

# LEARNING OUTCOMES (2018-19)

## B.Com (Hons.)

Semester 1	Course Type (Core/AECC/G E/DSE/Langua ge AECC)*	Paper Name	Paper No.	Learning Outcome of Paper
	Core Course (C-1)	Financial Accounting	BCH 1.2	To acquire conceptual knowledge of the financial accounting and to provide knowledge about the techniques for preparing accounts in different business organizations.
	Core Course (C-2)	Business Law	BCH 1.3	To impart basic knowledge of the important business legislations. To familiarize students with provisions of the Contract Act, LLP Act, IT Act and Sale of Goods Act. legislation along with relevant case law.
	GE-1 (Any One)	a) Micro Economics	BCH 1.4	a) To acquaint the students with the concepts of microeconomics dealing with consumer behaviour and producer behaviour and also understand the behaviour of firms under different market structures.
		b) Insurance and Risk Management		b) To develop an understanding among students about identifying analyzing and managing various types of risk. Besides, the students will be in a position to understand principles of insurance and its usefulness in business, along with its regulatory framework.
Semester 2	Course Type	Paper Name	Paper No.	Learning Outcome of Paper
	AECC-2	Business Communication: Language- English/Hindi/ Modern Indian Language	BCH 2.1	To acquire skills in reading, writing, comprehension and communication, and also to use electronic media for business communication.
	Core Course (C-3)	Corporate Accounting	BCH 2.2	1. Developing an understanding of accounting for share capital and debentures. 2. learning how to prepare financial statements including the understanding of cash flow statements. 3. understanding amalgamation and internal reconstruction of companies. 4. learning about the financial statements of banking companies. 5. learning to prepare consolidated balance sheet for Holding company and its subsidiary (ies).

Core Course (C-4)	Corporate Laws	BCH 2.3	<p>The objective of the course is to impart basic knowledge of the provisions of the Companies Act 2013 and the Depositories Act. After completing the course student will be able to learn the following concepts in detail:</p> <p>To understand the regulatory aspects and the broader procedural aspects involved in different types of companies covering the Companies Act 2013 and Rules there under.</p> <p>To follow the basic legal documents and their usage essential for operations and management of company.</p> <p>TO enable the students to synthesis company processes, meetings and decisions.</p> <p>To equip the students with framework of dividend distribution and role of auditors in a company.</p> <p>To comprehend and evaluate working of depositories and their functions in stock markets.</p>
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GE-2 (Any One)	b) Investing in Stock Markets	BCH 2.4	b) This paper intends to provide basic skills to operate in stock market and the ways of investing in it. It will enable the student to take up investment in stock market independently.
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Semester 3	Course Type	Paper Name	Paper No.	Learning Outcome of Paper
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Core Course (C-5)	Human Resource Management	BCH 3.1	<p>The objective of this course is to enable learners to understand the importance of human resources and their effective management in organisations. After completing the course student will be able to learn the following concepts in detail:</p> <p>To understand basic nature and importance of human resource management.</p> <p>To analyze the current theory and practice of recruitment and selection</p> <p>To completing course student will be able to learn the following topics</p> <p>To understand basic nature and importance of human resource management.</p> <p>To understand role of modern HRM in meeting challenges of changing business environment.</p>
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Core Course (C-6)	Income Tax Law and Practice	BCH 3.2	To provide basic knowledge of Income Tax Law in India and to equip students with application of principles and provision of Income Tax Act.
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Core Course (C-7)	Management Principles and Applications	BCH 3.3	The objective of the course is to provide the student with an understanding of basic management concepts, principles and practices.
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GE	b) Project Management		To enable the student to evolve a suitable framework for the preparation, appraisal, monitoring and control and hedge risk of industrial project.
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SEC-1 (any one)	a) E-Commerce	BCH 3.5	(i) understand the basics of E-commerce, current and emerging business models, (ii) identify the emerging modes of e-payment, understand the importance of security, (iii) privacy, ethical and legal issues of e-commerce, (iv) understand the importance of security, privacy, ethical and legal issues of e-commerce.
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	d) Personal Tax Planning		the objective of this course is to provide conceptual knowlede of income tax and wealth tax to the non commerce learner in easy way with a view to equip them to use legitimate tool of tax planning in their economic life.
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Semester 4	Course Type	Paper Name	Paper No.	Learning Outcome of Paper
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Core Course (C-8)	Cost Accounting	BCH 4.1	To acquaint the students with basic concepts used in cost and management accounting and various methods involved in cost ascertainment systems, and use of costing data for planning, control and decision making.	
Core Course (C-9)	Business Mathematics	BCH 4.2	To comprehend the concept of systematic processing and interpreting the information in quantitative terms to arrive at an optimum solution to business and economics problems. To develop proficiency in using different mathematical tools (matrices, calculus, linear programming, and mathematics of finance) in solving daily life problems. To acquire competence to use computer for mathematical computations. To obtain critical thinking and problem-solving aptitude. To evaluate the role played by mathematics in the world of business and economy.	
Core Course (C-10)	Computer Applications in Business	BCH 4.3	To provide computer skills and knowledge for commerce students and to enhance the student understands of usefulness of information technology tools for business operations.	
GE	b) Economics of Regulation of Domestic and Foreign Exchange Markets		To acquaint students with the economics of regulation of domestic and foreign exchange markets.	
SEC-2 (any one)	a) Entrepreneurship	BCH 4.5	The purpose of the paper is to understanding about entrepreneurship and creative thinking and behaviour for effectiveness at work and in life.	
	c) E-Filing of Returns		The purpose of this paper is to understand the Students on how to file returns electronically.	
<b>Semester 5</b>	<b>Course Type</b>	<b>Paper Name</b>	<b>Paper No.</b>	<b>Learning Outcome of Paper</b>
Core Course (C-11)	Principle of Marketing	BCH5.1	Understanding, marketing, its evolution, philosophies, marketing mix, marketing environment, consumer behaviour, market segmentation, promotion and distribution.	
Core Course (C-12)	Fundamentals of Financial Management	BCH5.2	To familiarize students with nature, scope and objectives of financial management. To impart knowledge about various functions of finance manager with theoretical background and practical questions.	
DSE-1 (Any One)	Management accounting	BCH5.3	1. Exhaustive understanding of management accounting in general and in comparison to financial and cost accounting. 2. Understanding the concepts of absorption and variable costing alongwith CVP and BEP analysis. 3. Learning decision making using techniques of marginal and differential costing. 4. Lastly, studying budgetary control, standard costing, control ratios as well as responsibility accounting as tools of managerial planning and control.	
	Organisational Behaviour		To develop a theoretical understanding among students about the organization and behaviour of organization as develop over a time. this study provide enough knowledge of realizing the competitiveness for firms.	

DSE-2 (Any One)	Financial Markets, Institutions and financial Services	BCH5.4	1: To understand the meaning and scope of financial markets and institutions in India.	2: To understand the concepts of Money Market and Capital Market
	Advertising		3: To explain Commercial Banking and its recent developments.	4: To explain concept of Non-Banking Financial Companies (NBFC's)
	Industrial Law		5: To examine the Financial Services Industry	To provide students with the most comprehensive and current text on market for teaching advertising and promotion from IMC perspective and provide information and examples from Indian market
			To understand provisions of Industrial Law	

Semester 6	Course Type	Paper Name	Paper No.	Learning Outcome of Paper
	Core Course (C-13)	Auditing and Corporate	BCH 6.1	1) To provide knowledge of auditing principles. 2) To provide knowledge of auditing procedures and techniques in accordance with the current legal requirements and professional standards. 3) To provide knowledge of Corporate Governance practices. 4) To provide basic knowledge of Business Ethics and CSR.
Core Course (C-14)	GST& Custom Laws	BCH 6.2	to provide basic knowledge and equip students with the application of principles and provisions of Service tax,VAT,Central Excise, GST and customs Laws.	
DSE-3 (any one)	Fundamentals of Investment	BCH 6.3	Enhance the knowledge of the learner about the different investment alternatives, introduce them to the framework of their analysis and valuation and highlight the role of investor protection.	
	Consumer Affairs and Customer Care		To understand the rights of consumer and provide basic knowledge of social framework of consumer rights and legal frame work of protecting consumers rights.	
DSE-4 (any one)	International Business	BCH 6.4	To provide basic knowledge about the concept, importance and dynamics of international business and India's involvement with global business operations.	
	Business Research Methods and Project work		to understand the business research and methods of business research .this course will enhance learning skills to collect ,analyze ,present and interpret data.	

## B.Com (Prog)

Semester 1	Course Type (Core/AECC/GE/DSE/Language AECC)*	Paper Name	Paper No.	Learning Outcome of Paper
	Core Course (DSC-1)	Financial Accounting	BC 1.2	Students will recognize commonly used financial statements, their components and how information from business transactions flows into these statements. He/She will be able to demonstrate knowledge of preparation of Financial Statements and or financial schedules in accordance with Generally Accepted Accounting Principles through analysis and synthesis of information as well. Students will be able to demonstrate knowledge in setting up a computerized set of accounting books for a "for profit " entity.
			Subject aims to provide basic knowledge to the students about the organisation and management of a business	

	Core Course (DSC-2)	Business Organisation and Management	BC 1.3	enterprise.it lays emphasis on buliding foundation of indian business.elaborate discussion on indian experience of liberalisation and globalisation,technological innovations and skill development.students were made familier with concepts lik sole pprietorship,joint hindu family,partnership firm,joint stock companies . I belive thatteachingBOM at college level is important.nly few may take the bold step of stating their own ventures. But the qualties of entrepreneurship which include passion,purpose and perseverance-are applicable to every endavour in life. These qualities will stand the young manager in good stead and potentially create many intrapreneurs.This subject provides a blend of theoretical and pratical knowledge that will expose young minds to new thoughts and ideas.
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	Course Type	Paper Name	Paper No.	Learning Outcome of Paper
Semester 2	Core Course (DSC-3)	Business Law	BC 2.2	The purposes and functions of business law include maintaining order, protecting rights and liberties, establishing standards, and resolving disputes when it comes to businesses and their interactions with individuals, government agencies, and other businesses.
	Core Course (DSC-4)	Business Mathematics and Statistics	BC 2.3	The objectives of this paper is to familiarize students application of mathematics and statistical techniques in business decisions.Upon successful completion, students should be able to analyze real world scenarios to recognize when simple and compound interest, annuities, discounts, taxes, and depreciation are appropriate, formulate problems and to solve the problems using multiple approaches, judge if the results are reasonable, and then interpret and clearly communicate the results.Appreciate business mathematics concepts that are encountered in the real world, understand and be able to communicate the underlying business concepts .

	Course Type	Paper Name	Paper No.	Learning Outcome of Paper
Semester 3	Core Course (DSC-5)	Company Law	BC 3.1	To impart basic knowledge about the Companies Act 2013 to make students understand the regulatory framework of companies - starting from Formation to Winding Up 2. To familiarise the students with various types of companies and the processes associated with them eg. meetings, dividend distribution etc 3. To educate them about the important role played by auditors in the company 4. To enlighten them about the functioning of depositories and their role in the stock market. 5. To impart knowledge about the administration of company law by educating them about NCLT, NCLAT.
	Core Course (DSC-6)	Income Tax Law and Practice	BC 3.2	The purpose of this paper is to impart conceptual understanding to the students of the provisions of the Income Tax Laws covered .in the Syllabus
	AEEC-1: Skill Based (any one)	a) Computer Applications in Business b) Cyber Crimes and Laws	BC 3.4	1) Enable students to handle document creation for communication; 2) Enable students to acquire skills to create and make good presentations; 3) Enable students make various computations in the area of accounting and finance and present business data using appropriate charts; and 4.) Help students understand and apply the various database concepts and tools in the related business areas. students will be able to identify cyber risk in online activities, learn safe working in online transactions, identify the threat attached using different virtual platforms, preserve electronic evidences for personnel and professional use.

	Course Type	Paper Name	Paper No.	Learning Outcome of Paper
				The objective of this paper is to provide conceptual and practical knowledge to the students

<b>Semester 4</b>	Core Course (DSC-7)	Corporate Accounting	BC 4.2	about companies and their working and also to acquaint the students with the accounting problems associated with the incorporation, expansion or liquidation of companies.
	Core Course (DSC-8)	Cost Accounting	BC 4.3	Students will be able to understand basic concepts of costing, Monitor costs of raw materials, labour, transportation, administrative costs, overheads etc. in an industry. Students Will be able to understand methods of costing and techniques of costing for its application in real life. Apply cost accounting methods for both manufacturing and service industry.
	AEEC-2: Skill Based (any one)	a) E-Commerce	BC 4.4	(i) understand the basics of E-commerce, current and emerging business models, (ii) familiarize with basic business operations such as sales, marketing, HR etc. on the web, (iii) enhance the students' skills for designing and developing website, (iv) identify the emerging modes of e-payment, (v) understand the importance of security, privacy, ethical and legal issues of e-commerce.
		b) Investing in Stock Market		student will able to understand invetment envionment, indian security market including derivative market, understanding of technical and fundamental analysis and about investment in mutual funds.

<b>Course Type</b>		<b>Paper Name</b>	<b>Paper No.</b>	<b>Learning Outcome of Paper</b>
DSE - 1 (Any one)	a) Human Resource Management	BC 5.1	1. understand the concept of HRM and its role in effective business administration 2. understand the role of recruitment and selection in relation to organisation's business and HRM objectives. 3. explain the importance of performance management system in enhancing employee performance. 4. design compensation schemes that are cost effective, increase productivity of the workforce, and comply	
	b) Principles of Marketing		Understanding, marketing, its evolution, philosophies, marketing mix, marketing environmnet, consumer behaviour, market segmentation, promotion and distribution.	
	c) Audting and Corporate		to understand the principles and techniques of auditing.	
DSE - 2 (Any one)	a) Fundamental of Financial Management	BC 5.2	1. Overall aspects of Corporate Finance; 2. How to maximise Shareholder Wealths; 3. How to evaluate competitive projects proposals and select best project; 4. When to the corporate declare dividends to the shareholders; 5. How to minimise working capital without adversely affecting the production activities.	
	c) Training and development		to train students to understand the learning environment of a firm. Knowledge of this subject make them capable t0 giving training to HR department of a business.	
	d) Industrial Laws		to understand the provisions of industrial Law .	
AEEC-3 Skill based (any one)	Enterpreneurship	BC 5.3	The objective to teach this paper to provide orientation towards entrepreneurship to the students. To encourage them to choose as this their career option and to show their creative thinking more effectively and effciently at work as well as in life. They learn waht all problems and challenges faced by the entrepreneur, different sources of idea generation, designing business process and also learn different start up issue.	
	Advertising		My major role in teaching this subject was to continue to provide students with the most comprehensive and current text on market for teaching advertising and promotion from IMC perspective and provide information	
G E-1	Generic Elective (any one)	B C5.4		
	<b>Modern Buss. Organisation</b>		to provide knowledge about business organisations and their functioning in Modern era	

Semester 6				
Course Type (Core/AECC/G E/DSE/Langua ge AECC)*	Paper Name	Paper No.	Learning Outcome of Paper	
DSE - 3 (Any one )	c)Management Accounting	BC 6.1	it provide knowledge about use of costing of data for planning and control, various techniques of budgetary control and variances analysis.	
	e) Financial Markets and Insitutions		1: To understand the meaning and scope of financial markets and institutions in India. 2: To understand the concepts of Money Market and Capital Market 3: To explain Commercial Banking and its recent developments. 4: To explain concept of Non-Banking Financial Companies (NBFC's) 5: To examine the Financial Services Industry	
DSE - 4(Any one )	a) International Business	BC 6.2	To provide basic knowledge about the concept, importance and dynamics of international business and India's involvement with global business operations.	
	c)Fundamental of investment		Enhance the knowledge of the learner about the different investment alternatives, introduce them to the framework of their analysis and valuation and highlight the role of investor protection.	
	e) Oranisationl Behaviour		To develop a theoretical understanding among students about the oraganistion and behaviour of oraganisation as develop over a time.this study provide enough knowledge of realizing the competitiveness for firms.	
AECC-4	Skill based (any one)	BC 6.3		
	a) Personal Selling and salesmanship b) Collective Bargaining and		Help to undersatnd the basic concept of personal selling and selling process.buying motives , theories of selling To understand the concepteual framework of collective bargaining,theories and also discribe the necessary skills required for negotiating a contract	
G E-2	Generic Elective(any one)	B C6.4		
	Business		To develop understanding of management aspects of business	

## B.A.

Course Type (Core/AECC/G E/DSE/Langua ge AECC)*	Paper Name	Paper No.	Learning outcomes	
Core	Accounting and Finance(Financial Accounting)	Paper 1	To make students familiar with GAAP of financial accounting and their application in business organisation excluding corporate entities	

Semester 1

Semester 1	Core	ESB (Fundamental of Business organisation)	Ppaper 1	to facilitate about awareness of business activities, ownership types and bussiness environment
	<b>Course Type</b>	<b>Paper Name</b>	<b>Paper No.</b>	<b>Learning outcomes</b>
Semester 2	Core	Accounts & Fin. (Corporate Accounting)	Paper 2	To make students familiar with corporate accounting procedures
	Core	ESB (Fundamentals of Entrepreneurship-II)	Paper 2	to facilitate about awareness of fundamentals of Entrepreneurship
	<b>Course Type</b>	<b>Paper Name</b>	<b>Paper No.</b>	<b>Learning outcomes</b>
Semester 3	core	Finanical Management (A/c&fin.)	Paper 3	to familiarise students with principles and practices of Financial Management
	core	ESB(Feasibility st. and business plan)	Paper 3	to facilitate students about basic knowledge of environment scanning, feasibility study and business plan
	<b>Course Type</b>	<b>Paper Name</b>	<b>Paper No.</b>	<b>Learning outcomes</b>
Semester 4	CORE	Fin. Markets Institution and Financial services (A/c&fin.)	Paper 4	to familiarise students with financial markets and institutions in Indiaand to familiarize fee based and fund based financial servies in india
	core	Managerial Aspects Small Business (ESB)	Paper 4	to acquaint managerial aspects of small business
	<b>Course Type</b>	<b>Paper Name</b>	<b>Paper No.</b>	<b>Learning outcomes</b>
Semester 5	DSE	Cost A/cting	Paper 5(a)	to understand various methods involved in cost ascertainment and use of costing
	DSE	Management of Small Bussiness	Paper 5(a)	to familiarize with management of small businesses
	SEC	Enterpreurship	Paper 5(a)	to understanding about entrepreneurship and creative thinking and behaviour for effectiveness at work and in life.
	<b>Course Type</b>	<b>Paper Name</b>	<b>Paper No.</b>	<b>Learning outcomes</b>
Semester 6	DSE	Investment Analysis & Business Valuation	Paper6a	to understand investment analysis and business valuation methods and procedures
	DSE	Social Enterpreurship	Paper 6a	to understand social entrepreneurship and business ideas and plans for societal benefit
	SEC	Personal Selling & Salesmanship	Paper 6a	to understand the basic concept of personal selling and selling process.buying motives , theories of selling



# Name of the Course - B.Sc(H) Computer Science

	Course Type (Core/AECC/GE/DSE/Language AECC)*	Paper Name	Paper No.	Learning Outcome of Paper
<b>Semester 1</b>	Core	Programming Fundamentals using C++	C-1	On successful completion of the course, students will be able to: 1) Explain significance of object oriented paradigm, 2) Solve programming problems using object oriented feature, 3) Handle external files as well as exceptions and Reuse classes to create new classes
		Computer System Architecture	C-2	1) Design Combinational Circuits using basic building blocks. Simplify these circuits using Boolean algebra and Karnaugh maps. Differentiate between combinational circuits and sequential circuits, 2) Represent data in binary form, convert numeric data between different number systems and perform arithmetic operations in binary 3) 3. Determine various stages of instruction cycle and describe interrupts and their handling. 4. Explain how CPU communicates with memory and I/O devices

	Course Type	Paper Name	Paper No.	Learning Outcome of Paper
<b>Semester 2</b>	Core	Programming in JAVA	C-3	<ol style="list-style-type: none"> <li>1. Implement Exception Handling and File Handling.</li> <li>2. Implement multiple inheritance using Interfaces.</li> <li>3. Logically organize classes and interfaces using packages.</li> <li>4. Use AWT and Swing to design GUI applications.</li> </ol>
		Discrete Structures	C-4	<ol style="list-style-type: none"> <li>1. Define mathematical structures (relations, functions, sequences, series, and graphs) and use them to model real life situations.</li> <li>2. Understand (trace) and construct simple mathematical proofs using logical arguments.</li> <li>3. Solve class room puzzles based on counting principles.</li> <li>4. Compare functions and relations with respect to their growth for large values of the input.</li> </ol>

	Course Type	Paper Name	Paper No.	Learning Outcome of Paper
		Data Structures	C-5	<ol style="list-style-type: none"> <li>1. Implement and empirically analyse linear and non-linear data structures like Arrays, Stacks, Queues, Lists, Trees, Heaps and Hash tables as abstract data structures.</li> <li>2. Write a program, choosing a data structure, best suited for the application at hand.</li> <li>3. Re-write a given program that uses one data structure, using a more appropriate/efficient data-structure.</li> <li>4. Write programs using recursion for simple problems. Explain the advantages and disadvantages of recursion.</li> </ol>

<b>Semester 3</b>	Core	Operating System	C-6	<ol style="list-style-type: none"> <li>1. Implement multiprogramming, multithreading concepts for a small operating system.</li> <li>2. Create, delete, and synchronize processes for a small operating system.</li> <li>3. Implement simple memory management techniques.</li> <li>4. Implement CPU and disk scheduling algorithms.</li> </ol>
		Computer Networks	C-7	<ol style="list-style-type: none"> <li>1. Describe the hardware, software components of a network and their interrelations.</li> <li>2. Compare OSI and TCP/IP network models.</li> <li>3. Describe, analyze and compare different data link, network, and transport layer protocols.</li> <li>4. Design/implement data link and network layer protocols in a simulated networking environment.</li> </ol>
	SEC – 1	Android Programming	SEC – 1	<ol style="list-style-type: none"> <li>1. Describe characteristics of Android operating system</li> <li>2. Describe components of an android applications</li> <li>3. Design user interfaces using various widgets, dialog boxes, menus</li> <li>4. Define interaction among various activities/applications using intents, broadcasting, services</li> <li>5. Develop Android applications that require database handling</li> </ol>

	Course Type	Paper Name	Paper No.	Learning Outcome of Paper
<b>Semester 4</b>	Core	Design and Analysis of Algorithms	C-8	<ol style="list-style-type: none"> <li>1. Given an algorithm, identify the problem it solves.</li> <li>2. Write algorithms choosing the best one or a combination of two or more of the algorithm design techniques: Iterative, divide-n-conquer, Greedy, Dynamic Programming using appropriate data structures.</li> <li>3. Write proofs for correctness of algorithms.</li> <li>4. Re-write a given algorithm replacing the (algorithm design) technique used with a more appropriate/efficient (algorithm design) technique.</li> </ol>
		Software Engineering	C-9	<ol style="list-style-type: none"> <li>1. Analyse and model customer’s requirements and model its software design.</li> <li>2. Use suitable software model for the problem at hand.</li> <li>3. Estimate cost and efforts required in building software.</li> <li>4. Analyse and compute impact of various risks involved in software development.</li> </ol>
		Database Management Systems	C-10	<ol style="list-style-type: none"> <li>1. Describe major components of DBMS and their functions</li> <li>2. Model an application’s data requirements using conceptual modelling tools like ER diagrams and design database schemas based on the conceptual model.</li> <li>3. Write queries in relational algebra / SQL</li> <li>4. Normalize a given database schema to avoid data anomalies and data redundancy</li> </ol>
	SEC-2	PHP Programming	SEC-2	<ol style="list-style-type: none"> <li>1. Write PHP scripts to handle HTML forms. Outcome 2. Write regular expressions including modifiers, operators, and metacharacters. Outcome 3. Create PHP programs that use various PHP library functions, and that manipulate files and directories.</li> </ol>

	Course Type	Paper Name	Paper No.	Learning Outcome of Paper
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Semester 5	Core	Theory of Computation	C-12	<ol style="list-style-type: none"> <li>1. Design a finite automaton, pushdown automaton or a Turing machine for a problem at hand.</li> <li>2. Apply pumping lemma to prove that a language is non-regular/non-context-free.</li> <li>3. Describe limitations of a computing machine.</li> </ol>
	Core	Internet Technology	C-11	<ol style="list-style-type: none"> <li>1. Describe Internet, its architecture, services and protocol.</li> <li>2. Implement a simple search engine.</li> <li>3. Implement a web crawler.</li> <li>4. Use javascript technologies to make a website highly responsive, more efficient and user friendly</li> </ol>
	DSE-1	System Programming	DSE-1	<ol style="list-style-type: none"> <li>1. Describe the working of assemblers and compilers.</li> <li>2. Knowledge of Lex/ Yacc for building basic compiler.</li> <li>3. Knowledge about two pass Assemblers.</li> <li>4. Describe the role of the loaders, linkers and relocatable programs.</li> </ol>
	DSE-2	Microprocessor	DSE-2	<ol style="list-style-type: none"> <li>1. Describe the internal architecture of Intel microprocessors</li> <li>2. Define and implement interfaces between the microprocessor and the devices.</li> <li>3. Write assembly language programs</li> </ol>
		Modelling and Simulation		<ol style="list-style-type: none"> <li>1. Students will understand the techniques of modeling in the context of hierarchy of</li> <li>2. knowledge about a system and develop the capability to apply the same to study systems through available software.</li> <li>3. Students will learn different types of simulation techniques.</li> </ol>

	Course Type	Paper Name	Paper No.	Learning Outcome of Paper
Semester 6	Core	Computer Graphics	C-14	<ol style="list-style-type: none"> <li>1. Describe Standard raster and vector scan devices as well as Graphical Input and output devices</li> <li>2. Implement algorithms for drawing basic primitives such as linecircle and ellipse.</li> <li>3. Implement algorithms for line clipping and polygon clipping and filling.</li> <li>4. Implement a 3D object representation scheme and carryout 2D and 3D Transformation, 3D projections</li> <li>5. Implement visible surface determination algorithms, Illumination models and surface rendering methods, color models</li> </ol>
		Artificial Intelligence	C-13	<ol style="list-style-type: none"> <li>1. Identify problems that are amenable to solution by specific AI methods</li> <li>2. Represent knowledge in Prolog and write code for drawing inferences.</li> <li>3. Identify appropriate AI technique for the problem at hand</li> </ol>
Semester 6	DSE-3	Machine Learning	DSE-3	<ol style="list-style-type: none"> <li>1. Differentiate between supervised and unsupervised learning tasks. 2. Differentiate between linear and non-linear classifiers. 3. Describe theoretical basis of SVM 4. Implement various machine learning algorithms learnt in the course.</li> </ol>
		Introduction to Data Sciences		<ol style="list-style-type: none"> <li>1. Use data analysis tools.</li> <li>2. Load, clean, transform, merge and reshape data.</li> <li>3. Create informative visualization and summarize data sets.</li> <li>4. Analyze and manipulate time series data.</li> </ol>

DSE-4	Data Mining	DSE-4	<ol style="list-style-type: none"> <li>1. Pre-process the data, and perform cleaning and transformation.</li> <li>2. Apply suitable classification algorithm to train the classifier and evaluate its performance.</li> <li>3. Apply appropriate clustering algorithm to cluster data and evaluate clustering quality</li> <li>4. Use association rule mining algorithms and generate frequent item-sets and association rules</li> </ol>
	Digital Image Processing		<ol style="list-style-type: none"> <li>1. Describe the roles of image processing systems in a variety of applications;</li> <li>2. Write programs to read/write and manipulate images: enhancement, segmentation, and compression, spatial filtering.</li> <li>3. Develop Fourier transform for image processing in frequency domain.</li> <li>4. Evaluate the methodologies for image segmentation, restoration</li> </ol>

### B.Sc Mathematical Science

Semester 1	Course Type (Core/AECC /GE/DSE/Language AECC)*	Paper Name	Paper No.	Learning Outcome of Paper
	Core	Problem solving with Computer (Python)	Paper 1	<ol style="list-style-type: none"> <li>1. Apply suitable programming constructs and data structures to solve a problem.</li> <li>2. Develop, document, and debug modular python programs.</li> <li>3. use classes and objects in application programs.</li> <li>4. use files for I/O operations.</li> </ol>
Semester 2	Course Type	Paper Name	Paper No.	Learning Outcome of Paper
	Core	Database Management System	Paper 2	<ol style="list-style-type: none"> <li>1. Describe major components of DBMS and their functions</li> <li>2. Model an application's data requirements using conceptual modelling tools like ER diagrams and design database schemas based on the conceptual model.</li> <li>3. Write queries in relational algebra / SQL</li> <li>4. Normalize a given database schema to avoid data anomalies and data redundancy</li> </ol>
Semester 3	Course Type	Paper Name	Paper No.	Learning Outcome of Paper
	Core	Operating System	Paper 3	<ol style="list-style-type: none"> <li>1. Implement multiprogramming, multithreading concepts for a small operating system.</li> <li>2. Create, delete, and synchronize processes for a small operating system.</li> <li>3. Implement simple memory management techniques.</li> <li>4. Implement CPU and disk scheduling algorithms.</li> </ol>
				Efficiently use Office Automation Tools like word processors, spreadsheets and

SEC – 1	Office Automation Tools	SEC – 1	presentation tools.

Semester 4	Course Type	Paper Name	Paper No.	Learning Outcome of Paper
	Core	Computer System Architecture	Paper 4	1) Design Combinational Circuits using basic building blocks. Simplify these circuits using Boolean algebra and Karnaugh maps. Differentiate between combinational circuits and sequential circuits, 2) Represent data in binary form, convert numeric data between different number systems and perform arithmetic operations in binary 3)3. Determine various stages of instruction cycle and describe interrupts and their handling. 4. Explain how CPU communicates with memory and I/O devices
	SEC-2	PHP Programming	SEC-2	1. use different data types and control structures in PHP. 2. handle arrays and strings in PHP. 3. create dynamic interactive web pages with PHP. 4. use PHP built-in functions as well as define custom functions. 5. perform data validation in PHP. 6. manipulate and manage a database using PHP

Semester 5	Course Type	Paper Name	Paper No.	Learning Outcome of Paper
	DSE-1	Programming in Java	DSE-1	1. develop and execute Java programs using iteration and selection. 2. create classes and their objects. 3. implement OOPS concepts to solve problems using JAVA
	SEC-3	Systems Administration and Applications	SEC-3	1. Basics of operating system(Linux and windows), services, features, Architecture, maintenance and applications 2. Installation and configuration, maintenance

Semester 6	Course Type	Paper Name	Paper No.	Learning Outcome of Paper
	DSE-2	Internet Technologies	DSE-2	1. Describe major components of DBMS and their functions 2. Model an application's data requirements using conceptual modelling tools like ER diagrams and design database schemas based on the conceptual model. 3. Write queries in relational algebra / SQL 4. Normalize a given database schema to avoid data anomalies and data redundancy
	SEC-4	Android Programming	SEC-4	1. Describe the design of Android operating system. 2. Describe various components of Android applications. 3. Design user interfaces using various widgets, dialog boxes, menus. 4. Design application with interaction among various activities/applications using intents

## B.A.(P) Discipline Course in Computer Applications

B.A.(P) Discipline Course in Computer Applications				
<b>Semester 1</b>	Course Type (Core/AECC/GE/DSE/Language AECC)*	Paper Name	Paper No.	Learning Outcome of Paper
	Core	Computer Fundamentals	DSC 1A	<ol style="list-style-type: none"> <li>1. handle a computer system for day to day use.</li> <li>2. enumerate different types of input/ output devices and types of memory.</li> <li>3. perform basic arithmetic operations using different number systems including binary arithmetic.</li> <li>4. differentiate between system and application software.</li> <li>5. prepare documents / spreadsheets.</li> </ol>
<b>Semester 2</b>	Course Type	Paper Name	Paper No.	Learning Outcome of Paper
	Core	Database Management System	DSC 1B	<ol style="list-style-type: none"> <li>1. differentiate between database systems and file systems.</li> <li>2. describe the features of database management systems.</li> <li>3. analyze the problem and arrive at an information model in the form of an ER diagram.</li> <li>4. normalize a database.</li> <li>5. transform an ER model into a relational database schema.</li> </ol>
<b>Semester 3</b>	Course Type	Paper Name	Paper No.	Learning Outcome of Paper
	Core	Computer Networks and Internet technologies	DSC 1C	<ol style="list-style-type: none"> <li>1. Enumerate various network topologies and identify situations when different network topologies would be useful.</li> <li>2. distinguish between LAN, MAN, WAN.</li> <li>3. distinguish between Intranet, Extranet and Internet.</li> <li>4. describe client-server architecture.</li> <li>5. enumerate different transmission media and describe the use of each of them.</li> <li>6. design web pages using HTML.</li> </ol>
	SEC – 1	Office Automation Tools	SEC-1	Efficiently use Office Automation Tools like word processors, spreadsheets and presentation tools.
	Course Type	Paper Name	Paper No.	Learning Outcome of Paper
				<ol style="list-style-type: none"> <li>1. Enumerate and describe the multimedia components.</li> </ol>

<b>Semester 4</b>	Core	Multimedia Systems & Ap	DSC 1D	2. Generate, manipulate and use images in multimedia projects using bitmap, vector and 3-D images. 3. Create basic animations.
	SEC-2	Search Engine Optimization	SEC-2	1. Search Engine Basic & Market Data, 2. knowledge about how to build high-performance websi

	Course Type	Paper Name	Paper No.	Learning Outcome of Paper
<b>Semester 5</b>	DSE	Visual Programming	DSE-1B	1.Students code visual programs by using Visual Basic work environment. 2. Distinguish and compose events and methods.
	SEC	Open Source Software	SEC 3A	1. install open source software. 2. work on an open source operating system like Linux, Gambas and Gimp. 3. describe common open source licenses and the impact of choosing a license. 4. find open source projects related to a given development problem.
	GE-1	IT Fundamentals	GE 1	1. develop a vocabulary of key terms related to the computer and to software program menus, identify the components of a personal computer system and use the interface deftly. 2. organize files and documents on storage devices. 3. compose, format and edit a word document. 4. use spreadsheet for storing data and performing preliminary analysis

	Course Type	Paper Name	Paper No.	Learning Outcome of Paper
<b>Semester 6</b>	DSE	Project	DSE- 2B	1. Develop a project plan based on informal description of the project. 2. implement the project as a team.
	SEC	Web Design using HTML5	SEC 4A	1. Define the principle and basics of Web page design 2. visualize the basic concept of HTML. 3. recognize the elements of HTML. 4. apply basic concept of CSS. 5. publish the web pages.
	GE-2	Multimedia	GE-2	1. enumerate and describe the multimedia components. 2. generate, manipulate and use images in multimedia projects using bitmap, vector and 3-D images. 3. create basic animations.

### GE Computer science (All Hons. Courses)

Semester 1	<b>Course Type</b> (Core/AECC/GE/DSE/Language AECC)*	<b>Paper Name</b>	<b>Paper No.</b>	<b>Learning Outcome of Paper</b>
	GE-1	Introduction to Programming	GE-1	1) Explain significance of object oriented paradigm, 2) Solve programming problems using object oriented feature, 3) Reuse classes to create new classes
Semester 2	<b>Course Type</b>	<b>Paper Name</b>	<b>Paper No.</b>	<b>Learning Outcome of Paper</b>
	GE-2	Introduction to Database	GE-2	1. Describe the features of database management systems. 2. Differentiate between database systems and file systems. 3. Model an application's data requirements using conceptual modelling tools like ER diagrams and design database schemas based on the conceptual model. 4. Write queries in relational algebra / SQL. 5. Normalize a given database schema.
Semester 3	<b>Course Type</b>	<b>Paper Name</b>	<b>Paper No.</b>	<b>Learning Outcome of Paper</b>
	GE-3	Computer Networks and Internet technologies	GE-3	1. State the use of computer networks and different network topologies. 2. Distinguish between LAN, MAN, WAN, and between Intranet, Extranet and Internet. 3. Compare OSI and TCP/IP architectures 4. Enumerate different transmission media and describe the use of each of them. 5. Design web pages using HTML
Semester 4	<b>Course Type</b>	<b>Paper Name</b>	<b>Paper No.</b>	<b>Learning Outcome of Paper</b>
	GE-4	Information Security & Cyber laws	GE-4	1. Learn, structure, mechanics and evolution of various crime threats 2. Learn to protect information systems from external attacks by developing skills in



# B.A. (Hons.) Economics

	Course Type (Core/AECC/GE/ DSE/Language AECC)*	Paper Name	Paper No.	Learning Outcome of Paper
<b>Semester 1</b>	Core	Introductory Microeconomics	1	Demonstrate an understanding, usage and application of basic economic principles. Describe and apply the methods for analyzing consumer behavior through demand and supply, elasticity and marginal utility. Identify and appraise various models of how markets are organized, and the price and output decisions for maximizing profit.
	Core	Mathematical Methods for Economics-I	2	Students learned how to use logic to prove or disprove a proposition. They learned about the functions of one real variable, the graphs of functions. Linear functions, polynomials, power, and exponential functions were also taught to them. Students also learned, in detail, the concept of limits, continuity, series, single variable differentiation, and optimization of single-variable functions. They were also exposed to linear algebra concepts - in particular - vectors, matrices, determinants. They learned how all these techniques are used in the study of economics.
	GE	Introductory Microeconomics	GE-1	Demonstrate an understanding, usage and application of basic economic principles. Describe and apply the methods for analyzing consumer behavior through demand and supply, elasticity and marginal utility. Identify and appraise various models of how markets are organized, and the price and output decisions for maximizing profit.

	Course Type	Paper Name	Paper No.	Learning Outcome of Paper
<b>Semester 2</b>	Core	Introductory Macroeconomics	3	Demonstrate an understanding and application of the basic concepts of macroeconomics. Describe and discuss the preliminary concepts associated with the determination and measurement of the aggregate macroeconomic variable like savings, investment, GDP, money, inflation, and the balance of payments.
	Core	Mathematical Methods for Economics-II	4	Students learned multivariable optimization – both constrained and unconstrained. They also learned the concepts of convexity and concavity. They also acquired the skill of using linear programming in finding optimal solutions to problems. Integrations, solving differential equations, and their usage in economics was also taught to them. They became equipped in using all these techniques in microeconomics and macroeconomics.
	GE	Introductory Macroeconomics	GE-2	Demonstrate an understanding and application of the basic concepts of macroeconomics. Describe and discuss the preliminary concepts associated with the determination and

	Course Type	Paper Name	Paper No.	Learning Outcome of Paper
	Core	Intermediate Microeconomics-I	5	Learning about the Neo-Classical formal frameworks of theories of consumer and producer choices.
				Students learn about the Keynesian economy and IS-LM model framework, concepts of Aggregate

<b>Semester 3</b>	Core	Intermediate Macroeconomics-I	6	demand and Aggregate supply, Labor markets and the Philips curve, relation between output and unemployment described by Okun's Law, Lucas model and Policy Ineffectiveness Proposition, Theory of Adaptive and Rational Expectations and Open Economy Models.
	Core	Statistical Methods for Economics	7	Demonstrate an understanding and application of the concepts of probability, discrete and continuous random variables, joint probability distributions, point and interval estimation theories, the concept of hypothesis testing and special distributions in statistics.
	SEC	Financial Economics	SEC-1	Students acquire extensive theoretical knowledge in portfolio risk management, capital asset pricing, and the operation of financial derivatives. The course familiarises students with the terms and concepts related to financial markets and helps them comprehend business news/articles better. The course also helps to enhance a student's understanding of real life investment decisions. The course has a strong employability quotient given the relatively high demand for skilled experts in the financial sector.
	GE	Indian Economy-I	GE-IIIA	Students learn about how different things affect the overall growth of an economy. It talks about savings, literacy, food & nutrition etc; various aspects of an economy which ultimately affect the economic growth. Case studies help the students to relate the day to day incidents with theory and this helps these students to learn how an economy works. It gives them a real picture on the functioning of Indian Economy.
	GE	Money and Banking	GE-IIIB	Students learn about the concepts, functions, measurement and theories of Money Supply Determination, Financial Institutions and Markets and the concept of Financial Innovation, Interest Rate Theories, Banking System and Monetary Policy.

Course Type	Paper Name	Paper No.	Learning Outcome of Paper
Core	Intermediate Microeconomics-II	8	Restricting focus on neo-classical approach, students learn about (i) different forms of market structure and output and pricing decisions of firm operating in those markets ; (ii) General equilibrium framework to understand interdependence and price determination in markets; (iii) formalism of concepts like efficiency, equity and fairness; (iv) theory of social choice; (v) formal framework (Game Theory) of studying situations of strategic interactions and (vi) how presence of "externalities", markets for "public goods" and asymmetry of information lead to "inefficiencies" in the market outcomes.
Core	Intermediate Macroeconomics-II	9	This course is a sequel to Intermediate Macroeconomics I. In this course, students are introduced to long run issues like growth, technical progress, economics of ideas, R&D, innovation and knowledge creation. This course also provides insights into modern business cycle analysis. Finally it introduces students to open economy macro issues. At the end, it provides a long run perspective to policy-making by framing policies in a dynamic context. This course will enable students to combine their knowledge of the working of the macroeconomy with long run economic phenomena like economic growth, technological progress, R&D and innovation. It will also enable students to understand business cycles and the concomitant role of policies.

<b>Semester 4</b>	Core	Introductory Econometrics	10	the students will be able to understand the fundamental concepts of econometrics as a discipline and uses of econometrics in scientific analysis of economic problems and comprehend the basic ideas of estimation and hypothesis testing, Apply the learned techniques in analysing the economic theories.
	SEC	Data Analysis	SEC-II	Develop an in-depth understanding of the sampling methods and tools of statistical investigation, and demonstrate proficiency in the collection, summarization and statistical analysis of data using free statistical software.
	GE	Indian Economy- II	GE-IVA	Students learn about the purpose of fiscal and monetary policy and how these policies help an economy. From a broader picture we move towards trends in the economy and how specific sectors (such as manufacturing, agriculture, services) influencing the economic growth. It discuss the different phases faced by Indian Economy. It gives a realistic picture about what is going on in the economy. Students can understand the reasons behind slow economic slowdown and can relate theory with the theory.
	GE	Public Finance	GE-IVB	In the first part of the paper students learn how to apply the techniques and lessons learned in the perviously studies microeconomic papers to the arena of public policy. Students learn (i) different theories of size, growth and justifications of public sector; (ii) sources and implications of inefficiency of markets; (ii) design of taxes and subsidies; (iii) design of tax inspection policies. In the second part students learn about the recent trends and issues in Indian public finance and public policies.

	Course Type	Paper Name	Paper No.	Learning Outcome of Paper
<b>Semester 5</b>	Core	Indian Economy -I	11	Students learn about the functioning of the core sectors in the economy i.e., agriculture, manufacturing & services. This course makes students to understand the major transformation, trends & sectorwise growth of Indian Economy since 1947. Students are able to understand the fact that why the economy is functioning the way it is functioning. It talks about various factors which helped Indian Economy's growth.
	Core	Development Economics -I	12	Students develop an overview of economic transformation happening in developing countries. Major trends in per-capita income, inequality, poverty and development are discussed. Students analyse the unevenness in the development and possibilities that benefits of growth may not accrue equally to all. Growth models like Harrod-Domar Model, Solow Model and Endogenous growth model help in comprehending the reasons for unconditional and conditional convergence. The Subject uses game- theoretic and statistical concepts along with application of micro economics and macro economics concepts.
	DSE	Public Economics	Group I (vii)	In the first part of the paper students learn how to apply the techniques and lessons learned in the perviously studies microeconomic papers to the arena of public policy. Students learn (i) different theories of size, growth and justifications of public sector; (ii) sources and implications of inefficiency of markets; (ii) design of taxes and subsidies; (iii) design of tax inspection policies. In the second part students learn about the recent trends and issues in Indian public finance and public policies.

DSE	International Economics	Group I (vi)	Develop a conceptual understanding of the economic theories and models of international trade, the likely distributional consequences of trade, conflicting arguments of economists concerning trade policy, issues surrounding globalization, open-economy macroeconomics and the determinants of exchange rates and the balance of payments.
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Semester 6	Course Type	Paper Name	Paper No.	Learning Outcome of Paper
	Core	Indian Economy- II	13	Students learn about the purpose of fiscal and monetary policy and how these policies help an economy. From a broader picture we move towards trends in the economy and how specific sectors (such as manufacturing, agriculture, services) influencing the economic growth. It discuss the different phases faced by Indian Economy. It gives a realistic picture about what is going on in the economy. Students can understand the reasons behind slow economic slowdown and can relate theory with the theory.
	Core	Development Economics-II	14	Students are introduced to discussion on population growth where the relationship between demography and economics is explored with a different view. They also study the informal markets in detail with emphasis on land, labor and credit. They are also briefed concepts like sustainable development and globalisation that give them a broader insight about the international economic issues and it's solutions.
	DSE	Money and Financial Markets	Group II (xiii)	Students learn about the concepts, functions, measurement and theories of Money Supply Determination, Financial Institutions and Markets and the concept of Financial Innovation, Interest Rate Theories, Banking System and Monetary Policy.
	DSE	Comparative Economic Development (1850-1950)	Group II (ix)	This course investigates selected issues in comparative historical perspective over the 19th century and the first few decades of the 20th century. The course focuses on a set of countries, which followed clearly diverse trajectories and patterns of growth to achieve their industrial transition and compares the outcomes of these diverse trajectories on sectoral change, inter-sectoral relations, labour processes and industrial relations and also compares the role of the state in facilitating the respective trajectories.

## B.A. (P)

Semester 1	Course Type (Core/AECC/GE/ DSE/Language AECC)*	Paper Name	Paper No.	Learning Outcome of Paper
	B.A. (P) DSE Economics	Principles of Microeconomics-I	Core Economics 1	Students learns about (i) the broad structure of an economy and it's central problems; (ii) demand and supply of of commoties/services the responsiveness (elasticity) to their determinants; (iii) application of demand and supply framework to the govt. policies; (iv) introduction to the theory of consumer choice; (v) production and costs of firms and (vi) output decision of a competitive firm

	Course Type	Paper Name	Paper No.	Learning Outcome of Paper
Semester 2	B.A. (P) DSE Economics	Principles of Microeconomics-II	Core Economics 2	Students learn about (i) different market forms and pricing and output decisions of firms in those markets; (ii) market inefficiencies and their implications for the market outcomes (iii) regulations to correct market inefficiencies; (iv) demand for inputs and income distribution and (v) theory of international trade
	B.A. (P) DSE Economics	Principles of Macroeconomics-I	Core Economics 3	After learning Principles of macroeconomics- 1 students can understand Issues in Macroeconomics and National Income Accounting, National Income Determination for an Open Economy with Government, functions of money, and measures of money supply. Instruments of monetary policy in an economy.
Semester 3	B.A. (P) SEC Economics	Understanding the Economic survey and union budget	SEC-1	The course seeks to familiarise students with basic concepts related to the Economic Survey and Union Budget. It aims to equip students with sufficient knowledge and skills to analyse these documents. Students will have the capability to understand government policies and will be informed participants in economic decision-making.
	B.A. (P) DSE Economics	Principles of Macroeconomics-II	Core Economics 4	After learning Principles of macroeconomics- 2 students can understand IS LM Model, Issues in inflation and unemployment, balance of payment and foreign exchange rate
Semester 4	B.A. (P) SEC Economics	Research Methodology	SEC-2	This course is designed to provide students skills for collecting and analysing data to answer real world problems. It will cover modes of data collection, data cleaning and data representation. The student will develop an understanding of how commonly available data is collected and analyzed. This would help in the interpretation of secondary data and in the management of small primary surveys.
	B.A. (P) DSE Economics	Economic Development and Policy in India-I	DSE-1	The students learn about the latest developments in the Indian Economy through latest reports and documents such as economic surveys and latest policy reports. They get an overview and comparative perspective of India's growth story, demography and development, Employment, Five- Year plans and Policy issues.
Semester 5	B.A. (P) SEC Economics	Data Analysis	SEC-3	The students will be instructed on the use of spreadsheet and statistical software to analyse data. Software used for the course will vary based on what is available. Open access software such as R will be encouraged. Students will learn to input, visually represent and analyse data.
	B.A./B.Com. (P) GE Economics	Principles of Microeconomics	GE-II	This course intends to expose the student to the basic principles in Microeconomics and their applications. The course will illustrate how microeconomic concepts can be applied to analyse real-life economic situations. The students learn some basic principles of microeconomics and interactions of supply and demand, characteristics of perfect competition, efficiency and welfare.

	Course Type	Paper Name	Paper No.	Learning Outcome of Paper
Semester 6	B.A. (P) DSE Economics	Economic Development and Policy in India-II	DSE-4	Students are trained to infer and interpret economic data from different sources like Economic Survey, RBI and research articles. They develop an insight about the India's agricultural growth, industrial development and policies, labor markets, external sector and foreign direct and portfolio investments.
	B.A./B.Com. (P) GE Economics	Principles of Macroeconomics	GE-II	This course introduces students to the basic concepts in Macroeconomics. Macroeconomics deals with the aggregate economy. In this course the students are introduced to the definition, measurement of the macroeconomic variables like GDP, consumption, savings, investment and balance of payments. The course also discusses various theories of determining GDP in the short run. This course is useful for understanding various real economic issues and evaluating policy outcomes.

## ENGLISH

Semester	Course Type	Paper Name	Paper No.	Learning Outcome of Paper
1				
	Core	Indian Classical Literature	1	Introduction to Indian literary heritage including classical drama, epic and poetry representing diverse parts of ancient India. To introduce the immense development in theory, language, genres and forms prevalent in ancient and medieval Indian subcontinent. To provide a comprehensive view of form and themes for facilitating comparative approach between Indian and Western classical forms.
	Core	European Classical Literature	2	The aim of this paper is to enable students to learn about genres and their origins in ancient Greece. The students are introduced to Classical Greece and its culture with special focus on the Athenian City State and the flowering of art and literature there.
	AECC	English/MIL	1	The current paper is designed to inculcate various abilities in students vis-a-vis communication needs and practices. The paper not only provides theoretical framework to different aspects of communication in English but also seeks to provide application knowledge in real time situations. The course is designed to sensitise students towards various contexts in which communication takes place.
2				
	Core	Indian Writing in English	3	This paper introduces students to Indian culture, ethos and helps them to critical understand Indian society.
	Core	British Poetry and Drama: 14th to 17th Centuries	4	Students are introduced to British literature from 14th to 17th centuries with special emphasis on Renaissance and its accompanying thoughts. Literary forms such as the sonnet and genres such as comedy and tragedy are also highlighted through this paper.
3				
	Core	American Literature	5	The writers covered under this paper bring in the perspective about the new land from the point of view of the early white pioneers to the more contemporary notions of American Society. The issues concern that of the treatment of nature, rapid urbanization, capitalism, civil war, slavery etc. It also strongly brings in the radical challenges to the melting pot idea and hegemonic structures from the perspective of gender with emphasis on black women writers perspective,
	Core	Popular Literature	6	The course introduces students to several theoretical concerns of Popular literature and to the various genres of popular writing through texts. The students learn how to interpret texts in light of these theoretical concerns.
	Core	British Poetry and Drama: 17th and 18th Centuries	7	The paper includes poetry, prose as well as drama ranging from Renaissance, Civil War, The Commonwealth and The Restoration. The paper explores the issues of identity in terms of culture, philosophy, gender, religion and politics. It also clarifies how secular and sacred subjects are closely intertwined.
	SEC	Creative Writing	4	The course provides a theoretical background to various concepts of creative writing and its application in poetry, drama, and fiction.
4				

	Core	British Literature: 18th Century	8	The course spans out to introduce the entire 18th century British literature through various representative texts and background readings. The students also learn to apply new literary understanding of the age to interpret the texts.
	Core	British Romantic Literature	9	Contextual understanding of Romantic literature with neo historical perspectives from contemporary political events, philosophical thought; along with comprehending the stylistics and characteristics of romantic literature,
	Core	British Literature: 19th Century	10	This course introduces students to the intellectual, religious and artistic influences on literature during 19th century England. The scientific temper of the age, as well as other hallmarks of the century such as colonization and the industrial revolution form the backdrop to different genres of literature studied in this paper. Hence the themes of utilitarianism, marriage and sexuality, the artist and society, dramatic monologue, faith and doubt and expounded through both literary and non-literary readings prescribed in the syllabus.
	SEC	English Language Teaching	1	Many students go on to become school teachers as their choice of profession. This course prepares them and teaches them the basic know-how of breaching language barriers in non-native English speakers and gives them practical real-life examples and approaches to teach English as a second or third language.
5				
	Core	Women's Writing	11	To delve into writings by women to see it with fresh eyes, so as to break the hold of tradition, self-discover to create a blue-print for the future.
	Core	British Literature: The Early 20th Century	12	The aim of this paper is to introduce students to the 20th century novel and poetry through the works of Conrad, TS Eliot, Lawrence etc.
	DSE	Modern Indian Writing In English Translation	1	This paper aims to give students a glimpse of cultural diversity, linguistic plurality and literary traditions in modern India . It also encourages a deeper engagement with and a nuanced discussion of issues of history, memory, caste, gender and resistance.
	DSE	British Literature: Post World War II	3	The paper seeks to familiarise students with writings of various authors in various genres in post world war 2 Britain. The major trends and literary theoretical debates such as Postmodernism, Intertextuality and experimentation are covered. The paper seeks to familiarise students with formulations regarding important debates in the critical writings pertaining to the British literature in Post World War 2 framework. The students are trained to identify resonances, parallels, similarities and socio-historical and political influences in the literary output of the period in question. It is expected that the students would gain enough knowledge and practice to take up other literary pieces from the same time and will be able to critically engage with them.
	DSE	Science fiction and Detective Literature	6	The paper introduces students to a literary understanding of the genre of science fiction and detective writing through various critical essays and textual readings.
6				
	Core	Modern European Drama	13	Overview of the trends and movements in early to mid 20th C European Drama. Understanding of changing themes, and how modernity in literature was ushered in through this drama. Knowledge of acting methodologies, political ideologies and existing philosophies of the period.



	Core	Postcolonial Literatures	14	The paper introduces writers that have challenged the colonial notions from diverse locations including Africa, South America, Caribbean etc. New units including short stories from African women writers have been introduced for a comparative understanding from a gender as well as chronological perspective. New units including short stories from African women writers have been introduced for a comparative understanding from a gender as well as chronological perspective. A non-European way of thinking and busting of stereotypes about 'native's perpetuated by the colonisers is a major outcome of this paper.
	DSE	Literature and Cinema	7	The course offers students an insight into the linkages between literature and cinema. It enables a primary foray into the field of Adaptation Studies as an independent stream of enquiry. It enables an understanding of various methodologies of looking at adaptations both historically and in evolving contexts. It equips students for a practical understanding of the cinematic medium. It stresses the interdisciplinary nature of the field and provides practical frameworks for navigating cinematic adaptations of literary works.
	DSE	Literary Theory	9	The students, through the prescribed readings in the paper are taught to not only develop in-depth understanding of various theoretical frameworks of reading literature, but also apply the same while reading any work of literature. An in depth understanding of various literary theories such as marxism, feminism, post colonialism, post structuralism etc is created. The students are motivated to apply these theoretical tools to various literary texts. The students get to understand various concepts implicated in these theoretical frameworks, such as power, language, representation, gender construct, class and ideology etc.
	DSE	Partition Literature	10	To read Partition Literature to challenge and subvert the oppressive nationalist discourses and hegemonic narratives of identity, power and belonging.

#### OTHER COURSES

Semester	Course Type	Paper Name	Paper No.	Learning Outcome of Paper
Semester 1				
	AECC	English/ MIL Communication	1	This course helps students in improving their communication skills, analytical skills and prepares them to work in a competitive environment.
	Core B. Com (P)	Advanced English: Stream A (1)	1	The course enhances the skills of reading, writing, speaking and listening. It encourages recognition and awareness of different genres like the short story, poetry, feature articles, etc.
	Core B. Com (P)	Intermediate English: Stream B (1)	1	The ability to understand and assimilate the main ideas and specific details in a 400-500 word text of moderate difficulty, with correct pronunciation, intonation and pauses, and facial expressions.
	Core B. Com (P)	Basic English: Stream C (1)	1	The recommended readings help the students increase their proficiency in English by enhancing their resources to deal with communicative needs of everyday life at home, at work, and in social interaction.

	GE	Language, Literature and Culture		Students would acquire some basic aspects of language in general and some issues emerging from the multilingual situation in India. They will gain a broad view of significant themes and forms of Indian literature through the ages with the help of prescribed texts. They will have an understanding of the values and assumptions underlying contemporary popular culture with special reference to media. These outcomes will have a bearing on the further academic pursuits of the students as well as on their role as members of a multilingual community.
	DSC	Individual and Society	1A	This course paves a strong platform to students to understand about the issues of Caste, Class, Gender, War and Violence.
Semester 2				
	DSC	Selections from Modern Indian Literature: Poems and Short Stories	1 B	This paper enables students to identify and understand different literary genres. The focus is on short stories and poems. Through the poems, students are introduced to the Victorian Age and to the Modern Age.
	GE All Honours	Media and Communication Skills	2	The paper brings forth a theoretical as well as practical understanding of mass communication, writing for media, advertising and social media platforms. It gives a great opportunity to be creative as well as accountable and precise in writing and creative skills.
	AECC	English/ MIL Communication		This course helps students in improving their communication skills, analytical skills and prepares them to work in a competitive environment.
	Core BA (P)	Advanced English: Stream A (1)	1	The course enhances the skills of reading, writing, speaking and listening. It encourages recognition and awareness of different genres like the short story, poetry, feature articles, etc.
	Core BA (P)	Intermediate English: Stream B (1)	1	The ability to understand and assimilate the main ideas and specific details in a 400-500 word text of moderate difficulty, with correct pronunciation, intonation and pauses, and facial expressions.
	Core BA (P)	Basic English: Stream C (1)	1	The recommended readings help the students increase their proficiency in English by enhancing their resources to deal with communicative needs of everyday life at home, at work, and in social interaction.
Semester 3				
	SEC	Creative Writing in English BA (P)	4	This skill based paper introduces an understanding of genres, figures of speech, different kinds of media writing and editing.
	GE	Contemporary India: Women and Empowerment	5	Students will have an understanding of social construction of gender and how ideology of gender has impact on our everyday lives. They will learn that class relations, race, sexuality, ethnic and religious identities are equally significant. This will help to initiate a process of social justice and change.
	Core B. Com (P)	Advanced English: Stream A (2)	2	The course teaches the students speaking and listening skills in class and tests these skills for a constant monitoring of their proficiency. By the end of the two-semester course the learner should have sufficient vocabulary to read and understand biographical sketches, narratives, write coherently, summarise and understand tape scripts/read-aloud, speak fluently and narrate at length with minimal errors in syntax.
	Core B. Com (P)	Intermediate English: Stream B (2)	2	The two semester course enhances the reading skills demonstrated in simple comprehension passages of about six hundred words, write short paragraphs on familiar topics, understand lectures and presentations in English, speak about themselves, seek information in the context of real life situations.

	Core B. Com (P)	Basic English: Stream C (2)	2	At the end of the two semester course, learners should have internalised the basics of syntax to be able to describe, write a short paragraph of simple sentences with relatively accurate spellings, learn to dialogue with one another and read with correct pronunciation showing an enhanced level of confidence in using English.
	DSC	British Novel, Play and Poetry	1 C	The course will give a broad yet deep understanding of both canonical 18th century and Romantic Age. The mix of drama, novel, sonnets and love lyrics, will introduce them to different genres and authors. It goes without saying that this variety would expose them to a world of literature which they can pursue as their side interest in future or go for higher studies.
Semester 4				
	GE All Honours	Academic Writing and Composition	1	To learn to write and read for an academic paper, to learn the importance of critical thinking, analysis and synthesis in writing a paper, To understand the ethics of writing a paper, plagiarism and intellectual property. To be able to structure an argument cogently, To know the difference between fact and opinion and to understand the importance of evidence and research,
	DSE	Silence: The Court is in Session by Vijay Tendulkar	1D	To familiarise students with literary cross-currents,
	Core BA (P)	Advanced English: Stream A (2)	2	The course teaches the students speaking and listening skills in class and tests these skills for a constant monitoring of their proficiency. By the end of the two-semester course the learner should have sufficient vocabulary to read and understand biographical sketches, narratives, write coherently, summarise and understand tape scripts/read-aloud, speak fluently and narrate at length with minimal errors in syntax.
	Core BA (P)	Intermediate English: Stream B (2)	2	The two semester course enhances the reading skills demonstrated in simple comprehension passages of about six hundred words, write short paragraphs on familiar topics, understand lectures and presentations in English, speak about themselves, seek information in the context of real life situations.
	Core BA (P)	Basic English: Stream C (2)	2	At the end of the two semester course, learners should have internalised the basics of syntax to be able to describe, write a short paragraph of simple sentences with relatively accurate spellings, learn to dialogue with one another and read with correct pronunciation showing an enhanced level of confidence in using English.
	SEC	Technical Writing	6	The course introduces students to various concepts of technical writing, research writing and enhances practical application of these concepts through various exercises.
Semester 5				
	GE	Readings on Indian Diversities and Literary Movements	7	Its an introductory course on various literary movements like Bhakti and Sufi movement and the various concerns of cultural and social diversities in India concerning language politics, women's issues, dalit writing, Indian writing in english and the various regional literature like sindhi, gujrati, dogri etc
	DSE	Modern Drama	1 E2	This paper introduces students to Modern drama in the European as well as Indian context.
	SEC	Soft Skills	2	Students are taught the importance of building high emotional quotient
Semester 6				
	GE BA (P)	Media Writing & Communication	2	The course allows an understanding of various concepts related to media writing and provides hand on practical knowledge of these concepts through various practice based exercises.

	DSE	Children's Literature	1 F	To familiarise students with the genre of Children's Literature. Also to help them develop emotional intelligence and creativity,
	SEC	English Language Teaching	1	Many students go on to become school teachers as their choice of profession. This course prepares them and teaches them the basic know-how of breaching language barriers in non-native English speakers and gives them practical real-life examples and approaches to teach English as a second or third language.

## AECC-EVS

	Course Type (Core/AECC/GE/DSE/Language AECC)*	Paper Name	Paper No.	Learning Outcome of Paper
<b>Semester 1</b>	<b>AECC</b>	Environmental Science	72182801	* The main aims to train students to cater to the need for ecological citizenship through development of a strong foundation on the critical linkages between ecology-society-economy.
				* Encouraging adoption of sustainability as a practice in life, society and industry.
				* Development of critical thinking for shaping strategies (scientific, social, economic, administrative, and legal) for environmental protection, conservation of biodiversity, environmental equity and sustainable development.

	Course Type (Core/AECC/GE/DSE/Language AECC)*	Paper Name	Paper No.	Learning Outcome of Paper
<b>Semester 2</b>	<b>AECC</b>	Environmental Science	72182801	* The main aims to train students to cater to the need for ecological citizenship through development of a strong foundation on the critical linkages between ecology-society-economy.
				* Encouraging adoption of sustainability as a practice in life, society and industry.
				* Development of critical thinking for shaping strategies (scientific, social, economic, administrative, and legal) for environmental protection, conservation of biodiversity, environmental equity and sustainable development.

	Course Type (Core/AECC/GE/DSE/Language AECC)*	Paper Name	Paper No.	Learning Outcome of Paper
<b>Semester 3</b>	NA	NA	NA	NA

	Course Type (Core/AECC/GE/DSE/Language AECC)*	Paper Name	Paper No.	Learning Outcome of Paper
<b>Semester 4</b>	NA	NA	NA	NA

Semester 5	Course Type (Core/AECC/GE/DSE/Language AEEC)*	Paper Name	Paper No.	Learning Outcome of Paper
	NA	NA	NA	NA
Semester 6	Course Type (Core/AECC/GE/DSE/Language AEEC)*	Paper Name	Paper No.	Learning Outcome of Paper
	NA	NA	NA	NA

## B.A.(Hons)Hindi /B.A.(Prog)/B.Com.

Semester 1	Course Type	Paper Name	Paper No.	Learning Outcome of Paper
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Core	हिन्दी भाषा और उसकी लिपि का इतिहास B.A.(Hons)Hindi	I	भाषा क्या है? उसका विकास किस प्रकार होता है? समाज पर उसका क्या प्रभाव पड़ता है? उसके लिपि किस प्रकार अस्तित्व में आती है? इसके संपूर्ण जानकारी विद्यार्थी हो उपलब्ध कराना इस प्रश्न पत्र का उद्देश्य है।
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Core	हिन्दी कविता (आदिकाल एवं भक्तिकाल) B.A.(Hons)Hindi	II	समाज और राजनीति किस प्रकार मनुष्य पर अपना असर छोड़ती है। तथा उनकी भावनाएं और विश्वास कैसे कविता में अवतरित होते हैं। इस बात का बोध कराना भक्तिकालीन कविता का मुख्य लक्ष्य है, भक्ति कालीन कविता से विद्यार्थियों को इस बात का पता चलता है कि किस प्रकार शास्त्र को कविता के अंदर उतारा जाता है और कैसे जनमानस भक्ति को एक आंदोलन के रूप में स्वीकार करता है।
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AECC	हिन्दी भाषा और सम्प्रेषण	1.3	भाषा को समझना उसके उसके संपूर्ण आयामों को जानना तथा किस प्रकार उसको सही ढंग से संप्रेषित किया जाता है। इस बात की जानकारी विद्यार्थी को इस प्रश्न-पत्र से मिलते हैं।
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GE	लोकप्रिय साहित्य B.A.(Hons)Hindi	1.4 A	लोकप्रिय साहित्य पढ़ाने का उद्देश्य यह है कि इससे हमारे विद्यार्थी उस साहित्य से परिचित होते हैं। जिसको बहुत अल्प पढ़े-लिखे लोग पढ़ते हैं उसकी रोमांचकता, उसके काल्पनिकता किस प्रकार एक समानांतर दुनिया खड़ी करती है ; जिसके माध्यम से हम जानते हैं कि कैसे एक आम व्यक्ति लोकप्रिय साहित्य से अपना मनोरंजन करता है तथा अपना कथार्थिंस ही कर लेता है।
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GE	हिन्दी सिनेमा और उसका अध्ययन	1.4B	सिनेमा एक बहुत सशक्त माध्यम है जिसका प्रभाव समाज पर बहुत गहरा पड़ता है। इस प्रश्न पत्र के माध्यम से विद्यार्थियों को सिनेमा के विभिन्न पक्षों को जानने समझने का अवसर मिलता है। वर्तमान समय में रोजगार के अनंत अवसर उपलब्ध हैं।
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DSC	हिंदी भाषा और साहित्य का इतिहास B.A (Prog)	1.1	साहित्य समाज का दर्पण होता है समाज में हुए बदलाव उसके सामाजिक, धार्मिक, राजनीतिक परिवर्तनों को साहित्य के माध्यम से भी समझा जा सकता है।
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CC	हिंदी भाषा और साहित्य क, ख अथवा ग B.A (Prog)/B.Com	1.2	इस वर्ग के विद्यार्थियों को साहित्य की सामान्य जानकारी दी जाती तथा भाषा से संबंधित उसके उद्भव और विकास के विषय में भी बताया जाता है।
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Semester 2	Course Type	Paper Name	Paper No.	Learning Outcomes
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Core	हिन्दी साहित्य का इतिहास (आदिकाल और मध्यकाल) B.A.(Hons) Hindi	2.1	समय के साथ साथ किस प्रकार मनुष्य की अभिरुचियां बदलती हैं जिसको वहां अपने काव्य में व्यक्त करता है। इसका इतिहास के साथ क्या संबंध है? कैसे सामाजिक, राजनीतिक स्थितियां काव्य को प्रभावित करती हैं? इस प्रश्न पत्र को पढ़ विद्यार्थियों को होता है।
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Core	हिन्दी कविता (रीतिकाल) B.A.(Hons)Hindi	2.2	जब भी कविता सामाजिक सरोकारों से दूर होती है तो उसका अवसान बहुत जल्द आ जाता है। रीतिकालीन कविता परिचय करना है। यह प्रश्न पत्र रीतिकालीन समाज की सामंती सोच से विद्यार्थियों का परिचय कराता है।
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GE	रचनात्मक लेखन	2.4	इस प्रश्न पत्र का उद्देश्य विद्यार्थी की रचनात्मक क्षमताओं को उभारना एवं उसको विभिन्न रचनात्मक विधाओं का ज्ञान कराना है।
DSC	हिंदी कविता (मध्यकाल और आधुनिक काल) B.A (Prog)	2.1	मध्यकालीन कविता मोह- माया से दूर और ईश्वर के राग आत्मक भाव पैदा करती है तथा पाखंडों का विरोध करना सिखाती है आधुनिक कविता पराधीनता से मुक्ति मार्ग दिखाती है और स्वचेतना के प्रति जागृत करती है।
CC	हिंदी भाषा और साहित्य क, ख अथवा ग B.A (Prog)/B.Com	2.2	इस वर्ग के विद्यार्थियों को साहित्य की सामान्य जानकारी दी जाती तथा भाषा से संबंधित उसके उद्भव और विकास के विषय में भी बताया जाता है।

Semester 3	Course Type	Paper Name	Paper No.	Learning Outcomes
Core		हिंदी साहित्य का इतिहास (आधुनिक काल) B.A.(Hons)Hindi	3.1	आधुनिक काल के अंतर्गत विभिन्न विषयों की जानकारी जैसे नाटक, कहानी, उपन्यास तथा वर्तमान समय की विसंगतियों और विडंबना को दर्शाते हैं इसका ज्ञान विद्यार्थियों को कराया जाता है
Core		हिंदी कविता (आधुनिक काल छायावाद तक) B.A.(Hons)Hindi	3.2	कविता किस प्रकार राजनीति में दखल देती है साथ ही नए रास्ते और नए उद्देश्यों के लिए अपना रास्ता तलाशती है। समाज के सामान्य वर्ग के प्रति कितनी संवेदनशील होती है इसका ज्ञान विद्यार्थियों को आधुनिक कविता से होता है।
Core		हिन्दी कहानी B.A.(Hons)Hindi	3.2	कहानी क्या है? समय बदलने के साथ- साथ मनुष्य और समाज के विचारों में किस तरह से परिवर्तन आता है। संबंधों में किस तरह से कटुता आती है। वह किस प्रकार से राजनीतिक, सामाजिक, आर्थिक परिस्थितियों से जूझता है। आजादी के बाद और आजादी के पहले मनुष्य स्वभाव में आए परिवर्तन को इन कहानियों में दर्शाया गया है। इसकी समझ विद्यार्थियों को दी जाती है।
GE		हिंदी में व्यावहारिक अनुवाद	3.4A	वर्तमान समय में एक भाषा से दूसरी भाषा में पठन-पाठन तथा अनुवाद के माध्यम से पाठ को प्राप्त करना आसान हो गया है। इसके लिए अनुवादक की जरूरत पड़ती है इससे विद्यार्थियों के लिए रोजगार की संभावनाएं बढ़ जाती हैं।
GE		भाषा और समाज	3.4B	भाषा क्या है? यह किस प्रकार से काम करती है? एक समाज की भाषा दूसरे समाज की भाषा से किस प्रकार भिन्न होती है। वह समाज के लिए किस प्रकार से हितकारी होती है; उसका साहित्य किस प्रकार से होता है? वह कार्य किस प्रकार से करती है। इसके विषय में विद्यार्थियों को जानकारी दी जाती है।
SEC		विज्ञापन और हिंदी भाषा सोशल मीडिया (B.A.Hons)	3.3	वर्तमान समय में संपूर्ण संसार एक भूमंडलीकरण के दौर से गुजर रहा है जिसमें प्रत्येक वस्तु बिकाऊ है; उसे बेचने के लिए प्लेटफार्म की आवश्यकता पड़ती है। उत्पादों को किस प्लेटफार्म पर कहां खोजा जाए और उसकी बिक्री कैसे की जाए इसकी जानकारी विद्यार्थियों को दी जाती है।
DSC		हिंदी कथा साहित्य B.A (Prog)	3.1	कथा साहित्य के माध्यम से समाज में विभिन्न विषयों के बारे में उनकी रूचियों के बारे में उनकी चुनौतियों के बारे में हमें पता चलता है। प्रत्येक समय और समाज की जो चुनौतियां होती हैं। वह कहानी, नाटक उपन्यास के माध्यम से अभिव्यक्त होती हैं। छात्रों को समाज के प्रति संवेदनशील बनाना है इस पाठ्यक्रम का उद्देश्य है।
CC		हिंदी गद्य उद्भव और विकास (क ख अथवा ग) B.A (Prog) / B.Com	3.2	इस प्रश्न पत्र का उद्देश्य विद्यार्थी की रचनात्मक क्षमताओं को उभारना एवं उसको विभिन्न रचनात्मक विधाओं का ज्ञान कराना है।
SEC		रचनात्मक लेखन B.A (Prog)	3.3A	विद्यार्थियों में सृजनशीलता पैदा करना, सृजन के विभिन्न माध्यमों का ज्ञान कराना ही इस प्रश्न पत्र का उद्देश्य होता है।
SEC		कार्यालय हिंदी B.A (Prog)	3.3B	विभिन्न कार्यालयों में हिंदी का उपयोग किस प्रकार से होता है? विभिन्न कार्यालयों में पत्रों का आदान-प्रदान किस प्रकार से होता है उसकी शैली व भाषा किस प्रकार की होती है? इसका ज्ञान कराना इस प्रश्न पत्र का मुख्य उद्देश्य है।



Sem 4	Course Type	Paper Name	Paper No.	Learning Outcome of Paper
	Core	भारतीय काव्यशास्त्र B.A.(Hons)Hindi	4.1	कविता का शास्त्र क्या होता है? उसे जानने के लिए रस, छंद, अलंकार शब्द शक्ति की जानकारी होनी चाहिए जो कि काव्य के मूलभूत तत्व हैं। इस प्रश्न पत्र के माध्यम से विद्यार्थियों को अवगत कराया जाता है
	Core	हिंदी कविता (छायावाद के बाद) B.A.(Hons)Hindi	4.1	1918 से 1936 का समय छायावाद के नाम से जाना जाता है। इस समय भारत पराधीन था। लेकिन इसी बीच में प्रगतिवाद और प्रयोगवाद के नाम से कविता, कहानी में आंदोलन शुरू हुआ। जिसमें पुरानी परिपाटी को छोड़कर के समसामयिक घटनाओं को स्थान दिया गया है; और अपने वर्तमान को बेहतर बनाने की पूरी कोशिश इन कविताओं में दिखाई पड़ती है। विद्यार्थियों को के बारे में जानकारी दी जाती है।
	Core	हिन्दी उपन्यास B.A.(Hons)Hindi	4.2	उपन्यास आधुनिक युग की देन है। भारत में हिंदी का पहला उपन्यास परीक्षा गुरु लिखा गया है। उसके बाद अनगिनत उपन्यास लिखे गए। उपन्यास में पात्रों और वातावरण के माध्यम से वास्तविक घटना को दर्शाया जाता है जो जीवन के बहुत ही करीब होते हैं। उपन्यास के पठन-पाठन से समसामयिक घटनाओं को जानने का अवसर प्राप्त होता है।
	GE	हिंदी का वैश्विक परिदृश्य	4.4A	हिंदी बाजार और विश्व की महत्वपूर्ण भाषा है। हिंदी का प्रयोग विश्व के किन-किन देशों में किस प्रकार हो रहा है। इसका ज्ञान कराना है इस प्रश्न पत्र का उद्देश्य है।
	GE	भाषा शिक्षण	4.4B	भाषा क्या है? उसको किस प्रकार से सीखी जाती है। विद्यार्थियों को इस प्रश्न पत्र के माध्यम से यह जानकारी प्राप्त होती है।
		कार्यालय हिंदी B.A.(Hons)Hindi		विभिन्न कार्यालयों में हिंदी का उपयोग किस प्रकार से होता है? विभिन्न कार्यालयों में पत्रों का आदान-प्रदान किस प्रकार से होता है उसकी शैली व भाषा किस प्रकार की होती है? इसका ज्ञान कराना इस प्रश्न पत्र का मुख्य उद्देश्य है।
	SAC	भाषायी : दक्षता समझ और संभाषण B.A.(Hons)Hindi	4.3 A/B/C	भाषा में किस प्रकार दक्षता हासिल की जा सकती है? उसके तमाम पहलुओं की जानकारी इस प्रश्न पत्र में दी जाती है।
		भाषा और समाज B.A.(Hons)Hindi		भाषा और समाज का आपस में क्या संबंध होता है? किस प्रकार से भाषा किसी समाज की वैचारिक सांस्कृतिक दार्शनिक स्थिति को व्यक्त करती है। साथ ही भाषा किस प्रकार समाज के विभिन्न स्तरों को तय करती है? यह जानकारी हमें भाषा और समाज के आपसी रिश्ते को पढ़ने समझने से मिलती है।
	DSC	अन्य गद्य विधाएं B.A (Prog)	4.1	संस्मरण, निबंध, उपन्यास, कहानी, आलोचना, रिपोर्टाज आदि का ज्ञान कराना इस प्रश्न पत्र का उद्देश्य है। इस प्रश्न पत्र का उद्देश्य विद्यार्थी की रचनात्मक क्षमताओं को उभारना एवं उसको विभिन्न रचनात्मक विधाओं का ज्ञान कराना है।
	CC	हिंदी गद्य उद्भव और विकास (क ख अथवा ग)	4.2	इस प्रश्न पत्र का उद्देश्य विद्यार्थी की रचनात्मक क्षमताओं को उभारना एवं उसको विभिन्न रचनात्मक विधाओं का ज्ञान कराना है।
	SAC	भाषायी दक्षता B.A (Prog)	4.3A	भाषा में किस प्रकार दक्षता हासिल की जा सकती है? उसके तमाम पहलुओं की जानकारी इस प्रश्न पत्र में दी जाती है। प्रश्न पत्र के माध्यम से विद्यार्थी भाषा के अनेक पहलुओं को जानते और समझते हैं।
	SAC	विज्ञापन और हिंदी B.A (Prog)	4.3B	
	SAC	कंप्यूटर और हिंदी भाषा B.A (Prog)	4.3C	कंप्यूटर में हिंदी का प्रयोग किस प्रकार किया जाता है? इसकी जानकारी छात्रों को दी जाती है।
Semester 5	Course Type	Paper Name	Paper No.	Learning Outcome of Paper
	Core	पाश्चात्य काव्यशास्त्र B.A.(Hons)Hindi	5.1	काव्य के संदर्भ में पश्चिम के विद्वानों की कौन-कौन सी अवधारणाएं हैं? काव्य के कौन-कौन से आधारभूत तत्व हैं? पश्चिमी जगत में काव्य के संदर्भ में कौन-कौन से आंदोलन आए हैं इन सब की जानकारी इस विषय में दी जाती है।

Core	हिंदी नाटक/ एकांकी B.A.(Hons)Hindi	5.2	हिंदी के आधुनिक नाटक एवं कहानियों की जानकारी इस इस विषय में दी जाती है।
DSC	अस्मितामूलक विमर्श और हिंदी साहित्य	5.3A	हिंदी साहित्य को विभिन्न विमर्शों ने किस प्रकार से प्रभावित किया है। तथा उसको अभिव्यक्ति कावेता कहानी उपन्यास में उपन्यास में किस प्रकार से हुई है। इसकी जानकारी अस्मितामूलक विमर्श से मिलती है।
DSC	भारतीय एवं पाश्चात्य रंगमंच सिद्धांत	5.1 A	भारतीय एवं पाश्चात्य नाटक के नाटकों को जानना आदि शामिल है। नाटककार, निदेशक, अभिनेता आदि के बारे में अरस्तु से लेकर भरतमुनि तक के विचारों को जानना साथ ही त्रासदी, कामदी, मेलोड्रामा आदि का सामान्य परिचय प्राप्त करना इस विषय का उद्देश्य है।
DSC	हिंदी भाषा का व्याकरण	5.1 B	व्याकरण का भाषा में महत्व, शब्द-विचार, पद -विचार वाक्य विचार आदि की जानकारी देना इस विषय का मुख्य उद्देश्य है।
DSC	भारतीय साहित्य की संक्षिप्त रूपरेखा	5.4B	भारतीय अस्मिता का स्वरूप उसकी भौगोलिक भाषिक और सांस्कृतिक जानकारी प्राप्त करना तथा वैदिक अलौकिक संस्कृत साहित्य के साथ कन्नड़, तमिल, तेलुगू, गुजराती, मराठी, उड़िया बंगला के साहित्य के बारे में जानकारी प्राप्त करना शामिल है।
DSC	हिंदी भाषा का व्याकरण B.A. (Prog)	5.1A	व्याकरण का भाषा में महत्व, शब्द-विचार, पद -विचार वाक्य विचार आदि की जानकारी देना इस विषय का मुख्य उद्देश्य है।
DSC	हिंदी रंगमंच B.A (Prog)	5.1B	पारंपरिक रंगमंच जैसे रामलीला, नौटंकी, विदेसिया आदि की जानकारी ;स्वतंत्रता से पहले पारसी थिएटर, भारतेंदु थिएटर की जानकारी और स्वतंत्र भारत के बाद हिंदी रंगमंच के शैलियों के विषय में जानकारी प्राप्त करना इसका उद्देश्य है।
GE	अनुवाद व्यवहार और सिद्धांत B.A. (Prog)	5.2	अनुवाद क्या है? कितने प्रकार का होता है ?उसके सिद्धांत कौन-कौन से हैं? इन सब की जानकारी इस प्रश्न पत्र में दी जाती है।

Semester 6	Course Type	Paper Name	Paper No.	Learning Outcome of Paper
Core		हिंदी आलोचना- B.A.(Hons)Hindi	6.1	हिंदी आलोचना की परंपरा का ज्ञान करवाना साथ ही हिंदी साहित्य में महान आलोचकों की क्या भूमिका रही इस संदर्भ में विद्यार्थियों को अवगत करवाना इस प्रश्न पत्र का उद्देश्य है।
Core		हिंदी निबंध और अन्य गद्य विधाएं	6.2	इस प्रश्नपत्र में साहित्य की विभिन्न विधाओं की जानकारी देना, जैसे निबंध, जीवनी, आत्मकथा, यात्रा वृत्तांत, रेखाचित्र आदि ।
DSC		साहित्य चिंतन: B.A. (Prog)	6.1	कावेता का शास्त्र क्या होता है? उसे जानने के लिए रस, छंद, अलंकार शब्द शक्ति की जानकारी होनी चाहिए जो कि काव्य के मूलभूत तत्व हैं। इस प्रश्न पत्र के माध्यम से विद्यार्थियों को अवगत कराया जाता है
GE (DSC)		1-हिंदी सिनेमा और उसका अध्ययन B.A. (Prog)	6.2A/B	सिनेमा एक बहुत सशक्त माध्यम है जिसका प्रभाव समाज पर बहुत गहरा पड़ता है। इस प्रश्न पत्र के माध्यम से विद्यार्थियों को सिनेमा के विभिन्न पक्षों को जानने समझने का अवसर मिलता है। वर्तमान समय में रोजगार के अनंत अवसर उपलब्ध हैं।
		2-अस्मिता मूलक अध्ययन और हिंदी साहित्य B.A. (Prog)		हिंदी साहित्य को विभिन्न विमर्शों ने किस प्रकार से प्रभावित किया है। तथा उसकी अभिव्यक्ति कविता कहानी उपन्यास में उपन्यास में किस प्रकार से हुई है। इसकी जानकारी अस्मितामूलक विमर्श से मिलती है।
SAC (DSC)		1-भाषायी दक्षता B.A (Prog)	6.3A	भाषा में किस प्रकार दक्षता हासिल की जा सकती है? उसके तमाम पहलुओं की जानकारी इस प्रश्न पत्र में दी जाती है।
		2-विज्ञापन और हिंदी B.A (Prog)	6.3B	हिंदी भाषा का विज्ञापन में किस प्रकार उपयोग किया जा सकता है कैसे उसकी रचनात्मक क्षमता बढ़ाई जा सकती है इस प्रश्न पत्र के माध्यम से विद्यार्थी भाषा के अनेक पहलुओं को जानते और समझते हैं ।

# B.A.- History

	Course Type (Core/AECC /GE/DSE/Language AECC)*	Paper Name	Paper Code	Learning Outcome of Paper
<b>Semester 1</b>	Core	History of India-I	CC I	<ul style="list-style-type: none"> <li>Understanding about the main features of prehistoric and proto-historic cultures</li> <li>Analyse the interpretations of historians about the history of India</li> </ul>
	Core	Social Formations and Cultural Patterns in Ancient World-I	CC II	<ul style="list-style-type: none"> <li>Trace long term changes in the relationship of humans to their landscapes, to resources and to social groups.</li> <li>Discuss that human history is the consequence of choices made in ecological and biological contexts, and that these are not forced by external forces like environmental change but are also enabled by changes in technology and systems of cultural cognition.</li> </ul>
	Core	History of India from Earliest Times up to c. 300 CE	CC I	<ul style="list-style-type: none"> <li>Delineate changing perceptions on 'Ancient/early' India.</li> <li>Explain the importance of archaeological sources for study of proto-history and recognize the belated growth of literacy.</li> <li>Distinguish between civilization and culture, particularly in the context of first ever civilization in the Indian Subcontinent.</li> <li>Understanding about the main features of contemporary cultures</li> <li>Analyse the interpretations of historians about the history of India</li> <li>This paper has problematized the historical period, termed as Ancient, that evolved from pre-historical to early historical centuries.</li> <li>This paper was able to locate the early state of affairs in politics, economy and society. It also tries to look into the regional diversities.</li> </ul>
	GE II	The History of Science and Technology	Paper-2	<ul style="list-style-type: none"> <li>Critique the prevalent dominant understanding of science and technology.</li> <li>Discuss the complex relations between science, technology and society.</li> </ul>
	MIL	Cultural Diversity	MIL	<ul style="list-style-type: none"> <li>To locate diverse cultures in the society.</li> <li>Demonstrate the evolution of theatre and dance within the popular performative traditions,</li> </ul>
	Course Type (Core/AECC /GE/DSE/Language AECC)*	Paper Name	Paper No.	Learning Outcome of Paper
	Core	History of India-II	CC III	<ul style="list-style-type: none"> <li>Understanding about the processes and the stages of development in contemporary History.</li> <li>Able to critically analyses the changes and continuity in society, economy and polity.</li> </ul>

<b>Semester 2</b>	Core	History of India, C. 300 to 1200 CE	CC II	<ul style="list-style-type: none"> <li>Identify the historical importance of the accelerated practice of land grants issued by ruling houses.</li> <li>Delineate changes in the realm of polity and culture; puranic religion; the growth of vernacular languages and newer forms of art and architecture.</li> <li>Understanding about the processes and the stages of development in contemporary History.</li> <li>Able to critically analyses the changes and continuity in society, economy and polity.</li> </ul>
	Core	Social Formations and Cultural Patterns of the Ancient and Medieval World-II	CC-IV	<ul style="list-style-type: none"> <li>Identify the main historical developments in Ancient Greece and Rome.</li> <li>Gain an understanding of the restructuring of state and society from tribe-based polities to those based on territorial identity and citizenship</li> </ul>
	GE III	Issues in the Contemporary World: 1945-2000	Paper-3	<ul style="list-style-type: none"> <li>Analyse the evolving polities, societies and cultures of an increasingly global world.</li> <li>Analyse diverse social movements and cultural trends.</li> </ul>

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	Course Type	Paper Name	Paper No.	Learning Outcome of Paper
<b>Semester 3</b>	Core-3	Hist of India 1200-1700	CC-V	<ul style="list-style-type: none"> <li>Explain the changes and continuities in agrarian relations, land revenue regimes. feudalism and Bhakti and Sufi traditions</li> </ul>
	Core-3	Hist of India -IV	CC-VII	This paper talks about the transition from medieval to early modern India. The students were able to understand the major changes taking place during Mughal period. It talks about the various religious and social reforms introduced by the rulers of this period. The paper also talks about the integration of Indian economy with the world economy.
	Core-VI	Rise of Mod West-I	CC-VI	<ul style="list-style-type: none"> <li>Through this paper, the students were able to learn transition from feudalism to capitalism in Europe. The t</li> </ul>
	Core	History of India, c. 1200-1700	CC-III	
	SEC I	Understanding Heritage	Paper-1	<ul style="list-style-type: none"> <li>Describe the significance of cultural diversity in the creation of heritage</li> <li>Illustrate how heritage can be a medium to generate revenue</li> </ul>
	SEC I	History and Tourism	Paper-1	<ul style="list-style-type: none"> <li>Have a basic knowledge of research through field work in a historical site</li> <li>Would develop awareness about modalities of conducting tourism around heritage sites</li> </ul>
	GE-III	Making of Contemporary India	Paper -6	<ul style="list-style-type: none"> <li>Draw a broad outline of the history and politics of the early years of Independence, including the framing of the constitution and the linguistic reorganisation of states.</li> <li>Examine critically issues of economic development in the early years of Independ- ence, particularly the problems of development .</li> </ul>

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	Course Type	Paper Name	Paper No.	Learning Outcome of Paper
	Core	Rise of Modern West-II	Paper-VIII	<ul style="list-style-type: none"> <li>After reading this paper, the students were able to understand the complex transformation of European society which prepared it for revolutions in different realm.</li> <li>From Industrial revolution to scientific revolution, this paper covers entire intellectual trend of the period.</li> </ul>

Semester 4	Core	History of India-V (C. 1550-1605)	Paper-IX	<ul style="list-style-type: none"> <li>• Insights into economy, political and administrative institutions and cultural and religious trends</li> <li>• Knowledge of primary sources for the study period</li> <li>• Awareness about processes related to foundation and consolidation of the Mughal rule in India</li> </ul>
	Core	History of India from 1707-1950	C4	<ul style="list-style-type: none"> <li>• This paper helps students to learn about the establishment and consolidation of colonialism in India.</li> <li>• This paper also talks about the changes introduced by the colonial masters in Indian economy, be it revenue collection or deindustrialisation.</li> <li>• The anti colonial movement leading to Indian independence with partition is the key highlights of the paper.</li> </ul>
	Core	History of India-VI (c. 1750-1857)	Paper X	<ul style="list-style-type: none"> <li>• To trace the British colonial expansion in India; To identify key historiographical debates around colonial policies.</li> <li>• To delineate the ideological, institutional and political formations of anti-colonial nationalist movement and subsequent partition and freedom of the country.</li> </ul>
	SEC-4	Understanding Popular Culture	Paper-4	<ul style="list-style-type: none"> <li>• To understand different theoretical perspectives on popular culture.</li> <li>• Examine the role of orality and memory in popular literary traditions.</li> <li>• Evolution of popular performative traditions.</li> <li>• Role of art, Tv, Cinema in popular cultural consumption</li> </ul>
	GE	Issues in Contemporary World	Paper-VII	<p>Analyse processes of Decolonisation and politics during Cold War era.</p> <ul style="list-style-type: none"> <li>• Draw inferences to explain the inter-connectedness of various facets of culture; sports, music, cinema, etc.</li> </ul>

Semester 5				
Course Type	Paper Name	Paper No.	Learning Outcome of Paper	
Core	History of India-VII	CC XII	<ul style="list-style-type: none"> <li>• Explain the intellectual ferment of the seventeenth and eighteenth centuries and its relation to state policies.</li> <li>• Discern the larger motives behind the Imperial patronage of art and architecture</li> <li>• Appreciate and express the continued expansion and dynamism of agriculture, crafts, and maritime trade in India</li> <li>• Develop an in-depth understanding of China's engagement with the challenges posed by imperialism, and the trajectories of transition from feudalism to a bourgeois/ capitalist modernity. • Analyse significant historiographical shifts in Chinese history, especially with reference to the discourses of nationalism, imperialism, and communism</li> </ul>	
DSE-II	History of Modern China (1840-1960)	Paper-9		
Core	Modern Europe-I	CC XI	<ul style="list-style-type: none"> <li>• To develop understanding of socio-political aspect of Modern Europe. • To understand concept of modernity, Nationalism etc.</li> </ul>	
Core	Aspects of Soc & Eco in Mod Europe	Paper-3	<ul style="list-style-type: none"> <li>• To develop an understanding of social and economic aspects of Modern Europe . • Explain 1st world war and related issues.</li> </ul>	
DSE-I	History of Latin America	Paper-3	<ul style="list-style-type: none"> <li>• Critique stereotypes on Latin America and outline major shifts in Latin American history.</li> </ul>	
	History of USA-I	Paper-1	<p>Explain elements of change and continuity in Latin American politics, economy, society and cultural milieu from the 16th to 20th centuries.</p>	
GE-I	Women's Studies in India	Paper-1	<p>Provide an elementary outline of gender as a concept and patriarchy as a historically constituted system of power.</p> <p>Explore women's experiences within specific contexts at specific historical moments.</p>	

Semester 6				
Course Type	Paper Name	Paper No.	Learning Outcome of Paper	
Core	History of India-VIII (c. 1857-1950)	Paper-XIII	<ul style="list-style-type: none"> <li>Identify how different regional, religious, linguistic and gender identities developed in the late 19th and early 20th centuries.</li> <li>Outline the social and economic facets of colonial India and their influence on the national movement</li> </ul>	
Core	History of India VI (c. 1750-1970s)	Paper- X	<p>After completing this paper students were able to understand establishment of colonial powers in India.</p> <ul style="list-style-type: none"> <li>what were those reasons which allow foreign powers to control Indian subcontinent.</li> <li>The paper covers from colonialism to Indian national movement and independence leading to the birth of a new nation.</li> <li>This paper also allows students to learn students about the achievements of Indian republic in the first two decades of its independence.</li> </ul>	
DSE	History of Latin America -c. 1500-1960s	Paper-7	<p>Critique stereotypes on the African continent and outline major shifts in African history.</p> <p>Explain elements of change and continuity in the African political experience, political regimes and national formations, economy, society and cultural milieu from the 16th to 20th centuries.</p>	
Core	History of Modern Europe-II	C-XIV	<ul style="list-style-type: none"> <li>To trace varieties of nationalism and their processes;</li> <li>*Factors leading to First World War, Historical debate and emergence of ultra nationalist and authoritarian</li> </ul>	
Core	History of India(1605-1750)	C-12	<ul style="list-style-type: none"> <li>Information about Persian and Vernacular literary sources</li> <li>Expansion of Mughal Empire and its limitations</li> </ul>	
DSE	History of China & Japan-II (c. 1868-1939)	Paper-12	<ul style="list-style-type: none"> <li>Develop an in-depth understanding of China's engagement with the challenges posed by imperialism, and the trajectories of transition from feudalism to a bourgeois/ capitalist modernity.</li> <li>To locate these historical transitions in light of other contemporaneous trajectories into a global modernity, especially that of Japan.</li> </ul>	
SEC	Popular Culture	Paper-6	<ul style="list-style-type: none"> <li>Interpret the above theoretical concerns to actual historical studies, through a case study,</li> <li>Estimate the popular aspects of everyday experience of religion and religiosity, through a wide range of case studies relating to festivals and rituals, healing practices as well as pilgrimage and pilgrim practices,</li> <li>Examine the role of orality and memory in popular literary traditions</li> </ul>	

## B.SC.(HONS) MATHS

Semester	Course Type (Core/AECC/G E /DSE/Languag e AECC)*	Name of the paper	Paper Number	Learning Outcome
<b>Semester 1</b>	Core	C1 CALCULUS	C1	<ul style="list-style-type: none"> <li>• Learn the derivative tests for relative extrema and apply the knowledge in real life problems in business, economics and life sciences.</li> </ul>
				<ul style="list-style-type: none"> <li>• Sketch curves in a plane using its mathematical properties in the different coordinate systems of reference.</li> </ul>
				<ul style="list-style-type: none"> <li>• Understand the calculus of vector functions and its use to develop the basic principles of planetary motion.</li> </ul>
				<ul style="list-style-type: none"> <li>• Employ De Moivre's theorem in a number of applications to solve numerical problems.</li> </ul>
	Core	C2 ALGEBRA	C2	<ul style="list-style-type: none"> <li>• Learn about equivalent classes and cardinality of a set.</li> </ul>
<b>Semester 2</b>				<ul style="list-style-type: none"> <li>• Use modular arithmetic and basic properties of congruences.</li> </ul>
	Core	C3 REAL ANALYSIS	C3	<ul style="list-style-type: none"> <li>• Understand many properties of the real line <math>\mathbb{R}</math>, including completeness and Archimedean properties.</li> </ul>
				<ul style="list-style-type: none"> <li>• Recognize bounded, convergent, divergent, Cauchy and monotonic sequences and to calculate their limit superior, limit inferior, and the limit of a bounded sequence.</li> </ul>
				<ul style="list-style-type: none"> <li>• Apply the ratio, root, alternating series and limit comparison tests to check the convergence and absolute convergence of an infinite series of real numbers.</li> </ul>
<b>Semester 2</b>				Learning Outcome
	Core	C4 DIFFERENTIAL EQUATIONS	C4	<ul style="list-style-type: none"> <li>• Learn basics of differential equations and mathematical modeling.</li> </ul>
				<ul style="list-style-type: none"> <li>• Solve first order non-linear differential equations and linear differential equations of higher order using various techniques.</li> </ul>
				<ul style="list-style-type: none"> <li>• Apply these techniques to solve and analyze various mathematical models.</li> </ul>

Semester 3				Learning Outcome
	Core	C5 THEORY OF REAL FUNCTIONS	C5	<ul style="list-style-type: none"> <li>•Rigorous understanding of the concept of limit of a function, continuity and uniform continuity of functions defined on the intervals.</li> </ul>
				<ul style="list-style-type: none"> <li>•Learn extensively about the concept of differentiability using limits, leading to a better understanding for applications.</li> </ul>
				<ul style="list-style-type: none"> <li>•Know about applications of mean value theorems and Taylor's theorem.</li> </ul>
Semester 3				Learning Outcome
	Core	C6 GROUP THEORY-I	C6	<ul style="list-style-type: none"> <li>•Recognize the mathematical objects that are groups, and classify them as Abelian, cyclic and permutation groups, etc.</li> </ul>
				<ul style="list-style-type: none"> <li>• Link the fundamental concepts of groups and symmetrical figures as well as to classify subgroups of cyclic groups.</li> </ul>
				<ul style="list-style-type: none"> <li>•Learn about Lagrange's theorem and Fermat's Little theorem. Also they Know about group homomorphisms and group isomorphisms.</li> </ul>
Semester 3				Learning Outcome
	Core	C7 MULTIVARIATE CALCULUS	C7	<ul style="list-style-type: none"> <li>•Upon successful completion the students have appropriate knowledge of functions of more than one variable.</li> <li>•The learning outcomes specify the knowledge with skills of understanding the theories and applications of derivatives,multiple integral and line integral .</li> </ul>
Semester 3				Learning Outcome
	SEC-1	SKIII Enhancement Paper SEC-1 LATEX AND HTML	SEC 1	<ul style="list-style-type: none"> <li>•By attending this programming language course, the students acquire all necessary skills to be able to prepare a moderate scientific paper and a short mathematical presentation using LaTeX.</li> </ul>
				<ul style="list-style-type: none"> <li>•Create beamer presentations and web page using HTML.</li> </ul>



				Learning Outcome
Semester 4	Core	C8 PARTIAL DIFFERENTIAL EQUATIONS	C8	<ul style="list-style-type: none"> <li>• Formulate, classify and transform first order PDEs into canonical form.</li> </ul>
				<ul style="list-style-type: none"> <li>• Classify and solve second order linear PDEs and to solve homogenous and non-homogenous wave equations.</li> </ul>
				<ul style="list-style-type: none"> <li>• Apply the method of separation of variables for solving second order PDEs.</li> </ul>
Semester 4	Core	C9 RIEMANN INTEGRATION AND SERIES OF FUNCTIONS	C9	<ul style="list-style-type: none"> <li>• They learn the theory and applications of Riemann integration of bounded real valued functions defined on closed and bounded interval.</li> </ul>
				<ul style="list-style-type: none"> <li>• Also they learn the improper integration with Beta and gamma integrals.</li> </ul>
				<ul style="list-style-type: none"> <li>• Special type of series of functions power series and the convergence is understood.</li> </ul>
Semester 4	Core	C10 RING THEORY & LINEAR ALGEBRA-I	C10	<ul style="list-style-type: none"> <li>• Learn about the fundamental concept of rings, integral domains, fields and isomorphism theorems of rings.</li> </ul>
				<ul style="list-style-type: none"> <li>• Learn about the concept of linear independence of vectors over a field, and the dimension of a vector space.</li> </ul>
				<ul style="list-style-type: none"> <li>• Basic concepts of linear transformations, dimension theorem, matrix representation of a linear transformation, and the change of coordinate matrix.</li> </ul>
				Learning Outcome

Semester 4	SEC-2	Skill Enhancement Paper SEC-2: COMPUTER ALGEBRA SYSTEMS AND RELATED SOFTWARES	SEC 2	<ul style="list-style-type: none"> <li>•Use of Mathematica software as a calculator, for plotting functions and animations.</li> </ul>
				<ul style="list-style-type: none"> <li>•Use of CAS for various applications of matrices such as solving system of equations and finding eigenvalues and eigenvectors.</li> </ul>
				<ul style="list-style-type: none"> <li>• Use of software R in summary calculation, pictorial representation of data and exploring relationship between data.</li> </ul>
Semester 5	Core	C11 METRIC SPACES	C11	<p>Learning Outcome</p> <ul style="list-style-type: none"> <li>•Analyse how a theory advances from a particular frame to a general frame.</li> </ul>
				<ul style="list-style-type: none"> <li>•They have the mathematical understanding of various geometrical concepts, viz. balls or connected sets etc. in an abstract setting.</li> </ul>
				<ul style="list-style-type: none"> <li>•Learn about the two important topological properties, namely connectedness and compactness of metric spaces.</li> </ul>
Semester 5	Core	C12 GROUP THEORY-II	C12	<ul style="list-style-type: none"> <li>•Learn about automorphisms for constructing new groups from the given group.</li> </ul>
				<ul style="list-style-type: none"> <li>•Learn about the fact that external direct product applies to data security and electric circuits.</li> </ul>
				<ul style="list-style-type: none"> <li>•Understand group actions, Sylow theorems and their applications in checking nonsimplicity.</li> </ul>
				Learning Outcome

Semester 5	DSE1 (i)	NUMERICAL METHODS	DSE1 (i)	<ul style="list-style-type: none"> <li>•Learn some numerical methods to find the zeroes of nonlinear functions of a single variable.</li> </ul>
				<ul style="list-style-type: none"> <li>•Interpolation techniques to compute the values for a tabulated function at points not in the table.</li> </ul>
				<ul style="list-style-type: none"> <li>•Applications of numerical differentiation and integration to convert differential equations into difference equations.</li> </ul>
				Learning Outcome
Semester 5	DSE1 (ii)	MATHEMATICAL MODELING AND GRAPH THEORY	DSE1 (ii)	<ul style="list-style-type: none"> <li>•Know about power series solution of a differential equation and learn about Legendre's and Bessel's equations.</li> </ul>
				<ul style="list-style-type: none"> <li>•Use of Laplace transform and inverse transform for solving initial value problems.</li> </ul>
				<ul style="list-style-type: none"> <li>•Understand the basics of graph theory and learn about social networks, Eulerian and Hamiltonian graphs, diagram tracing puzzles and knight's tour problem.</li> </ul>
				Learning Outcome
Semester 5	DSE2 (i)	MATHEMATICAL FINANCE	DSE2 (i)	<ul style="list-style-type: none"> <li>• They Know the basics of financial markets and derivatives including options and futures.</li> </ul>
				<ul style="list-style-type: none"> <li>•They understand some computational and quantitative techniques required for working in the financial markets and actuarial mathematics.</li> </ul>
				<ul style="list-style-type: none"> <li>•Understand the concepts of trading strategies and valuation of currency swaps.</li> </ul>
Semester 5	DSE2 (ii)	DISCRETE MATHEMATICS	DSE2(ii)	<ul style="list-style-type: none"> <li>•Learn about lattices, modular and distributive lattices, sublattices and homomorphisms between lattices.</li> </ul>
				<ul style="list-style-type: none"> <li>•Learn about basics of graph theory, including Eulerian graphs, Hamiltonian graphs.</li> </ul>
				<ul style="list-style-type: none"> <li>•Learn about the applications of graph theory in the study of shortest path algorithms.</li> </ul>
				Learning Outcome
Semester 6	Core	C13 COMPLEX ANALYSIS	C13	<ul style="list-style-type: none"> <li>•Students learn the basic ideas of analysis for complex functions in complex variables with visualization through relevant practicals.</li> </ul>
				<ul style="list-style-type: none"> <li>•They learn to expand some simple functions as their Taylor and Laurent series, classify the nature of singularities, find residues and apply Cauchy Residue theorem to evaluate integrals.</li> </ul>

Semester 6	Core	C14 RING THEORY AND LINEAR ALGEBRA-II	C14	<ul style="list-style-type: none"> <li>•They learn the basic concepts of ring of polynomials and irreducibility tests for polynomials over ring of integers, used in finite fields with applications in cryptography.</li> </ul>
				<ul style="list-style-type: none"> <li>•Compute inner products and determine orthogonality on vector spaces, including Gram–Schmidt orthogonalization to obtain orthonormal basis.</li> </ul>
				<ul style="list-style-type: none"> <li>•It also enables them to apply the techniques using the adjoint of a linear operator and their properties to least squares approximation and minimal solutions to systems of linear equations.</li> </ul>
Semester 6	DSE3 (i)	PROBABILITY THEORY AND STATISTICS	DSE3(i)	<ul style="list-style-type: none"> <li>•Students learn the basic statistical concepts and tools which are needed to study situations involving uncertainty or randomness.</li> </ul>
				<ul style="list-style-type: none"> <li>•Measure the scale of association between two variables, and to establish a formulation helping to predict one variable in terms of the other, i.e., correlation and linear regression.</li> </ul>
Semester 6	DSE3 (ii)	MECHANICS	DSE3 (ii)	<ul style="list-style-type: none"> <li>•Know about the concepts in statics such as moments, couples, equilibrium in both two and three dimensions.</li> </ul>
				<ul style="list-style-type: none"> <li>•Learn about conservation of mechanical energy and work-energy equations.</li> <li>• They learn translational and rotational motion of rigid bodies.</li> </ul>
Semester 6	DSE4 (i)	NUMBER THEORY	DSE4 (i)	<ul style="list-style-type: none"> <li>•Learn about some fascinating discoveries related to the properties of prime numbers, and some of the open problems in number theory.</li> </ul>
				<ul style="list-style-type: none"> <li>•Learn about public key crypto systems, in particular, RSA.</li> </ul>
				<ul style="list-style-type: none"> <li>•Students get familiar with simple number theoretic techniques, to be used in data security.</li> </ul>
Semester 6	DSE4 (ii)	LINEAR PROGRAMMIN G AND THEORY OF GAMES	DSE4 (i)	<ul style="list-style-type: none"> <li>• It develops the ideas underlying the Simplex Method for Linear Programming Problem, as an important branch of Operation Research.</li> </ul>
				<ul style="list-style-type: none"> <li>•Learn to apply linear programming with applications to transportation, assignment and game problem.</li> <li>Such problems arise in manufacturing resource planning and financial sectors.</li> </ul>

## Generic Papers

Semester	Course Type (Core/AECC/GE /DSE/Language AEEC)*	Name of the Paper	Paper Number	Learning Outcome
Semester 1	GE	Calculus	GE1	<ul style="list-style-type: none"> <li>•They learn to sketch the curves in Cartesian and polar coordinates as well as learn techniques of sketching the conics.</li> </ul>
				<ul style="list-style-type: none"> <li>•Understands limits, continuity and derivatives of functions of several variable and vector-valued functions.</li> </ul>
				<ul style="list-style-type: none"> <li>•They learn the applications of definite integrals for calculating volumes of solids of revolution, length of plane curves and surface areas of revolution.</li> </ul>
Semester 2	GE	Linear Algebra	GE2	<ul style="list-style-type: none"> <li>•Visualize the n dimensional space in terms of vectors and the interrelation of vectors with matrices, and their application to computer graphics.</li> </ul>
				<ul style="list-style-type: none"> <li>•Familiarize with concepts in vector spaces, namely, basis, dimension and minimal spanning sets.</li> </ul>
				<ul style="list-style-type: none"> <li>•Learn about orthogonality and to find approximate solution of inconsistent system of linear equations.</li> </ul>
Semester 3	GE	Differential Equations	GE3	<ul style="list-style-type: none"> <li>• Students learn to solve the variety of methods to solve ordinary and partial differential equations with basic applications to real life problems.</li> </ul>
				<ul style="list-style-type: none"> <li>•Formulate and solve various types of first and second order partial differential equations.</li> </ul>
				<ul style="list-style-type: none"> <li>• It provides a solid foundation to further in mathematics, sciences and engineering through mathematical modeling.</li> </ul>

Semester 4	GE	Numerical Methods	GE4	<ul style="list-style-type: none"> <li>•Students learn to find the appropriate numerical methods to solve algebraic and transcendental equations.</li> </ul>
				<ul style="list-style-type: none"> <li>•Learn to solve first order initial value problems of ODE's numerically using Euler methods.</li> </ul>
				<ul style="list-style-type: none"> <li>•Appropriate numerical methods to solve algebraic and transcendental equations.</li> </ul>

## B. A. PROGRAMME (MATHS PAPERS)

Semester	Course Type (Core/AECC /GE/DSE /Language AEEC)*	Name of the Paper	Paper Number	Learning Outcome
Semester 1	Core	Calculus	1	<ul style="list-style-type: none"> <li>• Understand continuity and differentiability in terms of limits.</li> </ul>
				<ul style="list-style-type: none"> <li>•They learn to use derivatives to explore the behavior of a given function, locating and classifying its extrema and graphing the function.</li> </ul>
				<ul style="list-style-type: none"> <li>•Learn about Maclaurin's series expansion of elementary functions.</li> </ul>
Semester 2	Core	Algebra	2	<ul style="list-style-type: none"> <li>•Become aware of De Moivre's theorem and its applications.</li> </ul>
				<ul style="list-style-type: none"> <li>•Get an overview of abstract algebra by learning about algebraic structures namely, groups, rings and vector spaces.</li> </ul>
				<ul style="list-style-type: none"> <li>•It helps students to see how linear algebra can be applied to real-life situations.</li> </ul>
Semester 3				Learning Outcome
	Core	Analytic geometry & Applied Algebra	3	<ul style="list-style-type: none"> <li>• identifying curves and applying mathematical models in daily life problems, studying geometric properties of various conic sections.</li> </ul>

				•Understand various applications of algebra in design of experiments, modelling of matching jobs, checking spellings, network reliability and scheduling of meetings.
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				Learning Outcome
Semester 3	SEC-1	Sec-1 Latex and HTML	SEC1	•They learn the typesetting of a mathematical document using LaTeX.
				• Learn about pictures and graphics in LaTeX and how to create beamer presentations.

				Learning Outcome
Semester 4	Core	Analysis	4	•Students learn the basic properties of the field of real number as well as to examine continuity and uniform continuity of functions using sequential criterion.
				• Also, they learn to distinguish between the notion of integral as anti-derivative and Riemann integral.

				Learning Outcome
Semester 4	SEC-2	SEC-2 Computer Algebra Systems and Related Softwares	SEC2	•Students get basic knowledge of Mathematica software and their programming language in order to apply them for plotting functions, finding roots to polynomials, computing limits and other mathematical tools.

				Learning Outcome
Semester 5	SEC-3	SEC-3 Statistical Software : R	SEC3	• Be familiar with R syntax and use R as calculator.
				• Understand the concepts of objects, vectors and data types. • Visualize distribution of data in R and learn about normality test.

Semester 5				Learning Outcome
	DSE-1	Differential Equations	DSE-1	<ul style="list-style-type: none"> <li>•Students learn to solve ODE's and know about Wronskian and its properties.</li> </ul>
				<ul style="list-style-type: none"> <li>•They learn method of variation of parameters and total differential equations.</li> <li>• Students use various techniques with the tools needed to model complex real-world situations.</li> </ul>

Semester 6				Learning Outcome
	DSE-2	Numerical Analysis	DSE-2	<ul style="list-style-type: none"> <li>•Students learn to find the consequences of finite precision and the inherent limits of numerical methods.</li> <li>•Solve first order initial value problems of ordinary differential equations numerically using Euler methods.</li> </ul>

Semester 6				Learning Outcome
	SEC-4	Transportation and Network Flow	SEC4	<ul style="list-style-type: none"> <li>•Formulate and solve transportation problems.</li> <li>• Learn to solve assignment problems using Hungarian method.</li> <li>• Learn about network models and flow problems</li> </ul>

## B. Sc.MATHEMATICAL SCIENCES

	Course Type (Core/AECC /GE/DSE /Language AECC)*	Name of the Paper	Paper Number	Learning Outcomes
Semester 1	Core	Calculus and Matrices	1	<ul style="list-style-type: none"> <li>•They learn the basic tools of matrices and complex numbers which are used to solve application problems in a variety of settings ranging from chemistry and physics to business and economics.</li> </ul>



				<ul style="list-style-type: none"> <li>•Understood the concepts of calculus including limits, continuity and differentiability. Solving systems of linear equations and find eigenvalues and corresponding eigenvectors for a square matrix, and check for its diagonalizability.</li> </ul>
Semester 2				Learning Outcome
	Core	Calculus and Geometry	2	<ul style="list-style-type: none"> <li>•They learn to sketch curves in a plane using its mathematical properties in the different coordinate systems of reference.</li> </ul>
				<ul style="list-style-type: none"> <li>•They are well-versed with conics and quadric surfaces and they are able to relate the shape of real-life objects with the curves/conics.</li> </ul>
Semester 3				Learning Outcome
	Core	Algebra	3	<ul style="list-style-type: none"> <li>•They able to recognize the mathematical objects that are groups, and classify them as abelian, cyclic and permutation groups etc.</li> </ul>
				<ul style="list-style-type: none"> <li>• They have understood a major part of abstract algebra, which is an essential tool in number theory, geometry, topology and has applications in cryptography, coding theory, quantum chemistry and physics.</li> </ul>
Semester 4				Learning Outcome
	Core	Real Analysis	4	<ul style="list-style-type: none"> <li>• It has developed a deeper and more rigorous understanding of defining terms and proving results about convergence of sequences and series of real numbers, having wide applications in real-world problems.</li> </ul>
				<ul style="list-style-type: none"> <li>•Understand the concepts of pointwise and uniform convergence, Riemann integrability of continuous and monotone functions.</li> </ul>
Semester 5				Learning Outcome
	Core	Differential equations	DSE1	<ul style="list-style-type: none"> <li>• It develops skills and knowledge of standard concepts in ordinary and partial differential equations and also provide the standard methods for solving differential equations.</li> </ul>
				<ul style="list-style-type: none"> <li>•Students use various techniques with the tools needed to model complex real-world situations.</li> </ul>

				Learning Outcome
Semester 6	Core	Numerical Methods	DSE2	<ul style="list-style-type: none"> <li>•They learn certain algorithms that uses numerical approximation for the problems of mathematical analysis. Also, the use of Computer Algebra Systems (CAS) by which the intractable problems can be solved both numerically and analytically.</li> </ul>

				Learning Outcome
Semester 3	SEC-1	SEC-1 LATEX and HTML	SEC1	<ul style="list-style-type: none"> <li>•They learn the typesetting of a mathematical document using LaTeX.</li> </ul>
				<ul style="list-style-type: none"> <li>•Learn about pictures and graphics in LaTeX and how to create beamer presentations.</li> </ul>

				Learning Outcome
Semester 4	Sec-2	SEC-2 COMPUTER ALGEBRA SYSTEMS AND RELATED SOFTWARES	SEC2	<ul style="list-style-type: none"> <li>•Students get basic knowledge of Mathematica software and their programming language in order to apply them for plotting functions, finding roots to polynomials, computing limits and other mathematical tools.</li> </ul>

				Learning Outcome
Semester 5	SEC-3	SEC-3 Statistical Software : R	SEC3	<ul style="list-style-type: none"> <li>• Be familiar with R syntax and use R as calculator.</li> <li>• Understand the concepts of objects, vectors and data types.</li> <li>• Visualize distribution of data in R and learn about normality test.</li> </ul>

				Learning Outcome

Semester 6	SEC-4	SEC-4 Transportation and Network Flow	SEC4	<ul style="list-style-type: none"><li>•Formulate and solve transportation problems.</li><li>• Learn to solve assignment problems using Hungarian method.</li><li>• Learn about network models and flow problems</li><li>• Learn about project planning techniques namely, CPM and PERT</li></ul>
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## PHYSICAL EDUCATION

Semester	Paper Name	Learning Outcomes
I	INTRODUCTION TO PHYSICAL EDUCATION	<p>After completing a course in Physical Education during Semester I the students learn:</p> <ol style="list-style-type: none"> <li>a. Concept, definition, and importance of Physical Education and the aims and objectives of Physical Education. They also learn a brief Historical Perspective of Physical Education in different countries including India.</li> <li>b. They will also be learning the relationship of Physical Education to Humanities (Pedagogy, Philosophy, Psychology, Sociology, Statistics) and to Science Disciplines (Anatomy, Anthropometry, Biomechanics, Kinesiology, Nutrition, Physiology).</li> <li>c. While completing the course in Semester I, they also have a knowledge about promotion of Physical Education and Sports in India – Policies, Schemes, Awards, Honours and Awardees, Trophies /Cups. The Olympic Movement, Indian Olympic Association (IOA) and International Olympic Committee (IOC) and the performance of India at Olympic Games and Eminent Sports Persons (Award Winners)</li> </ol>
Semester	Paper Name	Learning Outcomes
II	Fitness, Wellness & Nutrition	<p>In this semester the students learn:</p> <ol style="list-style-type: none"> <li>a. Concept and benefits of Participation in Physical Activities, Types of Physical Activities, wellbeing, Positive Lifestyle, Body Image &amp; Quality of Life and the Concept &amp; Components of wellness &amp; Wellness Programmes for society.</li> <li>b. They also learn Fitness and the Components of physical Fitness, Physiological Factors affecting Physical Fitness, Principles of Physical Fitness, Development and Maintenance and Measurement and Evaluation of Physical Fitness.</li> <li>c. The students are expected to also learn Nutrition, Balanced Diet, Dietary Aids, Calorie Intake and Expenditure. They will also have a mastery over Assessment of Obesity, Deficiency Disorders &amp; Related Health Problems: (Diabetes Mellitus (Type II), Atherosclerosis, Coronary Heart Disease, Stroke and Cancers)</li> </ol>
Semester	Paper Name	Learning Outcomes
III	HEALTH EDUCATION AND EXERCISE PHYSIOLOGY	<p>During this semester the students are expected to complete:</p> <ol style="list-style-type: none"> <li>a. Meaning and Importance health education and Healthful Living. The Role of Personal Hygiene, Mental Hygiene, Sleep Hygiene, Occupational Hygiene in life and the Different Agencies in Promoting Health (WHO, UNICEF, Local Bodies)</li> <li>b. They should be able to understand the Importance of Anatomy and Physiology in for a student of Physical Education and a knowledge of various human systems and its allied organs such as Skeletal System, Muscular System, Circulatory System, Respiratory System, Digestive System, Excretory System, Nervous System and Endocrine System.</li> <li>c. We expect the students should be able understand the effects of exercise and training on various human systems and the concepts of Warming-up, Conditioning, Cooling-down, Fatigue, Stitch, Cramp, Oxygen Debt, and Second Wind. They should have an understanding of the markers for Training Effects - Maximum Heart Rate, Vital Capacity, Stroke Volume, Temperature Regulation, Lactate Threshold and VO<sub>2</sub> max.</li> </ol>
Semester	Paper Name	Learning Outcomes
		<ol style="list-style-type: none"> <li>a. After completing Semester IV, the students of Physical Education are expected to have a knowledge on different types of postures and its significance, different postural deformities and their corrective measures including back and neck pain.</li> </ol>

IV	POSTURE AND ATHLETIC CARE	<p>b. Knowledge of Sports Medicine and athletic care, safety measures for the prevention of common sports injuries and its management.</p> <p>c. Methods of rehabilitation and the use of ergogenic aids and different therapeutic modalities for athletic injuries.</p>
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Semester	Paper Name	Learning Outcomes
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V	SPORTS ADMINISTRATION & MANAGEMENT	<p>a. Here the students learn organization and management of physical education programmes including planning and supervision.</p> <p>b. They should be able to manage the office routines and physical education budget and maintain the Records and Accounts.</p> <p>c. They should be able to handle independently Sports Facilities Management, Marketing and Publicity Management in Sports, and Organization and conduct of Intercollege competitions.</p>
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Semester	Paper Name	Learning Outcomes
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VI	Measurement and Evaluation	<p>With this the students are completing the six semesters of physical education program and acquires a good knowledge in this field. They were also able to handle the following.</p> <p>a. Construction of physical fitness test.</p> <p>b. The statistical treatment of data pertaining to physical education and sports.</p> <p>c. Physical fitness assessment, anthropometric measurements, and skill tests in different games.</p>
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## Political Science

	Course Type (Core/AECC /GE/DS E/Language)	Paper Name	Paper No.	Learning Outcome of Paper
<b>Sem 1</b>	Core	Understanding Political Theory. B.A. (H)	I	This course is divided into two sections. Section A helps the student familiarize with the basic normative concepts of political theory. Section B introduces the students to the important debates in the subject.
	Core	Constitutional Government and Democracy in India B.A (H)	II	The course acquaints students with the constitutional design of state structures and institutions, and their actual working over time.
	GE	Nationalism in India . B.A. (H)	A	The purpose of this course is to help students understand the struggle of Indian people against colonialism. It seeks to achieve this understanding by looking at this struggle from different theoretical perspectives that highlight its different dimens
	GE	Contemporay Political Economy . B.A. (H)	B	the paper deals given the growing recognition worldwide of the importance of the political economy approach to the study of global order, besicly evaluation the history of capitalist world.
	DSC	Introduction to Political Theory. B.A. (Prog)	I	This course aims to introduce certain key aspects of conceptual analysis in political theory and the skills required to engage in debates surrounding the application of the concepts

	Course Type (Core/AECC /GE/DS AEEC)*	Paper Name	Paper No.	Learning Outcome of Paper
	Core	Political theory concept and debate B.A. (H)	III	Basicly in this paper section A helps the student familiarize with the basic normative concepts of political theory. Each concept is related to a crucial political issue that requires analysis with the aid of our conceptual understanding. This exercise is designed to encourage critical and reflective analysis and interpretation of social practices through the relevant conceptual toolkit. Section B introduces the students to the important debates in the subject
	Core	Political Process in India B.A. (H)	IV	This course maps the working of 'modern' institutions, premised on the existence of an individuated society, in a context marked by communitarian solidarities, and their mutual transformation thereby. It also familiarizes students with the working of the Indian state, paying attention to the contradictory dynamics of modern state power.
	GE	Women power and Politics B.A. (H)	C	This is paper extended to cover new forms of precarious work and labour under the new economy. Special attention will be paid to feminism as an approach and outlook. The course is divided into broad units, each of
				The course seeks to elaborate Gandhian thought and examine its practical implications. It will introduce

GE	Gandhi and Contemporary world B.A. (H)	D	The course seeks to elaborate Gandhian thought and examine its practical implications. It will introduce students to key instances of Gandhi's continuing influence right up to the contemporary period and enable them to critically evaluate his legacy.
DSE	Indian Government and Politics . B.A. (Prog)	II	This paper delas the approaches to the study of Indian politics and nature of the State in India: Liberal, Marxist and Gandhian and aslo explains the indian constitutional structure.

Course Type (Core/AECC /GE/DS E/Language AECC)*	Paper Name	Paper No.	Learning Outcome of Paper
Core	Introducation to Comprative Governemnt and Politics. B.A. (H)	V	The course will focus on examining politics in a historical framework while engaging with various themes of comparative analysis in developed and developing countries.
Core	Perspective on Public Administration B A (H)	V	The course explores some of the recent trends, including feminism and ecological conservation and how the call for greater democratization is restructuring public administration. The course will also attempt to provide the students a comprehensive understanding on contemporary administrative developments.
Core	Perspective on International Relation	VII	It introduces students to some of the most important theoretical approaches for studying international relations. The course begins by historically contextualizing the evolution of the international state system
GE	Understanding Ambedkar. B.A. (H)	E	The paper elaborated critically engage themselves with the existing social concerns, state and economic structures and other institutional mechanisms. This also will facilitate them to strengthen their creative thinking with a collective approach to understand ongoing social, political, cultural and economic phenomena
GE	Governance Issues and Chalenges . B.A. (H)	F	Evaluated different dimensions of governance highlighting the major debates in the contemporary times. There is a need to understand the importance of the concept of governance in the context of a globalising world, environment, administration, development. The essence of governance is explored through the various good governance initiatives introduced in India.
AECC	Your laws , Your right (BAH)	A	This course aims to understand law as a source of rights, as a progressively widening sphere of substantive justice, welfare, and dignity. This relationship between laws and rights will be studied through specific values which have come to be seen as integral for a democratic society viz., equality and non-discrimination, empowerment, redistribution and recognition of traditional rights etc.
DSC	Comprative Government and Politics. B.A. (Prog)	III	This paper deals comparative classifications of political systems: Parliamentary and Presidential: UK and USA , Federal and Unitary: Canada and China.

Sem 3



SAC	Legislative Support . B.A. (Prog)	I	In India this has just begun. With about 5000 MPs and MLAs, and more than 30 lakhs representatives at the Panchayati Raj level, there is a vast needs to be responded to. This course will equip the students with basic skills for this task and expose them to real life legislative work. It will build their skills and deepen their understanding of the political process.
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Sem 4

Course Type (Core/AECC /GE/DSE/ Language AECC)*	Paper Name	Paper No.	Learning Outcome of Paper
Core	Political Process and Institutions in comparative Perspective B.A. (H)	VIII	In this course students will be trained in the application of comparative methods to the study of politics. The course is comparative in both what we study and how we study. In the process the course aims to introduce undergraduate students to some of the range of issues, literature, and methods that cover comparative political.
Core	Public Policy in India B.A. (H)	IX	The course will be useful for students who seek an integrative link to their understanding of political science, economic theory and the practical world of development and social change.
Core	Global Politics B.A. (H)	X	This Course offers insights into key contemporary global issues such as the proliferation of nuclear weapons, ecological issues, international terrorism, and human security before concluding with a debate on the phenomenon of global governance.
GE	Politics of Globalisation B.A. (H)	G	This paper will create a broad understanding of the issues and processes globalization based on critical analysis of the various anchors and dimensions of globalization.
GE	United Nations and Global Conflicts B.A. (H)	H	The course imparts a critical understanding of the UN's performance until now and the imperatives as well as processes of reforming the organization in the context of the contemporary global system.
SAC	Legislative Practices and Procedures B.A. (H)	C	In this paper students to understand complex policy issues, draft new legislation, track and analyse ongoing bills, make speeches and floor statements, write articles and press releases, attend legislative meetings, conduct meetings with various stakeholders, monitor media and public developments, manage constituent relations and handle inter-office communications. It will also deepen their understanding and appreciation of the political process and indicate the possibilities of making it work for democracy
DSC	Introducation to International Relations. B.A. (Prog)	IV	This Course is designed to give students a sense of some important theoretical approaches to understand international relations; a history from 1945 onwards to the present; and an outline of the evolution of Indian foreign policy since independence and its possible future trajectory

	SAC	Public Opinion and survey research . B.A. (Prog)	II	This course will introduce the students to the debates, principles and practices of public opinion polling in the context of democracies, with special reference to India. It will familiarise the students with how to conceptualize and measure public opinion using quantitative methods, with particular attention being paid to developing basic skills pertaining to the collection, analysis and utilisation of quantitative data.
	<b>Course Type (Core/AECC)</b>	<b>Paper Name</b>	<b>Paper No.</b>	<b>Learning Outcome of Paper</b>
<b>Sec 5</b>	Core	Classical Political Philosophy B A (H)	XI	This course goes back to Greek antiquity and familiarizes students with manner in which the political questions were first posed. Machiavelli comes as an interlude inaugurating modern political followed by Hobbes and Lock. This is a basic foundation course for students.
	Core	Modern Indian Political Thought B.A. (H)	XII	This students will be exposed to the manner in which the questions of politics have been posed in terms that have implications for larger questions of thought and existence.
	DSE	Human Rights in a Comparative Perspective B.A. (H)	B	In this paper students will be expected to use a range of resources, including films, biographies, and official documents to study each theme. Thematic discussion of sub-topics in the second and third sections should include state response to issues and structural violence questions.
	DSC	Development Process and Social Movement in India B.A. (H)	C	This course proposes to introduce students to the conditions, contexts and forms of political contestation over development paradigms and their bearing on the retrieval of democratic voice of citizens
	DSC	India's Foreign Policy and Globalizing World B.A. (H)	F	In this paper students will be instructed on India's shifting identity as a postcolonial state to the contemporary dynamics of India attempting to carve its identity as an 'aspiring power'. India's evolving relations with the superpowers during the Cold War and after, bargaining strategy and positioning in international climate change negotiations, international economic governance, international terrorism and the United Nations facilitate an understanding of the changing positions and development of India's role as a global player since independence
	DSC	Themes in Comparative political theory . B.A. (Prog)	I	the overall objective of this paper is to appreciate the value and distinctiveness of comparative political theory.
	DSE	Administration and Public Policy: Concepts and Theories . B.A. (Prog)	II	This paper covers understanding public policy: concept and theories, relevance of policy making in public administration and process of policy formulation and implementation and evaluation.

	GE	Reading Gandhi . B.A. (Prog)	I	In this paper "Reading Gandhi" aims to acquaint the students with the social and political thought of Gandhi. The themes in Gandhian thought that are chosen for a close reading are particularly relevant to our times.
	AECC	Democratic Awareness through legal literacy . B.A. (Prog)	I	The student should be aware of the institutions that comprise the legal system - the courts, police, jails and the system of criminal justice administration. Have a brief knowledge of the Constitution and laws of India, an understanding of the formal and alternate disputedressal (ADR) mechanisms that exist in India, public interest litigation.
Sem 6	<b>Course Type (Core/AECC /GE/DSE/ Language AECC)*</b>	<b>Paper Name</b>	<b>Paper No.</b>	<b>Learning Outcome of Paper</b>
	Core	Modern Political Philosophy B.A. (H)	XIII	In this paper political Philosophy and politics are closely intertwined. We explore this convergence by identifying four main tendencies here. Students will be exposed to the manner in which the questions of politics have been posed in terms that have implications for larger questions of thought and existence.
	Core	Indian Political Thought II B.A. (H)	XIV	The objective is to study general themes that have been produced by thinkers from varied social and temporal contexts. Selected extracts from original texts are also given to discuss in the class. The list of additional readings is meant for teachers as well as the more interested students.
	DSE	Public Policy in India B.A. (H)	D	The course will be useful for students who seek an integrative link to their understanding of political science, economic theory and the practical world of development and social change It uses the methods of political economy to understand policy as well as understand politics as it is shaped by economic changes.
	DSE	Understanding Global Politics B.A. (H)	E	This course aims to provide students a basic yet interesting and insightful way of knowing and thinking about the world around them. It is centered around three sets of basic questions starting with what makes the world what it is by instructing students how they can conceptualize the world and their place within it.
	DSE	Feminism :Theory and Practice B.A. (H)	G	The aim of the course is to explain contemporary debates on feminism and the history of feminist struggles. The course begins with a discussion on construction of gender and an understanding of complexity of patriarchy and goes on to analyze theoretical debates within feminism.
	DSE	Democracy and Governance B.A. (Prog)	III	The paper explains institutional aspects of democracy and how institutions function within a constitutional framework. It further delves into how democracy as a model of governance can be complimented by institution building.
	DSC	Understanding Globalisation B.A. (Prog)	IV	this paper deals meaning of globalisation and ts source and forms. In addition, students will obtain a familiarity with both key global actors and certain urgent problems that requires solutions and global level.
	AECC	Conflict and Peace Building B.A. (Prog)	IV	The course encourages the use of new information technologies and innovative ways of understanding these issues by teaching students skills of managing and resolving conflicts and building peace through techniques such as role-play, simulations, street theatre, cinema and music on the one hand and by undertaking field

GE

Human Rights Gender  
and Environment.  
B.A. (Prog)

II

The study of the course will equip the students with theoretical and conceptual understanding of socio economic and political problems of marginalized groups in society such as woman dalits minorities and adivasis and repercussions of contemporary development on globalization on them

## Sanskrit

Semester	Course Type	Paper Name	Paper No.	Learning outcome
1st Semester	Core	Classical Sanskrit Literature (Poetry)	C-1	This course aims to get students acquainted with Classical Sanskrit Poetry. It intends to give an understanding of literature, through which students will be able to appreciate the development of Sanskrit Literature. The course also seeks to help students to negotiate texts independently.
	Core	Critical Survey of Sanskrit Literature	C-2	This course aims to get students acquainted with the journey of Sanskrit literature from Vedic literature to Purana. It also intends to give an outline of different shastric traditions, through which students will be able to know the different genres of Sanskrit Literature and Sastras.
	AECC	Upanishad & Geeta	AECC-1	Objective of this course is to get students to know about the principle thesis of the Upanishad and the Gita.
	GE	Indian cultural and social issues.	GE-1	This paper is designed to introduce nuances of Indian culture to students and to show how cultural traditions have evolved. The paper also engages them in debates about certain significant socio-cultural issues.
Semester	Course Type	Paper Name	Paper No.	Learning outcome
2nd Semester	Core	Classical Sanskrit Literature (Prose)	C-3	This course aims to acquaint students with Classical Sanskrit Prose literature. Origin and development of prose, Important prose romances and fables Sanskrit are also included here for students to get acquainted with the beginnings of Sanskrit Prose literature. The course also seeks to help students negotiate texts independently.
	Core	Self Management in the Gita	C-4	The objective of this course is to study the philosophy of self-management in the Gita. The course seeks to help students negotiate the text independently without referring to the traditional commentaries so as to enable them to experience the richness of the text.
	GE	Fundamentals of Indian Philosophy	GE-2	This course aims to get students acquainted with the basic approach to study Indian Philosophy. It also intends to give an elementary understanding of Indian Philosophy and to enable students to handle philosophical texts in Sanskrit easily.
Semester	Course Type	Paper Name	Paper No.	Learning outcome
	Core	Classical Sanskrit Literature (Drama)	C-5	This course aims to acquaint students with three most famous dramas of Sanskrit literature which represent three stages in the growth of Sanskrit drama.

3rd Semester	Core	Poetics and literary criticism	C-6	The study of sahyasastra (Sanskrit Poetics) embraces all poetic arts and includes concepts like alankara, rasa, riti, vakrokti, dhvani, aucitya etc. The entire domain of Sanskrit poetics has flourished with the topics such as definition of poetry and divisions, functions of word and meaning, theory of rasa and alamkara (figures of speech) and chandas (metre), etc. This develops capacity for creative writing and literary appreciation.
	Core	Indian Social Institutions and Polity	C-7	Social institutions and Indian Polity have been highlighted in Dharma-sastra literature The aim of this course is to make the students acquainted with various aspects of social institutions and Indian polity as propounded in the ancient Sanskrit texts such as Samhitas, Mahabharata, Purana, Kautilya's Arthasastra and other works known as Nitisastra.
	AEEC/SEC	Acting and Script Writing	AEEC/SEC - 1	The acting is connected with the practical aspect of the play and depends on actor while script writing is closely related with society and this paper aims at teaching the theoretical aspect of this art. The training of composition and presentation of drama can further enhance one's natural talent. This paper deals with the rules of presentation of play (acting) and dramatic composition (script writing) and aims at sharpening the dramatic talent of the students.
	GE	Ancient Indian Polity	GE-3	This course aims to get students acquainted with various aspects of Political institutions and indian polity as propounded in the ancient Sanskrit texts from vedic samhitas of later text in the dharma sastra and artha sastra traditions.
<b>Semester</b>	<b>Course Type</b>	<b>Paper Name</b>	<b>Paper No.</b>	<b>Learning outcome</b>
4th Semester	Core	Indian Epigraphy, Paleography and Chronology	C-8	This course aims to acquaint the students with the epigraphical journey in Sanskrit, the only source which directly reflects the society, politics, geography and economy of the time. The course also seeks to help students to know the different styles of Sanskrit writing.
	Core	Modern Sanskrit Literature	C-9	The purpose of this course is to expose students to the rich & profound tradition of modern creative writing in Sanskrit, enriched by new genres of writing.
	Core	Sanskrit and World Literature	C-10	This course is aimed to provide information to students about the spread & influence of Sanskrit literature and culture through the ages in various parts of the world in medieval & modern times.
	AEEC/SEC	Sanskrit Meter and Music	AEEC/SEC -2	The objectives of this course to learn Sanskrit meter for analysis and lyrical techniques. Students will get the complete information regarding selected Vedic and Classical meters with lyrical techniques.

	GE	Nationalism and Indian Literature	GE-4	The aim of this course is to make the students acquainted with the broad streams of Indian Nationalistic trends as propounded in the ancient, classical and modern Sanskrit literature. The course tries to highlight the struggle of Indian people against colonialism in nineteenth century by focusing the nationalistic ideologies of prominent national leaders with special reference to Mahatma Gandhi on the basis of modern Sanskrit works. The course also focuses the nationalistic thought of modern Sanskrit, Hindi and Urdu poetry.
<b>Semester</b>	<b>Course Type</b>	<b>Paper Name</b>	<b>Paper No.</b>	<b>Learning outcome</b>
5th Semester	Core	Vedic Literature	C-11	This course on Vedic literature aims to introduce various types of Vedic texts. Students will also be able to read one Upanisad, namely, Mundaka, where primary Vedanta-view is propounded.
	Core	Grammar Laghusiddhantkaumudi	C-12	This course aims to acquire the knowledge of Sanskrit Grammar.
	DSE	Indian system of logic and Debate	DSE-1	This course aims to get the students acquainted with the Indian principles of debate and its applications, not just in philosophical dialogue, but in every walk of knowledge. The course intends not only to bring our indigenous science of argument to the fore, but it also wants to enable students to develop logical faculty of their mind and to perceive the world in a more rational way in their day to day life.
	DSE	Theatre and Dramaturgy in Sanskrit	DSE-2	Being audio-visual, drama is considered to be the best amongst all forms of arts.. The history of theatre in India is very old, the glimpses of which can be traced in the hymns (saṁvādasūkta) of the R̥gveda. The dramaturgy was later developed by the Bharatamuni. The objectives of this curriculum are to identify the beauty of drama and to introduce classical aspects of development of Indian theatre among the students.
<b>Semester</b>	<b>Course Type</b>	<b>Paper Name</b>	<b>Paper No.</b>	<b>Learning outcome</b>
	Core	Ontology and Epistemology	C-13	This course aims to get the students acquainted with the cardinal principles of the Nyaya-Vaisesika philosophy through the Tarkasamgraha and to enable students to handle philosophical texts in Sanskrit. It also intends to give them an understanding of essential aspects of Indian Philosophy.
	Core	Sanskrit Composition and Communication	C-14	This paper aims at teaching composition and other related information's based on Laghusiddhantakaumudi Vibhaktiyartha Prakarana.

6th Semester	DSE	Sanskrit Linguistics	DSE-3	This course aims are to get the students acquainted with the outline of Sanskrit Linguistics
	DSE	Fundamentals of Ayurveda	DSE-4	Ayurveda is a traditional Indian system of healthcare that has been traced back as early as 5,000 BCE. Through the classroom lectures and discussions, this course will introduce students to the theory of Ayurveda. The theory modules sessions that make up this course offer an introduction to Ayurveda that is well rounded, comprehensive and useful for students in their own day- to-day living. The major objective is to understand the basic principles and concepts of preventative medicine and health maintenance, diet and nutrition, usage of commonly used spices and herbs and outline of Ayurvedic therapeutic procedures in Ayurveda.



## B.Sc(H) Statistics, B.Sc.(Mathematical Sciences)

Semester 1	Course Type (Core/AECC/GE/DSE/Language AECC)*	Paper Name	Paper No.	Learning Outcome of Paper
B.Sc (Hons.)	Core	Descriptive Statistics	STAT- C-101	To enable students to develop a clear understanding of (i) statistical population, sample, various types of data and their graphical representation and interpretation and also understanding of moments and hence various characteristics to describe the data. (ii) concept of probability and its use in solving problems. (iii) concept of random variables, joint, marginal and conditional probability distributions.. (iv) Criteria for independence of attributes and conditions of consistency.
B.Sc (Hons.)	Core	Calculus	STAT -C-102	To understand the concept of Differential calculus, solving integrals of different type, finding complete solutions of differential equations and partial differential equations.
B.Sc (Hons.)	GE	Statistical Methods	STAT- GE - 1	Students will learn basic concepts of descriptive statistics , Graphical displays of data, frequency distributions, analyzing graphs, correlations ,Multiple correlation and regression. Students will get familiar with the practical aspects of statistics.
B.Sc (Mathematical Science)	Core(Math. Sci.)	Descriptive statistics and probability theory	Core-1	To imbibe strong foundation of statistics.To enable students to handle various types of data and interpretat graphical representation.Along with this concept of bivariate data and significance of various correlation coefficient is also explained with practical application.
Semester 2	Course Type	Paper Name	Paper No.	Learning Outcome of Paper
B.Sc (Hons.)	Core	Probability and Probability Distribution	STAT-C-201	Students will have clear understanding of fundamental concept of expectation, moment generating function, cumulant generating function and characteristic function, special discrete probability distributions and continuous probability distributions with their properties.
B.Sc (Hons.)	Core	Algebra	STAT-C-202	After completing this course, students should have developed a clear understanding of:Theory of Equations, The fundamental concepts of matrices and determinants,Echelon form, Linear equations Rank of a Matrix,Characteristic roots and vectors,Quadratic forms,Partitioning of matrices,Generalized inverse
B.Sc (Hons.)	GE	Introductory Probability	STAT- GE - 2	<ul style="list-style-type: none"> <li>•The fundamental concepts of Probability Theory.</li> <li>•Solving probabilistic problems.</li> <li>•Understanding random variables and computing properties of distribution they follow.</li> <li>•Different probability distributions and their implementation at realistic models.</li> </ul>
B.Sc (Mathematical Science)	Core	Statistical Methods	Core - 2	Fundamental concepts of statistical methods, random variable and its types, pmf, pdf and cdf. <ul style="list-style-type: none"> <li>• Bivariate probability distribution, Marginal and conditional probability distributions.</li> <li>• Independence of variates, Transformation in univariate and bivariate distributions</li> </ul>
Semester 3	Course Type	Paper Name	Paper No.	Learning Outcome of Paper

B.Sc (Hons.)	Core	Sampling Distributions	STAT-C-301	1)To understand the basic concepts of hypothesis testing using both classic and p- value approach. 2) To understand chi-square ,t and F distributions and their applications 3) To understand the basic concepts of Law of large nos., convergences ,and central limit theorem
B.Sc (Hons.)	Core	Survey Sampling and Indian official Statistics	STAT-C-302	Fundamental concept of population and sample, Simple random sampling, Stratified random sampling, Systematic sampling, cluster sampling, Sub sampling, Ratio and Regression methods and Indian Official Statistics
B.Sc (Hons.)	Core	Mathematical Analysis	STAT-C-303	After completing this course, students should have developed a clear understanding of: 1. Fundamental properties of real number and real-valued function; 2. Analytical properties of sequences; 3. Infinite series, their properties and different tests; 4. Limits, Continuity, Differentiability and mean value theorems; 5. Fundamental of numerical analysis; Interpolation; Numerical Integration and Difference equations.
B.Sc (Hons.)	SEC	Statistical Data Analysis using R	STAT-SEC-2	1) Students will demonstrate an understanding of the basic knowledge of R programming using appropriate knowledge of Statistics and Mathematics 2) Students may identify the statistical problem and design an efficient algorithm to solve these problems. 3) Students may build probability models and use data to make appropriate statistical inferences.
B.Sc (Hons.)	GE	Basics of Statistical Inference	STAT - GE-3	After completing this course, students should have developed a clear understanding of: 1. Theory of estimation; 2. Tests of hypothesis; 3. Non-parametric tests; 4. Applications of Chi-square test; 5. Analysis of variance; 6. Fundamentals and analysis of basic designs (CRD & RBD).
B.Sc (P) (Mathematical Science)	Core	Statistical Inference	Core-3	<ul style="list-style-type: none"> <li>•Parameter, statistic, standard error, sampling distribution of a statistic, hypothesis testing, etc.</li> <li>•Sampling distributions of chi- square, t and F and their applications.</li> <li>•Characteristics of a good estimator, different methods of estimation.</li> <li>•Demonstrate use of these techniques in data analysis.</li> </ul>
B.Sc (P) (Mathematical Science)	SEC	Data Analysis using Software SPSS/R	SE 1	This is the skill enhancement paper in which student get ability to analyse the statistical data which is beneficial for the growth of the career and students will be in position to analyse big data by using this software.
<b>Semester 4</b>	<b>Course Type</b>	<b>Paper Name</b>	<b>Paper No.</b>	<b>Learning Outcome of Paper</b>
B.Sc (Hons.)	Core	Statistical Inference	STAT-C-401	<ul style="list-style-type: none"> <li>• Different methods of finding point estimators for unknown population parameters.</li> <li>• Desirable properties of point estimators based on which estimators can be compared.</li> <li>• Methods to develop/find best point estimators based on the desirable properties (Using Cramer-Rao inequality, Rao-Blackwell theorem, and Lehmann-Scheffe Theorem).</li> <li>• General methods of constructing interval estimators (Confidence Intervals) for unknown population parameters.</li> <li>• Basic principle of Bayesian estimation (Finding posterior distributions of unknown population parameters).</li> </ul>

B.Sc (Hons.)	Core	Linear Models	STAT - C - 402	After completing this course, students should have developed a clear understanding of: Theory and estimation of Linear Models, Simple and Multiple linear regression models and their applications, fitting of these models to real or synthetic data, derivation of confidence and prediction intervals, and a sound scientific interpretation of the results, techniques of Analysis of Variance and Covariance under fixed effects model.
B.Sc (Hons.)	Core	Statistical Quality Control	STAT-C-403	1) Students will develop an understanding of the practical knowledge of Statistical Quality Control (SQC). and Mathematics. 2) Students will be able to recognize, describe, and analyze the SQC problems. 3) Students may apply knowledge of Mathematics, Statistics and particularly SQC to judge the quality of a manufactured product.
B.Sc (Hons.)	SEC	Statistical Techniques for research methods	STAT-SEC-3	This paper aims to provide the students with the preliminary knowledge of the various tools required for data collection, tabulation, analysis and research work. The paper equips the students with the desired knowledge required to carry out a basic survey.
B.Sc (Hons.)	GE	Applied statistics	STAT- GE-4	Students will get knowledge of statistical methods and other formulae in statistics. After studying this paper they will get an idea about how these statistical methods and formulae may be applied in real life .
B.Sc (P) (Mathematical Science)	Core	Sample Surveys and Design of Experiments	Core - 4	The basic concept of sample survey and its need. Simple random sampling, Stratified random sampling, Systematic sampling, One-way and two-way analysis of variance, Basic concepts of design of experiments. • Completely randomized design, Randomized design, Latin square design, Missing plot techniques, Factorial experiments. • Present official statistical system in India, Functions of C.S.O. and N.S.S.O.
B.Sc (P) (Mathematical Science)	SEC	Statistical Computing using C	SE 2	• The fundamental concepts of C programming language. • Various data types, operators, library functions, Input/Output operations. • Decision making and branching and looping. • Arrays. • User defined functions, recursion functions. • Storage class of Variables
<b>Semester 5</b>	<b>Course Type</b>	<b>Paper Name</b>	<b>Paper No.</b>	<b>Learning Outcome of Paper</b>
B.Sc (Hons.)	Core	Stochastic Processes and Queueing Theory	STAT-C-501	This paper aims to introduce the concept of randomness and simulate stochastic processes. It also provides an insight into the practical applications of the stochastic processes.

B.Sc (Hons.)	Core	Statistical Computing Using C/C++ Programming	STAT-C-502	<ul style="list-style-type: none"> <li>• Various data types, operators, library functions, Input/Output operations.</li> <li>• Decision making and branching and looping.</li> <li>• Arrays, Character and strings.</li> <li>• User-defined functions, recursion functions.</li> <li>• Storage class of Variables.</li> <li>• Pointers.</li> <li>• Pointers and arrays, arrays of pointers, pointers as function arguments, functions, returning pointers.</li> </ul>
B.Sc (Hons.)	DSE	Time Series Analysis	STAT - DSE-1 (A)	After completing this course, the students will possess skills to understand the components and forecast values of a time series at future time points.
B.Sc (Hons.)	DSE	Operations Research	STAT - DSE-2(A)	After completing this course, the students should have developed a clear understanding of fundamental concepts of Operational Research techniques, linear Programming, Transportation and Assignment problems, Game Theory, Inventory models.
B.Sc (P) (Mathematical Science)	SE 3	Statistical Simulation	SE 3	<ul style="list-style-type: none"> <li>• How simulation is used to understand the behavior of real world systems by utilizing mathematical models</li> <li>• How to generate random numbers by the different methods.</li> <li>• Hands-on experience in using simulation software packages/structured programming languages.</li> <li>• Application of simulation techniques.</li> </ul>
B.Sc (P) (Mathematical Science)	DSE	Statistical Techniques for Quality Control	DSE-1-(ii)	<ol style="list-style-type: none"> <li>1) Students will demonstrate the basic understanding of the Statistical Techniques for Quality Control (STQC) and Mathematics.</li> <li>2) Students will be able to recognize, describe, and analyze the STQC problems.</li> <li>3) Students may apply knowledge of Mathematics, Statistics and particularly STQC to judge the quality of a manufactured product.</li> </ol>
<b>Semester 6</b>	<b>Course Type</b>	<b>Paper Name</b>	<b>Paper No.</b>	<b>Learning Outcome of Paper</b>
B.Sc (Hons.)	Core	Design of Experiments	STAT-C-601	After completing this course, students should have developed a clear understanding of: 1. Fundamental concepts of Design of Experiments; 2. Introduction to planning valid and economical experiments; 3. CRD, RBD, LSD, BIBD, 4. Full and confounded factorial designs with 2 and 3 levels and 5. Fractional factorial designs with two levels.
B.Sc (Hons.)	Core	Multivariate Analysis and Non-Parametric Methods	STAT-C-602	<ol style="list-style-type: none"> <li>1. To understand the basic concepts of Multivariate Normal distributions and their properties.</li> <li>2. Analyzing multivariate data by using data reduction techniques like Principal component analysis and Factor analysis.</li> <li>3. To understand the basic idea of Discriminant Analysis. Application of Wald's SPRT along with the study of the O.C. function and the ASN function for various underlying continuous and discrete distributions.</li> <li>4. Testing of hypothesis using Non-Parametric tests like Median test, Runs test, U test, Kruskal Wallis test etc. and ability to use them judiciously for the testing of given data.</li> </ol>

B.Sc (Hons.)	DSE	Biostatistics and Survival Analysis	STAT- DSE - 3(B)	To analyse censored data and its application in public health. Estimate death probabilities by using the theory of competing risk to a cause specific mortality study. Concept of survival data along with its various functions is introduced and application of their various forms is discussed with students.
B.Sc (Hons.)	DSE	Financial Statistics	STAT - DSE - 4(A)	This paper aims to explain the practical application of Statistics and more specifically the use of random processes in the financial markets.
B.Sc (P) (Mathematical Science)	SE 4	Statistical Techniques for research methods	SE 4	<ol style="list-style-type: none"> <li>1. This course develops understanding of various kinds of research, objectives of doing research, research process, research designs and sampling.</li> <li>2. Have basic knowledge on qualitative research and quantitative research techniques.</li> <li>3. Have adequate knowledge of various techniques for data analysis.</li> </ol>
B.Sc (P) (Mathematical Science)	DSE	Index Number and Time Series Analysis	DSE 2-(i)	After completing this course, students will possess the ability to appreciate, formulate solutions, analyze use of index numbers and time series to real world problems.

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