-put sector and starts in different kind of Races

B.A. 3rd Semester

1. To educate the students regarding sports injuries and their preventions.
2. To inform the students regarding common communicable and non-communicable diseases and their precautions and preventions.
3. To aware the students regarding balance diet and its ingredients and importance of balance diet in routine life.
4. To educate the students about the human circulatory system and various effects of exercise on this system
5. To educate the students about the calculation of Body Mass Index through practice.

B.A. 4th Semester

1. To aware the students about the role of Warming up and cooling down in the field of sports.
2. To introduce the students with Psychology and its role in the field of sports.
3. To introduce the students with the history and organisation of Olympic Games, Commonwealth Games , Asian Games etc.
4. To educate the students about human respiratory system, Respiratory organs and effect of exercise on this system.
5. To give the knowledge about Track and field events through Practical method.

B.A. 5th Semester:

1. To give knowledge about the growth & development, it's stages and the influencing factors on the growth & development in human body.
2. To give knowledge about the organisation and administration in the field of physical education and sports. To give knowledge about the types of tournaments and how to organise them.
3. To aware the students about the good and bad postures and to aware about the causes and symptoms of common bad postures and also about their precautions and remedies.
4. To give knowledge about the anatomy and physiology of human muscular system and effect of exercise on this system, composition and function of blood in human body.
5. To give knowledge about the practice and advantages of Bhramri, Anulom-Vilom and Kapal Bhati pranayam through practice.

B.A. 6th Semester:

1. To give knowledge about the Motivation and Socialisation and their importance in the field of sports.
2. To aware about the training methods i n the field of sports: Doping in sports and its harmful effects.
3. Introduce the students with biomechanics and its importance in the field of sports. Application of newton's law of motions and use of lever in the sports.
4. To give knowledge about the anatomy and physiology of human digestive system and effect of exercise on this system.
5. To give knowledge through practice about the marking, rules and skills of volleyball; how to tie different types of bandage and arm slings in different type of injuries; Making of First-Aid box and how to use it.

DEPARTMENT OF MUSIC (I)

CO1	Students will be able to demonstrate the concept and basic knowledge of Classical Music.
CO2	Able to perform simple phrases on Sitar by ear and form Notation.
CO3	Understand the importance of hard work and rehearsal and can contribute to the rehearsal process.
CO4	Able to analyse the sound effect and how the Time Theory works.
CO5	Ability to classify Instruments according to their sound and timbre and group them in the families to which they belong.
CO6	Students know from the study of Music about those Musicians who have made their valuable contribution in the field of Music.
CO7	There are so many activities in Youth Festival, Talent Shows and Subject Societies which increase Self-confidence, enhance talent and overall development.
CO8	Learn to bound by our Culture and our Classical Music which is the basis of our Moral values.

ECONOMICS PROGRAMME OBJECTIVE & COURSE OUTCOME

Programme Objectives of UG course of Economics

- To cultivate skills and ability of critical thinking and practical knowledge among students about economics, economic behaviour, economic institutions, economic policies and economic problems
- To create awareness about professional career potentials, entrepreneurship, ethical business practices, sustainability of natural resources among others
- To enhance basic understanding of economics, its benefits, economic rationality and effective communication skills in youth

Programme Outcome of UG course of Economics

- Demonstrate the knowledge and understanding of the static and dynamic principles of economic science
- Critically think and correlate the economics knowledge with decision-making with regard to economic planning and economic policies, understanding of conflicts and tradeoffs and welfare implications of economic measures to improve the quality of life in person as well as of community

S.no.	Course Name	Programme Objective	Course outcome
1	Microeconomics	1. to explain nature, scope, importance, economic	Students will attain knowledge and understanding about market

		concepts. 2. to make students familiar with consumer's behaviour, law of demand, consumer surplus etc. 3. to explain students about the producer's economic analysis, market structure in short and long period	interactions, producer's and consumer's behaviour, economic problems, inter-relationships about costs, revenue and break-even analysis
2	Macroeconomics	1. to explain about the scope, nature and importance of macro-economic concepts and its co-relation with other disciplines. 2. to make students critically and practically learn about the Income, consumption, investment, saving, employment relationships in short and long period among others.	Develop insights about the macroeconomics, equilibrium levels, capital formation, capital-stock adjustment. Students will be able to make profit-making decisions, understand the practical effects of inflation and working of multiplier and accelerator in an economy.
3	Indian Economy	1. To render knowledge about the basic aspects, evolution and basic issues of Indian Economy like poverty, unemployment, overpopulation, regional imbalances, sectoral differences, industrialization, agricultural revolution, among others. 2. To provide information and understand importance of institutional relations, policies, economic structure, global economies and trade relations with them. 3. To introduce the economic reforms, strategies, trends, measures to increase competitiveness, productivity and overall economic development	Students will have insights to deal with the economic issues like overpopulation, migration, rural-urban imbalances, regional backwardness etc. Having understanding of adopted economic reforms and strategies will develop critical thinkers which can make them active participators in framing policies, enhancing skill development simultaneously focusing on economic development
4	Managerial Economics	To give overview about managerial activities, its objectives, dimensions, dynamics of a business firm	Students will attain knowledge and understanding about market interactions, producer's and consumer's behaviour, economic problems, inter-relationships about

		1. to explain nature, scope, importance, micro economics concepts. 2. to make students familiar with consumer's behaviour, law of demand, consumer surplus etc. 3. to explain students about the producer's economic analysis, market structure in short and long period 4. to explain about the scope, nature and importance of macro-economic concepts and its co-relation with other disciplines. 5. to make students critically and practically learn about the Income, consumption, investment, saving, employment relationships in short and long period among others.	costs, revenue and break-even analysis Develop insights about the macroeconomics, equilibrium levels, capital formation, capital-stock adjustment. Students will be able to make profit-making decisions, understand the practical effects of inflation and working of multiplier and accelerator in an economy.

PROGRAMME SPECFIC OUTCOMES (PSOS)

&

COURSE OUTCOMES (COs)

DEPARTMENT OF MATHEMATICS

PROGRAMME SPECFIC OUTCOMES (PSO)
DEPARTMENT OF MATHEMATICS

PSO 1: To enhance the reasoning, thinking and understanding of mathematical problems.

PSO 2: To apply and solve mathematical problems by choosing appropriate analysis and modelling methods, inculcates in students.

PSO 3: To formulate a process, phenomenon and the relationships between various mathematical objects increases in learners.

PSO 4: To recognize all aspects of a concept or relation.

PSO 5: To conduct interdisciplinary work effectively as an individual and as a team member.

PSO 6: To understand various numerical methods and will be able to apply these methods for future use in scientific problems.

PSO 7: To understand the basic concepts of number system and number theory and their applications in practical life

COURSE OUTCOMES (COS)
DEPARTMENT OF MATHEMATICS

B.A. Semester-I							
Paper	**Lecture**	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
Algebra	**6**	**-**	**-**	**27**	**6**	**33**	**3 Hrs.**
Calculus	**6**	**-**	**-**	**26**	**7**	**33**	**3 Hrs.**
Solid Geometry	**6**	**-**	**-**	**27**	**7**	**34**	**3 Hrs.**
B.Sc. Semester-I							
Paper	**Lecture**	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
Algebra	**6**	**-**	**-**	**40**	**10**	**50**	**3 Hrs.**
Calculus	**6**	**-**	**-**	**40**	**10**	**50**	**3 Hrs.**
Solid Geometry	**6**	**-**	**-**	**40**	**10**	**50**	**3 Hrs.**

B.A./B.Sc. Semester-I

Paper-I, Name of the Paper: Algebra

This course will enable the students to:

CO 1: To determine rank of a matrix, Eigen values, Eigen vectors, characteristic equation and characteristic polynomial of square matrices. To understand unitary and orthogonal matrices and to solve related problems.

CO 2: To find solution of homogeneous and non-homogeneous system of linear equations using matrices.

CO 3: To determine relation between roots and coefficients of a general polynomial equation.

CO 4: To identify multiple roots. Application of Descarte's rule of sign. Solve cubic and biquadratic equations.

B.A./B.Sc. Semester-I

Paper-II, Name of the Paper: Calculus

This course will enable the students to:

CO 1: To learn how to calculate the limit of functions, examine the continuity of functions, and to understand differentiability of different type of functions, successive differentiation of functions and series expansions.

CO 2: To understand concepts of tangents, normals, asymptotes, curvature, evolutes and involutes of a curve; the geometrical meanings of these terms and to solve related problems

CO 3: To determine singular points of a curve and their types. To understand rectification of curves and to apply the reduction formulae.

CO 4: To determine area bounded by curves and volumes and surface area of solids.

B.A./B.Sc. Semester-I

Paper-III, Name of the Paper: Solid Geometry

This course will enable the students to:

CO 1: To understand the concept of a second degree equation representing different conic sections and its classification and properties.

CO 2: To know representation of system of conics and confocal conics and related results. To learn general form of equation of a sphere and to solve problems related to intersection of spheres.

CO 3: To learn equations of cones and cylinders and then to solve related problems. Apply To knowledge for problem solving and life-long to learning.

CO 4: To familiarize with concepts of conicoids and related tangent plane.

B.A. Semester-II							
Paper	**Lecture**	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
Number Theory and Trigonometry	**6**	**-**	**-**	**27**	**6**	**33**	**3 Hrs.**
Vector Calculus	**6**	**-**	**-**	**26**	**7**	**33**	**3 Hrs.**
Ordinary Differential Equations	**6**	**-**	**-**	**27**	**7**	**34**	**3 Hrs.**
B.Sc. Semester-II							
Paper	**Lecture**	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
Number Theory and Trigonometry	**6**	**-**	**-**	**40**	**10**	**50**	**3 Hrs.**
Vector Calculus	**6**	**-**	**-**	**40**	**10**	**50**	**3 Hrs.**
Ordinary Differential Equations	**6**	**-**	**-**	**40**	**10**	**50**	**3 Hrs.**

B.A./B.Sc. Semester-II

Paper-I, Name of the Paper: Number Theory and Trigonometry

This course will enable the students to:

CO 1: To know De Moirvre's Theorem and its Applications.

CO 2: To understand the basic concepts of number theory and their applications in problem solving

CO 3: To understand the concepts of Number Theory.

CO 4: To understand the application and use of Number Theory.

B.A./B.Sc. Semester-II

Paper-II, Name of the Paper: Vector Calculus

This course will enable the students to:

CO 1: To understand and solve problems related to scalar and vector product of vectors.

CO 2: To learn gradient, divergence and curl operators.

CO 3: To understand vector identities, Laplacian operator. To learn vector integration and line integral.

CO 4: To learn surface and volume integral formulations and their evaluation. Prove Gauss Divergence, Green's and Stoke's theorems. Realize importance of Green, Gauss and Stokes' theorems.

B.A./B.Sc. Semester-II

Paper-III, Name of the Paper: Ordinary Differential Equations

The course will enable the students to:

CO 1: To understand the basic concepts of ordinary differential equations and to learn various techniques of finding exact solutions of certain solvable first order differential equations.

CO 2: To develop the skills of solving homogeneous and non-homogeneous second order linear ordinary differential equations with constant coefficients and with variable coefficients.

CO 3: To understand orthogonal trajectories.

CO 4: To understand total differential equations and basic concepts of Ordinary simultaneous differential equations.

B.A. Semester-III							
Paper	**Lecture**	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
Advanced Calculus	**6**	**-**	**-**	**27**	**6**	**33**	**3 Hrs.**
Partial Differential Equations	**6**	**-**	**-**	**26**	**7**	**33**	**3 Hrs.**
Statics	**6**	**-**	**-**	**27**	**7**	**34**	**3 Hrs.**
B.Sc. Semester-III							
Paper	**Lecture**	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
Advanced Calculus	**6**	**-**	**-**	**40**	**10**	**50**	**3 Hrs.**
Partial Differential Equations	**6**	**-**	**-**	**40**	**10**	**50**	**3 Hrs.**
Statics	**6**	**-**	**-**	**40**	**10**	**50**	**3 Hrs.**

B.A./B.Sc. Semester-III

Paper-I, Name of the Paper: Advanced Calculus

This course will enable the students to:

CO 1: To understand and to prove Rolle's Theorem, mean value theorems and their geometrical interpretations.

CO 2: To learn conceptual variations while advancing from one variable to several variables in calculus, limit and continuity, partial differentiation of such functions.

CO 3: To understand differentiability of real valued functions of two variables and to prove associated results. To determine maximum and minimum of functions of two variables.

CO 4: To evaluate double and triple integrals. To learn about Dirichlet integrals, Beta and Gamma functions and to solve related problems.

B.A./B.Sc. Semester-III

Paper-II, Name of the Paper: Partial Differential Equations

This course will enable the students to:

CO 1: To learn classification of second order partial differential equations, their canonical forms.

CO 2: To learn Model physical phenomena using partial differential equations such as the Laplace, heat and wave equations and to solve these equations.

CO 3: To learn solving non-linear equations by Monge's method.

CO 4: To understand the use of PDE.

B.A./B.Sc. Semester-III

Paper-III, Name of the Paper: Statics

This course will enable the students to:

CO 1: To understand basic concepts of forces, their resultant and moment; couples and their moments.

CO 2: To learn the concepts of friction and laws of friction, centre of mass and centre of gravity and to solve problems related to these concepts.

CO 3: To learn fundamentals of Virtual work. Forces in three dimensions. Poinsots central axis.

CO 4: To understand concepts of Wrenches, Null lines and planes

B.A. Semester-IV							
Paper	**Lecture**	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
Sequence Series	**6**	**-**	**-**	**27**	**6**	**33**	**3 Hrs.**
Special Functions and Integral Trans	**6**	**-**	**-**	**26**	**7**	**33**	**3 Hrs.**
Prog. in-C and Num. Methods	**6**	**-**	**3**	**20**	**Practical 14**	**34**	**3 Hrs.**
B.Sc. Semester-IV							
Paper	**Lecture**	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
Sequence Series	**6**	**-**	**-**	**40**	**10**	**50**	**3 Hrs.**
Special Functions and Integral Trans	**6**	**-**	**-**	**40**	**10**	**50**	**3 Hrs.**
Prog. in-C and Num. Methods	**6**	**-**	**3**	**30**	**Practical 20**	**50**	**3 Hrs.**

B.A./B.Sc. Semester-IV

Paper-I, Name of the Paper: Sequence and Series

This course will enable the students to:

CO 1: To understand sequence, infinite series and its basic properties.

CO 2: To Attain skills to determine convergence of a series of real numbers by applying various tests.

CO 3: To understand absolute and conditional convergence of alternating series and related tests. To learn the basic concepts of pointwise convergence.

CO 4: To understand and use of uniform convergence of sequence and series of functions.

B.A./B.Sc. Semester-IV

Paper-II, Name of the Paper: Special Functions and Integral Transforms

This course will enable the students to:

CO 1: To understand solve differential equation by power series method.

CO 2: To attain skills to make use of Bessel functions in scientific problem solving.

CO 3: To familiarize with Legendre's and Hermite differential equation.

CO 5: To know about Laplace transforms and its properties in detail and to apply those in solving differential equations.

CO 6: To Develop skill of applying Fourier transforms to solve differential equations.

B.A./B.Sc. Semester-IV

Paper-III, Name of the Paper: Programming in-C and Numerical Methods

This course will enable the students to:

CO 1: To familiarize with C programming language. To learn elements of C, data types, constants and variables, operations and operators, statements and expressions. Use these tools for writing C programs.

CO 2: To learn Input/ Output functions in C, to write reading and writing statements in C.

CO 3: To attain the skill to write C programs which involve arrays and multiple iterations.

CO 4: To learn strings of characters, their declaration, input/ output, operations on strings and functions which handle strings. To learn declaration, types and calling of user defined functions in C.

B.A. Semester-V							
Paper	**Lecture**	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
Real Analysis	**6**	**-**	**-**	**27**	**6**	**33**	**3 Hrs.**
Groups, Rings	**6**	**-**	**-**	**26**	**7**	**33**	**3 Hrs.**
Numerical Analysis	**6**	**-**	**3**	**20**	**Practical 14**	**34**	**3 Hrs.**
B.Sc. Semester-V							
Paper	**Lecture**	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
Real Analysis	**6**	**-**	**-**	**40**	**10**	**50**	**3 Hrs.**
Groups, Rings	**6**	**-**	**-**	**40**	**10**	**50**	**3 Hrs.**
Numerical Analysis	**6**	**-**	**3**	**30**	**Practical 20**	**50**	**3 Hrs.**

B.A./B.Sc. Semester-V

Paper-I, Name of the Paper: Real Analysis

This course will enable the students to:

CO 1: To understand basic concepts of real number system and set theory. Preliminary results on neighborhood of a point, interior and limit points, open sets, closed sets etc.

CO 2: To learn real sequences, their limit, boundedness and convergence.

CO 3: To find convergence and divergence of a sequence.

CO 4: To understand Cauchy sequence, subsequence and to prove related theorems.

CO 5: To understand infinite series and its basic properties. Attain skills to determine convergence of a series of real numbers by applying various tests.

CO 6: To understand absolute and conditional convergence of alternating series and related tests. To learn the basic concepts of pointwise convergence and uniform convergence of sequence and series of functions.

B.A./B.Sc. Semester-V

Paper-II, Name of the Paper: Groups and Rings

The course will enable the students to:

CO 1: To recognize the mathematical objects called groups, their elementary properties, order of a group, subgroup, cyclic groups and their properties.

CO 2: To understand the notions of costs, normal subgroups, and quotient groups. To know homomorphisms, isomorphisms and their properties and to prove three isomorphism theorems.

CO 3: To learn about ring, subring, integral domain, field and ideal and related results.

CO 4: To understand quotient rings, Euclidean ring, ring homomorphisms, ring isomorphisms.

B.A./B.Sc. Semester-V

Paper-III, Name of the Paper: Numerical Analysis

This course will enable the students to:

CO 1: To learn techniques to obtain numerical solutions of algebraic and transcendental equations.

CO 2: To attain numerical skills to find solutions of system of linear equations by different methods.

CO 3: To learn different interpolation and extrapolation methods and their applications.

CO 4: To learn numerical methods for evaluating integrals and solving differential equations and to develop skill of applying these methods for future use in scientific problems.

B.A. Semester-VI							
Paper	**Lecture**	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
Real and Complex Analysis	**6**	**-**	**-**	**27**	**6**	**33**	**3 Hrs.**
Linear Algebra	**6**	**-**	**-**	**26**	**7**	**33**	**3 Hrs.**
Dynamics	**6**	**-**	**3**	**27**	**7**	**34**	**3 Hrs.**
B.Sc. Semester-VI							
Paper	**Lecture**	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
Real and Complex Analysis	**6**	**-**	**-**	**40**	**10**	**50**	**3 Hrs.**
Linear Algebra	**6**	**-**	**-**	**40**	**10**	**50**	**3 Hrs.**

Dynamics	**6**	**-**	**3**	**40**	**10**	**50**	**3 Hrs.**

B.A./B.Sc. Semester-VI

Paper-I, Name of the Paper: Real and Complex Analysis

This course will enable the students to:

CO 1: To visualize complex numbers as points of $R^2$and stereographic projection of complex plane on the Riemann sphere.

CO 2: To understand the significance of differentiability and analyticity of complex functions leading to the Cauchy-Riemann equations. Apply To knowledge to solve related problems.

CO 3: To understand the concept of Beta function, Gamma function and relation between them.

CO 4: To understand the concept of Fourier series.

B.A./B.Sc. Semester-VI

Paper-II, Name of the Paper: Linear Algebra

This course will enable the students to:

CO 1: To understand the concepts of vector spaces.

CO 2: To understand the concepts of subspaces, bases and their properties; linear transformations and their rank and nullity and to use those concepts for problem solving.

CO 3: To learn to determine Eigen values, Eigen vectors and characteristic polynomial of linear transformations and their further use in investigation and solution of problems.

CO 4: To have to knowledge of inner product spaces, orthogonalization and diagonalization of matrices/ linear transformations and to apply that in further To learning and for scientific applications.

B.A./B.Sc. Semester-VI

Paper-III, Name of the Paper: Dynamics

This course will enable the students to:

CO 1: To understand basic concepts of forces, their resultant and moment; couples and their moments.

CO 2: To learn the concepts of friction and laws of friction, centre of mass and centre of gravity.

CO 3: To learn fundamentals of dynamics like velocity, acceleration, angular velocity and acceleration, and to develop the skill of solving simple dynamical problems.

CO 4: To learn about central orbit and Kepler's laws of the planetary motions.

B.Com. Semester-I							
Paper	**Lecture**	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
Business Mathematics-1	**6**	**-**	**-**	**80**	**20**	**100**	**3 Hrs.**

B. Com. Semester-I

Paper: Business Mathematics-1

This course will enable the students:

CO 1: To understand the concept of Logrithms, antilogarithm and Airhtmetic and Geometric Progressions.

CO 2: To understand the concept of matrices and determinants. Find solution of homogeneous and non-homogeneous system of linear equations using matrices.

CO 3: To understand differentiability of different type of functions, Maxima and minima of function of one variable.

CO 4: To understand concept of annuity, compound interest, permutation combination and binomial theorem.

B.Com. Semester-II							
Paper	**Lecture**	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
Business Mathematics-II	**6**	**-**	**-**	**80**	**20**	**100**	**3 Hrs.**

B. Com. Semester-II

Paper: Business Mathematics-II

This course will enable the students:

CO 1: To understand the concept of Linear inequalities in two variables and their graphical solutions.

CO 2: To understand the concept of Linear Programming and data representation and interpretation.

CO 3: To understand the concept of data representation and interpretation.

CO 4: To learn diagrammatical and graphical representation of data with the help of bar and pie chart.

BCA Semester-I							
Paper	**Lecture**	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
Mathematic Foundations –I	**6**	**-**	**-**	**80**	**20**	**100**	**3 Hrs.**

Paper- BCA-113 Mathematic Foundations –I
Upon completion of this course, to be able to:

CO 1: To understand the concept of set theory, union of sets, intersection of sets and vein diagram and familiar with propositional calculus.

CO 2: To understand differentiability of different type of functions and to know about Graphs and algorithms Formation and solution of differential equations.

CO 3: To understand basic discrete structures such as numbers, sets, used in computer science.

CO 4: To familiarize with Determinant, Matrices and Formulate Limit, Continuity and Differentiability.

CO 5: To demonstrate a working to knowledge Definite and Indefinite Integrals and apply to knowledge of discrete mathematics appropriate to the discipline.

CO 6: To analyze and solve problems based on Matrix & determinants and to understand Statistics and its applications and also will be able to calculate Mean, median and mode.

BCA Semester-II							
Paper	**Lecture**	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
Mathematic Foundations –II	**6**	**-**	**-**	**80**	**20**	**100**	**3 Hrs.**

B.C.A. Semester-II

Paper- BCA-123 Mathematical Foundations-II
Upon completion of this course, to be able to:

CO 1: To understand the concept of relations and functions and measure of Dispersion.

CO 2: To understand the concept of partial derivatives and three dimensional geometry and know about different types of distributions.

CO 3: To estimate different distributions and to understand and evaluate double and triple integrals

CO 4: To learn about how to conduct hypothesis Testing, methods of studying Correlation and tests of significance.

BCA Semester-III							
Paper	**Lecture**	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
Computer Oriented Numerical Methods	**6**	**-**	**-**	**80**	**20**	**100**	**3 Hrs.**

B.C.A. Semester-III

Paper- BCA-236 Computer Oriented Numerical Methods

Upon completion of this course, to be able to:

CO 1: To understand the concept of computer Arithmetic, Newton Raphson method Iteration method

CO 2: To find solution of differential equations with the help of Gauss method, Runga–Kutta methods and Euler method.

CO 3: To understand the concept of Interpolation and approximation

CO 4: To understand the concept of numerical differentiation and integration and floating-point representation.

CO 5: To find solution of simultaneous linear equations and ordinary differential equations and Interpolation and Approximation.

BCA Semester-IV							
Paper	**Lecture**	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
Computer Oriented Statistical Methods	**6**	**-**	**-**	**80**	**20**	**100**	**3 Hrs.**

B.C.A. Semester-IV

Paper- BCA-236 Computer Oriented Statistical Methods

Upon completion of this course, to be able to:

CO 1: To understand the concept of computer Arithmetic mean, Geometric mean.

CO 2: To be familiar with Measure of Dispersion.

CO 3: To understand the concept of distributions like Binomial, Poisson, and normal distribution.

CO 4: To understand the concept of significance of test like Z-Test, T-Test, Chi-Square Test.

CO 5: To find the meaning of Anova and its importance.

BBA Semester-I							
Paper	**Lecture**	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
Business Mathematics-I	**6**	**-**	**-**	**80**	**20**	**100**	**3 Hrs.**

B.B.A. Semester-I

Paper-Business Mathematics-I

This course will enable the students to

CO 1: To understand the concept of set theory, union of sets, intersection of sets and vein diagram.

CO 2: To learn quadratic equations and their solutions

CO 3: To study permutation combination and binomial theorem, Limits and continuity.

CO 4: To understand the concept of matrices and determinant

BBA Semester-II							
Paper	**Lecture**	**Tutorial**	**Practical**	**Major Test**	**Minor Test**	**Total**	**Time**
Business Mathematics-II	**6**	**-**	**-**	**80**	**20**	**100**	**3 Hrs.**

B.B.A. Semester-II

Paper- Business Mathematics-II

This course will enable the students to

CO 1: To understand the concept of Logarithms, antilogarithm.

CO 2: To understand the concept of Arithmetic and Geometric Progressions.

CO 3: To understand the concept Co- ordinate Geometry, straight Line

CO 4: To understand the basic concept Integral Calculus.

PROGRAMME OUTCOME OF BACHELOR OF ARTS

Pos, PSOs and COs submitted by the HoD, Department of English, Govt. College for Women, Karnal (Haryana)

POs of B.A. English:General:

PO 1. Reflective Thinking: Analyzing a situation of life from multiple viewpoints through a piece of literature and thereby, enhancing and transforming one's individual perspective to a reflective generalized notion

PO 2. Communicative Skills: Enhancing the ability of learners to speak, write and read in an intelligible and legible fashion by acquainting them with the bottom-line concepts of language and its linguistic components

PO 3. Responsible Citizenship: Acknowledging and recognizing the cultural traits and ethical values of different social groups by reading their varied literature and attaining a sense of a unified Identity and a collective consciousness of being a responsible citizen

PO 4. Attain the ability to sustain one's individual viewpoint in spite of the diversity of opinions in a constructive group discourse and present it emphatically and legibly

PO 5. Attain the ability to control one's emotions, direct one's reason and to exercise a habit of reflection, thereby achieving the target of real education by becoming an embodiment of physical, mental and spiritual growth

PSOs of B.A. English:

Programme Specific Outcome of English :

PSO 1. To understand the basic concept of Literature and its relevance in providing an individual the opportunity to perceive life from multiple perspectives

PSO 2. To comprehend the meaning of a literary work with reference to its relation to the writer; to the reader; or to the external world or universe

PSO 3. To understand different genres of literature and their relative significance in catering for the intellectual appetite of the readers

PSO 4. To acquaint the learners with the difference between literary language and language of real life

PSO 5. To acquaint the learners with various figures of speech, thereby making them familiar with the suggestive use of language

PSO 6. To understand the concept of language and its constituent elements like Phoneme, Morpheme and Syntax

PSO 7. To understand the use of language at phonemic, morphemic and syntactic level

PSO 8. To analyze language as a combined product of prescriptive rules of grammar and some implicit linguistic conventions which function in the background and cannot be confinedany fix rules, but are still capable of governing and moulding the meaning of language from outside

PSO 9. To acquaint the learners with the phonemic system of English language and train them how to articulate different Consonant and Vowel sounds through our vocal apparatus

PSO 10. To understand the supra-segmental features of language like stress, intonation and juncture

PSO 11. To understand the syntagmatic (horizontal relationship of words in a sentence) and Paradigmatic (vertical relationship of words i.e. vocabulary) relationship of words in a sentence

COs of B.A. English:

CO 1. Described the concept of essay as a genre of prose fiction and analyzed its specific features and objectives

CO 2. Discussed the concept of Parts of Speech and analyzed their relative importance in investing the sentence with a legible meaning as a syntactic unit

CO 3. Described the concept of Tenses and discussed their uses in the formation of different types of sentences

CO 4. Described the concept of Story as a genre of Prose Fiction and discussed its major components, their relevance and objectives

CO 5. Described the concept of Sentence and its kinds

CO 6. Described Modal Auxiliaries and their uses

CO 7. Described the concept of Subject-Verb (Concord) and discussed their grammatical rules and linguistic conventions

CO 8. Described the concept of voice and discussed its uses, relevance and objectives in different contexts

CO 9. Described the concept of Phrasal Verbs and discussed their relevance in effective written and verbal (oral) communication

CO 10. Described the concept of Direct and Indirect Speech and discussed its relevance, function and objectives

CO 11. Described the concept of Punctuation and discussed its essential role in providing language with the trait of accuracy and precision

CO 12. Described the Concept of Poetry as a genre of literature, its kinds, salient features and relevance

CO 13. Described the concept of Non- Finite Verbs, their kinds, uses, relevance and objectives

CO 14. Described the concept of Clauses, their kinds, relevance and objectives

CO 15. Described the concept of One Act Play and discussed its salient features and their relevance and objectives

CO 16. Described the concept of translation, its prominent role in a world of diversity of languages; learned the importance of prevalent linguistic norms and conventions of various languages and their role in the act of good translation

CO 17. Described the concept of Dialogue Writing, Resume Writing, and Writing E-mails; their relevance and objectives

CO 18. Described concept of Novel, its components, salient features and tools of analysis

CO 19. Described the concept of full length play, its components, salient features and tools of analysis

CO 20. Described the concept of Precis Writing and Letter Writing; their relevance and objectives

Programme Specific Outcome BA Honors (English):

Specific Programme Outcomes of B.A English Honours There are several career paths in the field of English language and literature. Interested candidates can make a full time career in the English language. A graduate in English Honours has many attractive career options including Journalism, Civil Services, administrative Services, translations and communication skills and teaching. English Honours graduates can get employment in law firms, local and national government, charities, councils, retail and media companies. Such students can also start their career in the field of electronic and print media by having Bachelor Degree in English Honours. It can be used as a good platform for gaining knowledge of Indian and foreign writings and social awareness, teaching abilities through good communication skills etc. This knowledge can be helpful to analyze the overall literary scenarios of the various countries. By having a degree of Honours in English, students can

get maximum knowledge of syllabus for pursuing M.A. The current syllabus in the UG level will provide students an opportunity to know India's age old literary and cultural traditions through their exposure to English texts and modern Indian vernacular literature in translation. How reading literature in English can be an effective means to address the complex issues of identity, nationalism , historical tradition in Indian context, is a new focus area of the present course. After graduation, students get weightage for admission in MA English as well as in appointments as Assistant Professor. Examine the relationship of literature with history, society, culture and human behavior and the evolving cross-cultural concerns. Inculcate skills of contextualizing and interpreting literary works and effectively communicating the same. Research theoretical concepts and literary theories/approaches with specification. Different schools of literary approaches are taught so that our students can learn about learn about international phenomenon of criticism.

Course Outcomes:

1. The students acquire in depth knowledge of English language and literature.
2. The postgraduates will be acquainted with the philosophical, historical, folk and ideological tradition and thinking of their respective subjects.
3. The program also empowers the post-graduates to appear for various competitive examinations or choose the any post graduate or research programme of their choice.
4. The Honors program enables the students to acquire the knowledge with human values framing the base to deal with various problems in life with courage and humanity.
5. The minds of the students will be ignited enough through the knowledge of literature to think and act for solution of various issues prevailed in the human life to make

Course Outcomes (CO) (Functional English):

At the end of this course students will have:

1. Ability to analyze the usage of English words in different contexts and acquire considerable flair in using broad range of vocabulary.
2. Ability to upgrade comprehension of technical and academic articles and recognize writings as a process rather than a product.

3. Ability to identify common errors in various parts of English and give effective expression in oral and written communication.
4. Ability to analyze various grammatical units of English and design a language component critically and coherently to meet desired needs within the realistic constraints.

Course Outcomes (CO) (English) BSc Non Medical with computer:

At the end of this course students will have:

1. Ability to analyze the usage of English words in different contexts and acquire considerable flair in using broad range of vocabulary.
2. Ability to upgrade comprehension of technical and academic articles and recognize writings as a process rather than a product.
3. Ability to identify common errors in various parts of English and give effective expression in oral and written communication.
4. Ability to analyze various grammatical units of English and design a language component critically and coherently to meet desired needs within the realistic constraints.

Course Outcomes (CO) (English) BCA and BBA

At the end of this course students will have:

1. Ability to analyze the usage of English words in different contexts and acquire considerable flair in using broad range of vocabulary.
2. Ability to upgrade comprehension of technical and academic articles and recognize writings as a process rather than a product.
3. Ability to identify common errors in various parts of English and give effective expression in oral and written communication.
4. Ability to analyze various grammatical units of English and design a language component critically and coherently to meet desired needs within the realistic constraints.

DEPARTMENT OF POLITICAL SCIENCE

(Course Outcomes) BA

Paper	Indian Constitution (Option-I)
Course Outcomes (CO)	
CO1	To understand Indian Constitution-Sources and Features, Preamble, Fundamental Rights, Fundamental Duties and Directive Principles of State Policy.
CO2	Discussing the Union Legislature- Parliament-Composition and Functions; Speaker of Lok Sabha Amendment Process; State Legislature-Vidhan Sabha; Panchayati Raj Institutions-History, Basic Features and 73rd Amendment.
CO3	Definition and classification Judiciary-Supreme Court, High Courts, Judicial Review and Judicial Activism.

Paper	Indian Politics (Option-I)
Course Outcomes (CO)	
CO1	To understand Federalism and its Working with reference to Centre-State Relations, Demand For State Autonomy; Emerging Trends in Indian Federalism.
CO2	Discussing the Election Commission, Electoral Process and its Defects and Voting Behaviour, Electoral Reforms, Problem of Defection.
CO3	Role of Caste, Religion, Language, Regionalism in India, Politics of Reservation, Emerging Trends and Challenges Before Indian Political System..

Paper	**Indian Political Thinkers-I (Option- II)**
Course Outcomes (CO)	
CO1	Discussing the Raja Ram Mohan Ray & Swami Dayanand, Dada Bhai Narojee & Gopal Krishan Gokhle, Swami Vivekanand & Aurbind Ghosh, Lala Lajpat Rai & Bal Gangadhar Tilak
CO2	Student will be able to understand the analyze the Indian Thinkers with a better perspective.

Paper	**Indian Political Thinkers-II (Option- II)**

Course Outcomes (CO)	
CO1	Discussing the J.P. Narayan & Ram Manohar Lohia, Mahatma Gandhi & M.N, Roy, Jawaharlal Nehru & B,R,Ambedkar, Subhash Chander Bose & Bhagat Singh
CO2	Student will be able to understand the idea of nationalism socialist idea, key Idea of Indian political Thinkers with a better perspective.

Paper	**Comparative Politics (Theory) (Option-I)**
Course Outcomes (CO)	
CO1	Discussing the Comparative Politics-Definition, Scope; Traditional & Modern Concerns; Comparative Methods.
CO2	Student will be able to understand the Approaches to the Study of Comparative Politics: Input-Out (David Easton), Structural- Function (G. Almond), Political Development (Lucian W. Pye), Political Culture (G. Almond).
CO3	To Understand the Constitutional Structure: (a) Formal-Executive, Legislation and Judiciary, (b) Informal Structures– Political Parties and Pressure Groups.

Paper	**Comparative Constitutions of UK & USA (Option-I)**
Course Outcomes (CO)	
CO1	Discussing the Evolution, Conventions, Legacies and Basic features of Constitutions of UK & USA; Socio-Economic basis of Constitutions of UK & USA.
CO2	Student will be able to understand the Comparative studies of Structures, Functions and roles of political parties and pressure groups of UK & USA.
CO3	Discussing the Electoral Processes, Voting Behaviour, Bureaucracy and Recent Trends of the working of the systems of UK & USA.

PROGRAMME SPECIFIC OUTCOME HISTORY

- There are different scopes in different areas like sericulture department as demonstrator, care taker of the farm, trainer for others, etc.
- Archeologist: Archeological Survey of India with private Firms related to archeology.
- Historian: With so much debate over the authenticity of historical books, there is ever increasing demand for historians.

COURSE OUTCOMES

(Semester-I) Paper- From the Earliest Period to Gupta Period

This course will enable the students to

- List the sources and evidence for reconstructing the history of Ancient India.
- Discuss the main features of Harappan and Saraswati Civilization.
- Analysis the way of earlier historians interpreted the history of India and while doing so they can write the alternative ways of looking at the past.
- Analysis Vedic polity and state, rise of Magdha Empire.
- Examine the Mauryan polity under Chandra Gupta Maurya and Ashoka.
- Discuss the Achievements of Kushanas and Satvahanas.
- Examine the expansion of Gupta Empire under Samudragupta and Chandragupta- II.

(Semester-II) Paper- From Sixth Century to 1526 CE

This course will enable the students to

- Describe the achievements of Harshvardhana, Chalukaya and Kushana.
- Explain the rise of Rajputs
- Explain features of feudal society and economy
- Impacts of Invasions of Mahmood Ghaznavi and Muhammad Ghori on society and economy.
- Discuss the expansion of Delhi Sultanate under QutubuddinAibek, Iltutmish, Balban, Alauddin Khilji and Muhammad Tughlaq.
- Analysis the main features of Administration and Iqta System under Delhi Sultanate.
- Throw light on the administration of Bahmani and Vijaynagar.

(Semester-III) Paper- Political History of India (1526-1857)

This course will enable the students to

- Describes the establishment of Mughal Empire under Babur and Humayun.
- Describe the administrative reforms of Shershah Suri.
- Describe the relation of Mughals with Rajputs.
- Throw light on the Deccan Policy of Aurangzeb, Administration of Mughals with special reference to Land Revenue System.

- Write an essay on the Mansabdari and Jagirdari systems.
- Describe the emergence of regional powers in Maharashtra, Bengal and Punjab.
- Discuss the circumstances of the battles of Carnatika and establishment of British Rule in Bengal.

(Semester-IV) Paper- Indian National Movement 1858-1947

This course will enable the students to

- Discuss the emergence and growth of national consciousness among the Indians.
- Analysis the circumstances of the formation of Indian National Congress.
- Throw light on the Ideology, Programmes of Moderates and Extremists.
- Describes the circumstances of the partition of Bengal and emergence of Swadeshi and Boycott Movement.
- Throw light on the Home Rule Movement.
- Describe growth of Revolutionary Movement during 1905 - 1919.
- Describe the circumstances of the formation of Muslim League and its role in communal politics during 1906 – 1919.
- Write an essay on Rowlett Satyagrah and Jallianwala massacre.
- Describe the main features of the Government of India Act of 1919
- Discuss the emergence of Mahatma Gandhi in Indian politics.
- Analysis the circumstances and expansion of Non-Cooperation Movement.
- Throw light on the ideology, programme of Moderates and Extremists.
- Describe the role of Bhagat Singh and HSRA in national movement.
- Throw light on Round Table Conferences and Poona Pact.
- Describe the causes and growth of Civil Disobedience Movement.
- Describe the circumstances and expansion of Government of India Act of 1935
- Write an essay on Subhash Chandra Bose and INA in National Movement.
- Critically examine the growth of communal politics and role of Muslim League in the Partition of India

(Semester-V) Paper- Rise of Modern World

This course will enable the students to

- Throw light on Scientific Revolution.
- Describe the causes, development and impacts of Agrarian Revolution.

- Explain the main causes and development of American war of independence.
- Describe the main causes, development and impacts of Industrial Revolution.
- Throw light on causes and consequences of French Revolution.
- Write an essay on Parliamentary Reforms in England.
- Critically examine imperialism in Africa.
- Throw light on the formation of Triple Alliance and Triple Entente.
- Describe the main causes and consequences of World War-I.
- Describe the main causes and consequences of Bolshevik Revolution in Russia.
- Write an essay on Nazism and Fascism.
- Describe the main causes and consequences of World War-II.

(Semester-VI) Paper- History of Modern Europe (1789-1919)

This course will enable the students to

- Throw light on causes and consequences of French Revolution.
- Describe the emergence and decline of Napoleon Bonaparte.
- Explain the main conditions and significance of Congress of Vienna.
- Describe the nature and impacts of the concert of Europe.
- Discuss the nature and growth of Metternich system.
- Write an essay on unification of Italy and Germany.
- Critically examine foreign policy of Bismarck.
- Throw light on the formation of Triple Entente.
- Describe the circumstances of partition of Africa.
- Describe the main causes and consequences of World War-I.
- Describe the main causes and consequences of Bolshevik Revolution in Russia.
- Write an essay on the treaty of Versailles and its consequences.

Program Outcomes (MSc Geography 2 Years)

Programme Outcome:

PO1: Prepare objective scientific approach so that students can address research problems in Applied Geography and allied fields.

PO2: Develop a concern for environmental issues that focus on sustainability and research.

PO3: Inculcate amongst students strong moral and ethical values with focus on discipline and hard work.

PO4: Inculcate critical and analytical thinking amongst the students which will hold them in good stead in life.

PO5: Instil in students a strong sense of social concern so that the future pursuits will in some way address social questions/problems for benefit of the nation.

PO6: Instil in students a spirit of camaraderie and team work to make them understand the value of team work.

Program Specific Outcomes (MSc Geography 2 Years)

PSO-1: To make the students aware of latest developments in Geography, especially in GIS and Remote Sensing which offer the greatest employment opportunities.

PSO-2: In the course of field surveys, students acquire a greater understanding of the socio-economic and cultural dimensions of the populations and the intricacies of rural societies.

PSO-3: To assist students in the preparation of competitive tests viz. NET, SLET

PSO-4: Provide training to students in handling modern instruments and methods like Aerial Photographs, Satellite Imagery, Meteorological instruments etc.

PSO-5: The concepts, methods and theories of the field of Geography are covered comprehensively as the syllabus is exhaustive.

Course Outcomes

Paper **GEOG-101**	**Climatology**
Course Outcomes (CO)	
CO1	Greater clarity about the various controlling factors of climate, climate-ocean interaction, climate change etc.
CO2	Learn the theoretical data collection/basis of meteorological measurements
CO3	Learn about the latest climate issues (climate change, global warming, ENSO) and the adequate responses to them. Also learn about the latest measures being adopted at the global level

Paper **GEOG-201**	**Geomorphology**
Course Outcomes (CO)	

CO1	To gain theoretical knowledge about lithology, endogenetic and exogenetic forces to better understand the existing landforms (geomorphology).
CO2	Learn how landforms have evolved over time and various models of landform cycle.
CO3	Learn the applications of applied geomorphology in urban planning, dam construction and regional planning.

Paper **GEOG-301**	**Geography and Ecosystems**
Course Outcomes (CO)	
CO1	The purpose of the course is to explain the students various dimensions of the ecosystems, their spatial connotation, anthropogenic interventions and resultant impacts, international environmental summits and legal provisions for environment protection.
CO2	The students will get exposed to the concept of ecosystem, its various processes, biomes etc.
CO3	The students will also learn the anthropogenic interventions in ecosystems and their consequential impacts and the world community's efforts to address such problems

Paper **GEOG-305and 306**	**Introduction to Remote Sensing (Theory and Practical)**
Course Outcomes (CO)	
CO1	The objective is to provide exposure to students regarding use of new techniques in obtaining geographical data.
CO2	It shall introduce the students to the processes of satellite remote sensing data acquisition and the application of digital information in real time mapping
CO3	The course will equip the students with state of art concepts and methodologies of remote sensing technology.
CO4	The objective is to enable the students to understand and analyze aerial photographs and different satellite imageries.

CO5	It shall equip students with handing instruments, tools and techniques of aerial photo interpretation and satellite imageries.

Paper **GEOG-402**	**Hydrology and Oceanography**
Course Outcomes (CO)	
CO1	The objective is to introduce the students the basic concepts of hydrology and oceanography such as hydrologic cycle, water balance.
CO2	The students learn about the various aspects of watershed through hydrograph and complex rainfall measurement techniques which are used in watershed planning.
CO3	The student also learns about the various aspects of oceanic circulation, salinity, deposits, temperature and corals and their significance.

Paper **GEOG-405 and 406**	**Fundamentals of Geographical Information Systems (Theory & Practical)**
Course Outcomes (CO)	
CO1	The objective of the course is to provide exposure to students to the field of GIS and modern techniques of making maps, handing spatial and non spatial data electronically and the concepts of data acquisition.
CO2	The students shall acquire the skills in managing spatial and non spatial data electronically and get acquaintance to concepts related to GIS.
CO3	The objective of the course is to provide training to students in acquiring and managing digital geographical data obtained from maps, topographical sheets, and satellite imageries. It gives students experience of digital storage, manipulation and analysis of data and its presentation using GIS software

CO4	The course shall fully equip the students with the techniques and methodologies of Geographical Information System in preparing the maps and presentation of information in GIS environment.

Dr. Deepak Sharma **(Course Outcomes)**

Paper GEOG-102	**GEOGRAPHY OF INDIA**
Course Outcomes (CO)	
CO1	They can know about their own countries land formation, climate and natural vegetation.
CO2	They understand the population problems in India. Access the population policies and reaction the countries.
CO3	They understand globalization and Indian economy. And also understand the regional distribution of resource.

Paper GEOG-303(i)	**Urban Geography**
Course Outcomes (CO)	
CO1	Students can explain the town and cities in India and World perspective.
CO2	They can understand the functional differences between rural and urban settlements
CO3	To be able to identify the urban environmental problem and how to solve those problem.

Paper GEOG-203	**Regional Planning and Development (with special reference to India)**
Course Outcomes (CO)	
CO1	Understand and identify regions as an integral part of geographical study

CO2	Appreciate the varied aspects of development and regional disparity, in order to formulate measures of balanced development.
CO3	Studying typical physiographic, planning, arid and biotic regions of India. Understanding the detailed geography of India.

Paper GEOG-404(v)	**Urbanization in India**
Course Outcomes (CO)	
CO1	1. Enable students to critically engage with the concept of Urbanization through both texts and audio-visual media
CO2	Help students to develop their thinking, writing and articulation abilities, through the use of written assignments and oral presentations
CO3	Gain knowledge about the history of urbanization in the developed and developing countries.
CO4	2. Help students to understand the problems and solution regarding the excessive Urbanistion in India

Dr. Vinod Sharma **(Course Outcomes)**

Paper GEOG-104	**Statistical Method in Geography**
Course Outcomes (CO)	
CO1	e Learn the significance of statistics in geography. Understand the importance of use of data in geography
CO2	Recognize the importance and application of Statisticsin Geography
CO3	Interpret statistical data for a holistic understanding of geographical phenomena. Know about different types of sampling.

Paper GEOG-105	**Cartographic Methods in Geography (Practicals)**

Course Outcomes (CO)	
CO1	Understand and prepare different kinds of maps.
CO2	Recognize basic themes of map making
CO3	Development of observation skills.

Paper GEOG-205	**Interpretation of Topo-Sheets and Morphometric Analysis (Practicals)**
Course Outcomes (CO)	
CO1	Comprehend the concept of scales and representation of data through cartograms
CO2	Interpret geological and weather maps
CO3	Brings direct interaction of different types of surveying instruments like Dumpy level and Theodolite with environment.

Paper GEOG-401	**Geographical Thought**
Course Outcomes (CO)	
CO1	3. Perceive the evolution of the philosophy of Geography
CO2	Appreciate the contribution of the thinkers in Geography
CO3	Give power point presentations on different schools of geographical thought.
CO4	4. Analyzing modern and contemporary principles of Empiricism, Positivism, Structuralism, Human and Behavioral Approaches in Geography

Paper GEOG-202	**POPULATION GEOGRAPHY**
Course Outcomes (CO)	
CO1	Understand the nature of population. Know about composition of population, like- age, sex marital status, family, economic composition and language
CO2	Analyze the global trend and patterns of population growth in developing countries, and migration patterns.
CO3	Evaluate the population growth theory and migration theories.

Paper GEOG-304(i)	**Political Geography**
Course Outcomes (CO)	
CO1	5. To have a working understanding of the theoretical concepts and challenges underpinning the study of geography and politics
CO2	To have a working familiarity with the most current research topics in political geography.
CO3	To be familiar with and have a basic understanding of tools and resources used to research these concepts and to be able to apply geographic concepts to their own research

Suresh Jangra **(Course Outcomes)**

Paper GEOG-103	**ECONOMIC GEOGRAPHY**
Course Outcomes (CO)	
CO1	Focuses on the concept of agricultural geography; Cultivation and their association with different natural and human conditions of the following cereal crops: wheat, rice; plantation crops: rubber; agricultural systems of the world; commercial grazing –cattle and sheep rearing

CO2	Discussing the factors behind the localization of industries; with special reference to the study of iron, steel and aluminum industry
CO3	Definition and classification of resources and the infrastructural facilities required for resource development. Reference to resource conservation.

Paper GEOG-302(A)	**Field Mehods in Geography (Socio-Economic) Theory**
Course Outcomes (CO)	
CO1	Have expertise in identification of area of study, methodology, quantitative and quantitative analysis, and conclusions to be drawn about the area – fundamental to geographical research
CO2	Handle logistics and other emergencies on field
CO3	Develop skills in photography, mapping and video recording. Course Code Course Title Credits Course Outcomes

Paper GEOG-204	**Agriculture Geography**
Course Outcomes (CO)	
CO1	The course aims to shed light on the changing nature and scope of the agricultural geography, approaches
CO2	to the study of agricultural geography and the importance of agriculture in the Indian economy
CO3	The course goals to develop a scientific approach among the students

Paper GEOG-403(i)	**REGIONAL GEOGRAPHY OF INDIA (with special reference to Haryana)**
Course Outcomes (CO)	
CO1	In-depth knowledge of climate, natural vegetation, agriculture and energy resources and industries of India 6.
CO2	Conceptualize the regional approaches and to examine regional differentiation in the study of Haryana
CO3	Recognize regional identities and environmental dimension of regionalization to address the issues and

	concern needed for regional planning in Haryana

COURSE OUTCOMES B.A. Pass Course

Ms. Simrandeep Kaur (Course Outcomes)

Paper	GEOGRAPHY OF INDIA
Course Outcomes (CO)	
CO1	They can know about their own countries land formation, climate and natural vegetation.
CO2	They understand the population problems in India. Access the population policies and reaction the countries.
CO3	They understand globalization and Indian economy. And also understand the regional distribution of resource.

Paper	Physical Geography I and II
Course Outcomes (CO)	
CO1	Acquire knowledge about types of folds and faults and earthquakes, volcanoes and associated landforms
CO2	Understanding crustal mobility and tectonics; with special emphasis on their role in landform development
Co3	Ablity to record temperature, pressure, humidity and rainfall
Co4	Analyse the concepts of Hydrology and Oceanography
CO5	Identification of rocks and minerals

Paper	**Human Geography**
Course Outcomes (CO)	
CO1	Gain knowledge about major themes of human Geography
CO2	Acquire knowledge on the history and evolution of humans

CO3	Understand the approaches and processes of Human Geography as well as the diverse patterns of habitat and adaptations

Paper	**Cartographic Techniques**
Course Outcomes (CO)	
CO1	Understand and prepare different kinds of maps.
CO2	Recognize basic themes of map making
CO3	Development of observation skills

Ms. Ashu Singh (Course Outcomes)

Paper	**GEOGRAPHY OF INDIA**
Course Outcomes (CO)	
CO1	They can know about their own countries land formation, climate and natural vegetation.
CO2	They understand the population problems in India. Access the population policies and reaction the countries.
CO3	They understand globalization and Indian economy. And also understand the regional distribution of resource.

Paper	**Physical Geography I and II**
Course Outcomes (CO)	
CO1	Acquire knowledge about types of folds and faults and earthquakes, volcanoes and associated landforms
CO2	Understanding crustal mobility and tectonics; with special emphasis on their role in landform development
Co3	Ablity to record temperature, pressure, humidity and rainfall

Co4	Analyse the concepts of Hydrology and Oceanography
CO5	Identification of rocks and minerals

Paper	Human Geography
Course Outcomes (CO)	
CO1	Gain knowledge about major themes of human Geography
CO2	Acquire knowledge on the history and evolution of humans
CO3	Understand the approaches and processes of Human Geography as well as the diverse patterns of habitat and adaptations

Paper	**Cartographic Techniques**
Course Outcomes (CO)	
CO1	Understand and prepare different kinds of maps.
CO2	Recognize basic themes of map making
CO3	Development of observation skills

Nishan Singh **(Course Outcomes)**

Paper 301	**ECONOMIC GEOGRAPHY (Theory)**
Course Outcomes (CO)	
CO1	To understand the Economic Geography in a variety of ways but their opinions converge at a common point of accord, where it means the study of the spatial distribution of man's economic activities in relation to its environment, be it physical or non-physical
CO2	Discussing the factors behind the localization of industries; with special reference to the study of iron, steel and aluminum industry
CO3	Definition and classification of resources and the infrastructural facilities required for resource development. Reference to resource conservation.

CO4	The main objective of Economic Geography is, as expounded, to examine man's economic achievement in terms of production and consumption in the light of his environment.

Paper -202	**Representation of Climatic Data (Practical)**
Course Outcomes (CO)	
CO1	Measurement of Temperature, rainfall, Pressure, and Humidity data with help of Line and Bar Graph
CO2	Explain the Climograph (Wet& Dry)
CO3	Show the Distribution of Temperature, rainfall, Pressure with the help of Isolines

Paper -302	**Remote Sensing and GIS (Theory)**
Course Outcomes (CO)	
CO1	To understand Remote sensing is a surveying and data collection technique, used to survey and collect data regarding an object while GIS is a computer system that consists of software used to analyze the collected data and hardware that the software would operate in.
CO2	Fully equipped with concepts, methodologies and applications of Remote Sensing Technology.
CO3	Acquire skills in handling instruments, tools, techniques and modeling while using Remote Sensing Technology
CO4	To acquire skills in advance techniques such as hyper spectral, thermal and LiDAR scanning for mapping, modeling and monitoring.

Paper	**Map Projections and Survey (Practical)**
Course Outcomes (CO)	
CO1	The method involves identifying a group of starting students known as a cohort, consisting of all students

CO2	Map projections are the different techniques used by cartographers for presenting a round globe on a flat surface.
CO3	To know the projections account for area, shape, direction, bearing, distance, and scale
CO4	The plane table surveying is one of the fastest and easiest methods of surveying. Its use full for the Plotting of plans and field observations can be done at the same time in plane table surveying

Program Outcomes : M.A. Hindi

Department of Hindi	After successful completion of two year P.G. degree program in Hindi a student should be able to:
Program Outcomes	P.O.1 – छात्राओं को हिन्दी साहित्य के विभिन्न विधाओं, प्रवृत्तियों, रचनाओं एवं रचनाकारों का परिचय प्राप्त होगा।
	P.O.2 – छात्राओं को भारतीय एवं पाश्चात्य साहित्यशास्त्र का सैद्धांतिक एवं अनुप्रयोगात्मक ज्ञान प्राप्त होगा।
	P.O.3 – समीक्षात्मक दृष्टिकोण का विकसित होगा।
	P.O.4 – छात्राओं में हिन्दी साहित्य के अध्ययन से उनके नैतिक मूल्यों, राष्ट्रीय मूल्यों तथा सामाजिक मूल्यों में अभिवृद्धि होगी।
	P.O.5 – छात्राओं को शासकीय कार्यालयों में अनुप्रयुक्त कार्यालयीन हिन्दी भाषा का परिचय होगा।
	P.O.6 – हिन्दी भाषा और उसके विविध बोलियों के विकास के संबंध में ज्ञान प्राप्त होगा।
	P.O.7 – विभिन्न भारतीय साहित्य का परिचयात्मक ज्ञान प्राप्त होगा।
	P.O.8 –अनुसंधान करने की क्षमता का निर्माण होगा।

CourseOutcomes : M.A. Hindi Each Semester

M.A. Hindi	M.A. Hindi – 1 Semester	C.O.1-छात्राओं को आदिकालीन एवं पूर्व मध्यकालीन साहित्य के विभिन्न स्वरूपों,प्रवृत्तियों, रचनाओं और रचनाकारों का परिचय प्राप्त होगा।
		C.O.2-छात्राओं में प्राचीन एवं मध्यकालीन काव्य के अंतर्गत चंदबरदाई, कबीर एवं जायसी की रचनाओं के प्रति समीक्षात्मक दृष्टिकोण का विकास होगा।

		C.O.3-छात्र प्राचीन एवं मध्ययुगीन काव्यभाषा से परिचित होंगे।
		C.O.4- छात्र छायावादी एवं समकालीन जीवन दर्षन से परिचित होंगे।
		C.O.5- छात्राओं को आधुनिक हिन्दी काव्य की प्रवृत्तियों का परिचय प्राप्त होगा।
		C.O.6- छात्राओं को गद्य विधाओं के विकासक्रम की जानकारी प्राप्त होगी।
	M.A. Hindi – 2 Semester	C.O.1 – छात्राओं को उत्तर मध्यकालीन एवं आधुनिककालीन साहित्य के विभिन्न स्वरूपों, प्रवृत्तियों, रचनाओं और रचनाकारों का परिचय प्राप्त होगा।
		C.O.2 –छात्राओं में सूरदास, तुलसीदास एवं बिहारी के काव्य की समीक्षात्मक दृष्टिकोण में अभिवृद्धि होगी।
		C.O.3 – छात्राओं को केशव, भूषण, पदमाकर, देव, घनानंद के काव्य प्रवृत्तियों का ज्ञान होगा।
		C.O.4 – छात्राओं को प्रयोगवादी एवं प्रगतिवादी काव्य की प्रवृत्तियों का ज्ञान होगा।
		C.O.5 – छात्राओं में काव्य के आस्वादन, अध्ययन और मूल्यांकन की दृष्टि का विकास होगा।
		C.O.6 – छात्राओं को आधुनिक काल के काव्य प्रकारों एवं उनके तात्विक स्वरूप का ज्ञान होगा।
		C.O.7 – छात्र उपन्यास, निबंध और कहानी विधा के स्वरूप व शिल्पविधि से परिचित होंगे।
	M.A . Hindi – 3 Semester	C.O.1 – छात्र भारतीय काव्यशास्त्र से परिचित होंगे।
		C.O.2 – छात्राओं को पाश्चात्य काव्यशास्त्र के विकासक्रम का ज्ञान होगा।
		C.O.3 – छात्राओं को भाषा विज्ञान के स्वरूप, अंग और शाखाओं का ज्ञान प्राप्त होगा।
		C.O.4 –छात्राओं में भाषा के प्रयोग के संबंध में समुचित दृष्टिकोण का विकास होगा।
		C.O.5 – छात्र कामकाजी हिन्दी और पत्रकारिता के विभिन्न स्वरूप एवं विकास से परिचित होंगे।
		C.O.6 –छात्र पारिभाषिक शब्दावली एवं हिन्दी में कम्प्यूटर के अनुप्रयोग से परिचित होंगे।
		C.O.7 – छात्राओं को भारतीय साहित्य के स्वरूप एवं उनमें अभिव्यक्त भारतीय मूल्यों का ज्ञान होगा।
M.A. Hindi	M.A. Hindi – 4 Semester	C.O.1 – छात्राओं को हिन्दी आलोचना एवं समीक्षाशास्त्र का ज्ञान होगा।
		C.O.2 – छात्र हिन्दी कवि एवं आचार्यों के काव्यशास्त्रीय चिंतन से परिचित होंगे।
		C.O.3 – छात्राओं में व्यावहारिक समीक्षा का ज्ञान होगा।
		C.O.4 – छात्राओं को हिन्दी भाषा की ऐतिहासिक पृष्ठभूमि व भौगोलिक विस्तार का ज्ञान होगा।
		C.O.5- छात्राओं को मीडिया लेखन एवं अनुवाद के सिद्धांत व व्यवहार का ज्ञान होगा।
		C.O.6 – छात्र लोक साहित्य के स्वरूप एवं महत्व से परिचित होंगे।
		C.O.7 – छात्राओं को छत्तीसगढ़ साहित्य की विभिन्न विधाओं का ज्ञान होगा।

Department	Course	After Completion of these courses students should be able to:
Hindi	FC-Hindi Language B.A.IstYear/ B.Sc 1st Year/ B.B.A. 1st Year	C.O.1- छात्राओं को हिन्दी भाषा के रचनात्मक पहलुओं का ज्ञान होगा।
		C.O.2- छात्राओं को शुद्ध हिन्दी वर्तनी एवं मानक हिन्दी भाषा के प्रयोग का ज्ञान होगा।
		C.O.3 - छात्राओं को देवनागरी लिपि के लिपि के विकास एवं मानकीकरण का ज्ञान होगा।
		C.O.4- छात्र कम्प्यूटर में हिन्दी के अनुप्रयोग से परिचित होंगे।
		C.O.5- छात्राओं को संक्षेपण, पल्लवन, पत्राचार, अनुवाद एवं परिभाषिक शब्दावली का ज्ञान होगा।
	FC-Hindi Language B.A.2ndYear/ B.Sc 2ndYear/ B.B.A. 2ndYear	C.O.1- छात्राओं को हिन्दी के प्रतिनिधि निबंधकारों के निबंधों का परिचय प्राप्त होगा।
		C.O.2- छात्र कार्यालयीन भाषा, मीडिया की भाषा, वित्त व वाणिज्य की भाषा, मषीनी भाषा से परिचित होंगे।
		C.O.3- छात्र हिन्दी भाषा और उसके विविध रूपों से परिचित होंगे।
		C.O.4- छात्र अनुवाद की प्रक्रिया के सैद्धांतिक एवं व्यावहारिक स्वरूपों से परिचित होंगे।
		C.O.5- छात्र हिन्दी की व्याकरणिक कोटियों से परिचित होंगे।
	FC-Hindi Language /B.A.3r^{d}Year/ B.Sc 3r^{d}Year/ B.B.A. 3r^{d}Year/	C.O.1- छात्राओं में हिन्दी साहित्य एवं रचनाकारों के प्रति रूचि का निर्माण होगा।
		C.O.2- छात्र कथन की विभिन्न शैलियों से परिचित होंगे।
		C.O.4- छात्र वाक्य की विभिन्न संरचनाओं से परिचित होंगे।
		C.O.5- छात्राओं को हिन्दी के कार्यालयीन एवं व्यावहारिक पत्रों के स्वरूप का ज्ञान प्राप्त होगा।
		C.O.6- छात्राओं को अनुवाद प्रक्रिया का ज्ञान प्राप्त होगा।
		C.O.7- छात्र घटनाओं, विभिन्न समारोहों के प्रतिवेदन लेखन से परिचित होंगे।
	Hindi Literature B.A. 1st Year	C.O.1- छात्राओं को प्राचीन हिन्दी काव्य के विभिन्न स्वरूपों एवं प्रवृत्तियों का ज्ञान होगा।
		C.O.2- छात्र कबीर, जायसी, सूर, तुलसी एवं घनानंद के काव्य से परिचित होंगे।
		C.O.3- छात्राओं में भक्ति एवं संत काव्य की समीक्षात्मक दृष्टिकोण का विकास होगा।
		C.O.4- छात्र विद्यापति, रहीम एवं रसखान के साहित्यिक प्रवृत्तियों से परिचित होंगे।
		C.O.5–आधुनिक हिन्दी गद्य की विधाओं से परिचित होंगे।
		C.O.6- छात्राओं में उपन्यास एवं कहानी की तात्विक समीक्षा क्षमता का विकास होगा।
		C.O.7- छात्राओं में हिन्दी कहानी के विविध स्वरूपों के

		माध्यम से मानवीय संवेदनाओं का विकास होगा।
	Hindi Literature B.A. 2nd Year	C.O.1- छात्राओं को अर्वाचीन हिन्दी काव्य के विकास का ज्ञान होगा।
		C.O.2- छात्र छायावादी काव्य में व्यक्त प्रकृति चेतना से परिचित होंगे।
		C.O.3- छात्र राष्ट्रीय काव्यधारा के कवियों के काव्य से परिचित होंगे।
		C.O.4- छात्राओं में हिन्दी निबंध एवं एकांकी विधा की तात्विक समीक्षा दृष्टि का विकास होगा।
		C.O.5– छात्र नाटक के माध्यम तद्युगीन साहित्य एवं भाषा से परिचित होंगे।
		C.O.6- छात्राओं में निबंध, एकांकी और नाटक के आस्वादन की क्षमता का विकास होगा।
	Hindi Literature B.A. 3rd Year	C.O.1- छात्रों को हिन्दी भाषा के विविध बोलियों का परिचय प्राप्त होगा।
		C.O.2- छात्र हिन्दी भाषा के स्वरूप व विकास की अवधारणा से परिचित होंगे।
		C.O.3- छात्राओं को हिन्दी साहित्य के इतिहास का ज्ञान होगा।
		C.O.4- छात्र काव्य के स्वरूप एवं प्रयोजन से परिचित होंगे।
		C.O.5- छात्राओं में हिन्दी शब्द भण्डार के संबंध में विविध शब्दावली का ज्ञान प्राप्त होगा।
		C.O.6- छात्राओं को लोक साहित्य के स्वरूप एवं महत्व का ज्ञान प्राप्त होगा।
		C.O.7- छात्र हरियाणवी साहित्य के विविध विधाओं से परिचित होंगे।
		C.O.8- छात्र हरियाणवी साहित्य एवं भाषा के विकासक्रम से परिचित होंगे।

Course Outcomes : Music(V)

सभी सेमेस्टर में पाठ्यक्रम में दिए गए रागों का पूर्ण परिचय, विशेषताएं तथा स्वरलिपि, छोटा ख्याल, बड़ा ख्याल ,लिखना और गाना सिखाया जाता है। तालो के परिचय विशेषताएं 1 गुण ,दुगुन ,तिगुन , चौगुन की लयकारियां लिखना और हाथ पर ताल देना सिखाया जाता है। भारतीय संगीत के लिए जिन विद्वानों ने अपना महत्वपूर्ण योगदान दिया है उनमें से पाठ्यक्रम में दिए गए कुछ संगीत विद्वानों का जीवन परिचय बताया जाता है। अतः यह सभी पॉइंट्स है जो प्रत्येक सेमेस्टर में रहते हैं लेकिन राग ताल और विद्वानों के नाम सभी सेमेस्टर में भिन्न-भिन्न रहते हैं।

सेमेस्टर एक

C01: प्रथम सेमेस्टर में विद्यार्थियों को संगीत के बारे में बताया जाता है और संगीत से संबंधित आवश्यक तत्वों की जानकारी दी जाती है जैसे स्वर, सप्तक, ठाट, राग, श्रुति ,नाद इत्यादि।

C02: 12 वीं शताब्दी तक भारतीय संगीत के इतिहास का वर्णन किया जाता है।

CO3: शास्त्रीय संगीत और लोक संगीत में क्या संबंध है इसके बारे में बताया जाता है।

द्वितीय सेमेस्टर

Co1: प्रथम सेमेस्टर में विद्यार्थियों को संगीत के विषय में थोड़ी जानकारी प्राप्त हो जाती है इसलिए इस सेमेस्टर में थोड़ा आगे बढ़ते हुए संगीत के अन्य तत्वों जैसे अलंकार, वर्ण, ख्याल, तराना इत्यादि के बारे में भी विद्यार्थियों को जानकारी प्रदान की जाती है।

CO2: मार्गी और देसी संगीत के बारे में बताया जाता है कि किस प्रकार यह दोनों संगीत अलग-अलग हैं।

CO3: गायन किस प्रकार से करना है इस संबंध में गायकों के गुण दोषों पर विचार विमर्श किया जाता है।

CO4: राष्ट्रीय चेतना जागृत करने में संगीत की क्या भूमिका होती है इसके विषय में भी विद्यार्थियों को जानकारी प्रदान की जाती है

सेमेस्टर 3

CO1: इस सेमेस्टर में विद्यार्थियों को भारतीय संगीत की कुछ गायन शैलियों के विषय में जानकारी प्रदान की जाती है और इनका गायन किस प्रकार से किया जाता है यह भी सिखाया जाता है।

CO2: संगीत के अन्य तत्वों जैसे आविर्भाव तिरोभाव, नायक नायकी ,राग की जाति से संबंधित जानकारी दी जाती है।

Co3: संगीत विद्वान भरतमुनि, मतंग और पंडित लोचन द्वारा श्रुतियो पर स्वरों की स्थापना किस प्रकार की गई इसके बारे में बताया जाता है।

C04: आधुनिक समय में संगीत के शैक्षणिक और सांस्कृतिक पक्ष के प्रचार प्रसार में विज्ञान की भूमिका पर प्रकाश डाला जाता है।

सेमेस्टर 4

Co1: भारतीय संगीत की अन्य गायन शैलियों के विषय में विद्यार्थियों को अवगत कराया जाता है जैसे गीत, भजन, टप्पा, चतुरंग और तीन वर्ण इत्यादि।

CO2: संगीत से संबंधित अन्य तत्वों जैसे ग्राम मूर्छना

CO3: तानपुरा सहायक नाद के बारे में बताया जाता है। पुंडरीक विट्ठल और रामा मातेय जी द्वारा की गई श्रुतियों पर स्वरों की स्थापना पर भी विचार **विमर्श किया जाता है।**

सेमेस्टर 5

CO1: स्वरलिपि पद्धति का विकास कैसे हुआ और इस पद्धति के गुण और दोषों के बारे में विद्यार्थियों को बताया जाता है।

CO2: ललित कला में संगीत का क्या स्थान है इस विषय पर विद्यार्थियों को विशेष जानकारी प्रदान की जाती है।

CO3: रागों को गाने बजाने का समय निश्चित होता है इस विषय से संबंधित विद्यार्थियों को रागों के समय सिद्धांत की जानकारी प्रदान की जाती है।

सेमेस्टर 6

CO1: 17 वी 19वीं शताब्दी में संगीत का ऐतिहासिक वर्णन किया जाता है। जिससे विद्यार्थियों को इस शताब्दी में संगीत की स्थिति के बारे में जानकारी प्राप्त होती है।

CO2: हरियाणा और पंजाब के लोक संगीत के विषय में विद्यार्थियों को जानकारी प्रदान की जाती है।

CO3: वैदिक काल ,मध्यकाल, तथा आधुनिक काल में वाद्यों के वर्गीकरण के बारे में बताया जाता है।

राजकीय महिला महाविद्यालय, करनाल

संस्कृत विभाग

Course Outcome

कला स्नातक प्रथम वर्ष, प्रथम सत्र; संस्कृत (ऐच्छिक)

CO1→ प्रथम सत्र में पाठ्यक्रम में निर्धारित हितोपदेश पशु- व
काल्पनिक एवं रोचक कथाओं के माध्यम से सदाचार
- व्यवहार सिखाता है।

दूसरी ओर नीतिशतक (पूर्वार्द्ध) सद
लौक व्यवहार को बड़े मार्मिक सन्दर्भों में सिखाता है

CO2→ सरल संस्कृत के अध्ययन एवं व्याकरण के अभ्यास
पर पकड़ बनती है।

CO3→ आन्तरिक एवं बाह्य व्यक्तित्व के विकास अर्थात् A
complete personality Development.

द्वितीय सत्र

CO1- द्वितीय सत्र में श्रीमद्भगवद्गीता के द्वितीय अध्याय मे
बुद्धि, स्वस्थ मानसिकता, स्वस्थ कर्म एवं आन्तरिक क
एवं सुदृढ़ व्यक्तित्व निर्माण की सामग्री उपलब्ध है।

CO2 नीतिशतक (उत्तरार्द्ध) जहाँ लोकव्यवहार एवं सदाच
है; तो गीता अध्याय।

राजकीय महिला महाविद्यालय, करनाल
संस्कृत विभाग

कला स्नातक प्रथम वर्ष (प्रथम सत्र) संस्कृत अनिवार्य

CO1- वेदोपनिषदों के मन्त्र शङ्कराचार्य के स्तोत्र एवं रामा
आधारित विविध पाठों के माध्यम से ईशवन्दना,
सच्चरित्र, वचनपालन के विविध सन्दर्भों से परिचि

CO2 गद्यभाग में विद्यमान उपनिषद् पञ्चतन्त्र एवं
पाठों से मनोरञ्जक शैली में शिक्षा, राजनीति
लोकाचार को सीखता है।

CO3- शब्दरूप एवं सन्धि के माध्यम से भाषा रू
सीखता है।

द्वितीय सत्र

CO1- गीता, महाभारत, चाणक्य नीति, नीतिशतक, भ
आधारित पाठों के माध्यम से इतिहास एवं
एवं अध्यात्म के विविध बिंदुओं को सीखता

CO2- चरक संहिता, पञ्चतन्त्र, कादम्बरी आदि ग्र
संकलित पाठों से काव्यविद्या एवं साहित्यम
के विविध सन्दर्भों को सीखता है।

राजकीय महिला महाविद्यालय, करन
संस्कृत विभाग

कला स्नातक द्वितीय वर्ष तृतीय सत्र संस्कृत (ऐच्छि

CO1- 'पञ्चरात्रम्' नाटक में प्रस्तुत महाभारत का परि को स्वतन्त्र दृष्टिकोण देने का सूत्र है। नाटक से परिचय मनोरंजन, लोकाचार एवं सदाचार के सू नाटक की संरचना के तत्वों से विद्यार्थियों का कराया जाता है।

CO2 विविध साहित्यकारों के परिचय के माध्यम से विविध विधाओं से परिचित करवाया जाता है।

CO3 साहित्याध्ययन एवं व्याकरण अभ्यास से भाषा होने पर पत्र-लेखन सिखाया जाता है।

चतुर्थ सत्र

CO1- कविवर कालिदास कृत 'रघुवंशम्' से विद्यार्थी इति -चित होने के साथ-साथ लेखक की काव्यप्रतिभ भाषा शैली, अलंकार के साथ-साथ उत्तम व्यक्तित्व विविध बिन्दुओं से परिचित होता है।

CO2- 'शिवराजविजय' के माध्यम से पुनः साहित्यिक इतिहास एवं काव्य के फल सहृदय आनन्द के स

राजकीय महिला महाविद्यालय, कर
संस्कृत विभाग

कला स्नातक द्वितीय वर्ष (तृतीय सत्र) संस्कृत अनिवार्य

CO1- 'चारुदत्तम्' (अङ्क 1-2) नाटक के माध्यम से समयानुरूप अपेक्षित परिवर्तनों की स्थापना को समझना एवं नाट्य साहित्य के संस्थ से परिचय करता है।

CO2- व्याख्या एवं अनुवाद के माध्यम से भाव भाषा के माध्यम से अभिव्यक्ति को सी

CO3- कृदन्त णिजन्त, सन्नन्त एवं समास के द्वारा भ ग्राह्यता, उत्तमकोटिक शब्दप्रयोग सीखता है।

चतुर्थ सत्र

CO1 चारुदत्तम् (अङ्क 3-4) नाटक में अभिनय का गरिमा एवं भाषा प्रयोग को सीखता है।

CO2 जीवन मूल्य, समाज में उपेक्षितों को स्वीका आदि विविध सन्दर्भ हास्य शैली में रोच सीखता है।

राजकीय महिला महाविद्यालय, करन
संस्कृत विभाग

कला स्नातक तृतीय वर्ष (पञ्चम सत्र) संस्कृत ऐच्छिक

CO1- संस्कृत साहित्य के सर्वोत्तम नाटक 'अभिज्ञान शाकुन्तल
से जीवन में विविध पक्ष, प्रकृति, पशु-पक्षी, मानवीय
एवं तर्क, मनोवैज्ञानिक, दार्शनिक एवं सांस्कृतिक
के संरचनात्मक तत्वों से परिचित होता है।

CO2- वैदिक साहित्येतिहास के माध्यम से सामाजिक व
वैश्विक मूल नैतिक सिद्धान्त एवं संस्कृति के स्रोत
होता है।

CO3- कारक के माध्यम से भाषा प्रयोग एवं अलंकार के
साहित्यिक सौन्दर्य के तत्वों से परिचित होता है

षष्ठम सत्र

CO1 अभिज्ञानशाकुन्तलम् (5-7 अङ्क) अभिनय का अ
कौशल के माध्यम से जीवन मूल्यों को सिख

CO2 साहित्येतिहास के द्वारा विविध साहित्यकारों एवं
एवं ग्रन्थसहित सामग्रियों से परिचित होता है

CO3 स्वीपत्यय एवं निबन्ध लेखन के माध्यम से व

राजकीय महिला महाविद्यालय, करना
संस्कृत विभाग

कला स्नातक तृतीय वर्ष (पञ्चम सत्र) संस्कृत अनिव

CO1- 'नीतिशतकम' से सत्संगति, लोकाचार, मूर्खनिन्दा एवं दुष्ट व्यक्ति की पहचान सीखता है।

CO2- साहित्येतिहास के माध्यम से रचनाकार रचन साहित्यिक विधाओं का परिचय होता है।

CO3 कारक एवं अशुद्धिशोधन के माध्यम से रचना को सीखता है।

षष्ठम सत्र

CO1 'शिवराजविजय' के माध्यम से साहित्यिक में इतिहास, अलंकार, सदाचार, देशप्रेम, व साथ सीखता है।

CO2 अनुवाद एवं व्याख्या के माध्यम से उत्त रचना एवं भावाभिव्यक्ति सीखता है।

CO3 साहित्येतिहास के माध्यम से साहित्यिक

राजकीय महिला महाविद्यालय, क
संस्कृत विभाग

विज्ञान संकाय द्वितीय वर्ष (तृतीय सत्र) संस्कृत अनि

CO1- वेदोपनिषद् एवं रामायण आधारित पाठों के
ईशवन्दना, सदाचार एवं लोकाचार सीखता है

CO2 गद्यखण्ड में पञ्चतन्त्र एवं हितोपदेश आधा
से साहित्यिक आनन्द के साथ शिक्षा एव
सीखता है।

CO3 शब्दरूप एवं सन्धि से भाषा की रूपरचन

चतुर्थ सत्र

CO1- गीता, महाभारत, नीतिशतक आदि ग्रन्थों
से इतिहास, लोकाचार, सदाचार एवं अध्य

CO2 सरल संस्कृत के अध्ययन से भाषा प्रयो

CO3 धातुरूप, सन्धि से भाषा के मूल तत्व प
सुदृढ़ होती है।

Programme outcomes : Department of Music (V) Master of Arts

1. Students will be able to demonstrate the understanding and use of knowledge as a means for creating Cultured Awareness.

2. Students will be able to create, analyze and synthesize music as a means of supporting developing careers in Music, Teaching and Performance.

3. Students will be able to demonstrate teaching skills for individual classes.

4. Students will be able to compose music that displays creativity or ideas.

5. Students will be able to develope problem-solving skills in the creation of artistic work.

6. Students will develope and apply process skills in rehearsal, production.

7. Students will be able to demonstrate the ability in one or more areas like, Music Composer, Radio Artist, Music Journalist, Singer, Music Therapist, Stage Performing Artist, Recording Studio, Music Librarian, etc.

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Course Outcome: Music Vocal

MA (P) Music Vocal, Paper-I

General and Applied Music Theory

Sem-I →

सेमेस्टर-I, पेपर-I में कुल पांच खण्ड हैं, जिसमें मैं कल्याण, बिलावल, तथा भैरव रागांग के रागों का अध्ययन करवाया जाता है।

राग यमन, अल्हैया बिलावल, भैरव, रागों का पूर्ण प करवाया जाता है।

द्वितीय खण्ड →

सिलेबस में दिये गए रागों के छोटा ख्याल व बड़ा स्वरलिपि, मुक्त आलाप, ताने, बोलताओं के दिगम्बर व भातखण्डे पद्धति में लिखनी सिखई सिलेबस में दी गई तालों को दुगुन, तिगुन व चौगुन के साथ लिखना सिखाया जाता है।

तृतीय खण्ड →

संगीत के विकास के बारे मे भारतीय और पश्चिमी प्राचीन ग्रंथों में वर्णित भरत, मतंग, और शारं वर्णित रागों के दस आवश्यक तत्वों का विशे एवं मध्यकालीन, आधुनिक संगीत प्रणाली मे प्रयोग।

पंचम खण्ड →

भारतीय वाद्य यंत्रों के ऐतिहासिक वर्गीकरण का
निम्नलिखित वाद्य यंत्रों का ज्ञान- एकतंत्री, त
चित्र वीणा, वंशी, पटह, कांस्य, ताल

प्राचीन संस्कृतियों और वर्तमान के वैज्ञानिक
संदर्भ में Voice Culture का विस्तृत अध्य

MA(P) Music (V), Paper-II, Sem-I
History of Indian Music (vedic period to 13th

Sem-Ist, Paper-II

1. इसमें कुल पांच खण्ड हैं जिसके प्रथम खण्ड में संहिताओं, ब्र
आरण्यक ग्रंथों में संगीत पर चर्चा की जाती है
2. रामायण और महाभारत में संगीत की क्या स्थिति थी
3. स्मृति ग्रंथों और कौटिल्य अर्थशास्त्र में संगीत
4. 13 वीं शताब्दी तक स्वरों के ऐतिहासिक विकास पर
डाला जाता है।
5. विद्यार्थियों को तीन ग्राम, - षड्ज, मध्यम, गंधार, के
महत्वपूर्ण जानकारी प्रदान की जाती है।

MA(P) Music (V), Paper-I, Sem II
General and Applied music Theory

Sem-II

1. काफी और सारंग रागांग के रागों का तुलनात्मक अध्य
2. राग काफी, बिहाग, मारवा, पूरिया के विषय में संपू
दी जाती है।
3. सिलेबस में दिये गए रागों के छोटा ख्याल, बड़ा ख्याल
मुक्त आलाप, तान - बोल तानों के साथ, विष्णु दिग
खण्डे पद्धति में लिखनी सिखाई जाती है।
4. तालों को दुगुन, तिगुन, व चौगुन की लयकारियों में
जाता है।
5. राग और रस में संबंध एवं रस की परिभाषा

6. संगीत और सौंदर्य
7. राग वर्गीकरण के सिद्धांत
8. सांऊड़ और रियम का विशेष ज्ञान प्राप्त करने
9. भारतीय संगीत वाद्यों के प्राचीन वर्गीकरण का मतकोकिला, विपंची, किन्नरी, मृदंग, हुडुक्का
10. शास्त्रीय नृत्यों से संबंधित प्राथमिक जानकारी

MA(E)Music (V) Paper-II, Sem-II
History of Indian Music (Vedic Peri

1. उपनिषद और वेदांग साहित्य में संगीत, शिक्षा ग्रंथों
2. पुराणों में संगीत, हरिवंश और मारकण्डे के अनुसा
3. (i) पाणिनी तथा पतंजलि में संगीत - व्याकरण तालमेल
   (ii) बौद्ध और जैन में संगीत - व्याकरण तालमेल
   (iii) नाटक और महाकाव्य कालीदास में संगीत
4. श्रुति स्वर में संबंध - दिए गए ग्रंथों के आधार प
5. सप्त स्वर मूर्छना और द्वादश स्वर मूर्छना
   अध्ययन

Paper- I.

Applied Music Theory and Musical Comb

Sem- III

1. बिहाग, बौंस और तोड़ी रागांग के रागों का तुलनात

2. राग भूपाली, दरबारी, शुद्ध कल्याण, मुल्तानी, माल के विषय में संपूर्ण जानकारी

3. दिए गए रागों की स्वरलिपि बनाने व लिखने की

4. आड़ लय में तालों की पंचगुन व छः गुन लिख

5. भारतीय सांगीतिक वाद्यों का वर्गीकरण तथा आधुनि प्रचलित उत्तर-दक्षिण भारत के शास्त्रीय सांगीतिक तकनीकी जानकारी - चित्र वीणा, सरोद, शहनाई, तबला

6. सांगीतिक रचना के प्रकार

7. शोध की कार्यप्रणाली और भारतीय संगीत में महत्

8. राग मिश्रण के सिद्धांत, रागों के चित्रात्मक पहलू सराहना, भारतीय संगीत में मुस्लमानों का यो

9. सांगीतिक रचना के सिद्धांत

9. हरियाणा का लोक संगीत

10. राज्यों में प्रचलित लोक धुनें — बाऊल, भ

MA(F) Music(V) Paper-II
General study and History of Music(V

Sem III

1. संगीत का विकास – सिलेबस में दिये गए ग्रंथों
2. वीणा के तार की लंबाई के आधार पर श्रुति दिये गए संगीत विद्वानों के अनुसार
3. आलप्ति, स्थाई, गीति, वृत्ति, कानू, कुतुप के विषय में जानकारी
4. स्वयंभू शब्द का अर्थ – शमामात्य और सोमनाथ
5. स्टाफ नोटेशन, हारमनी और मेलोडी से जानकारी
6. स्वर, ताल, मेल, राग, गायन और वा संबंधित, हिन्दुस्तानी तथा कर्नाटक संगीत का अध्ययन
7.

Sem IV Paper- II (General Study and History

1. संगीत का विकास, दिये गए ग्रंथों के अनुसार
2. श्रुति स्वर संबंध - आधुनिक विचारकों के अनुसार
3. (i) रागों का समय सिद्धांत - उत्पत्ति और विकास
   (ii) रागों में समय का अवलोकन
   (iii) संगीत में समय सारणी का महत्व
4. सांगीतिक पैमाना (Scale) पायथागोरस, डायटोनि इक्वल टैम्पर्ड (Equal tempered)
5. संगीतकार, रचनाकार - डा० कृष्ण नारायण रतनज राजा मानसिंह तोमर, डा० के सी डी बृहस्पति, डा मिश्र, कुमार गंधर्व, वलिद अली शाह।