



## THK Jain College

### Course Outcome of Programs under B.A/B.Sc./B.Com/BBA

➤ **Department of Business Administration:**

Sl. No	Semester	Course Name	Course Outcome
1	1st Semester	Principles of management and organization behavior	<ul style="list-style-type: none"><li>• To acquaint the students with the fundamentals of managing business</li><li>• To understand individual and group behavior in an organizational environment.</li></ul>
2	1st Semester	Business accounting	<ul style="list-style-type: none"><li>• To familiarize students with the mechanics of preparation of financial statements</li><li>• Understanding corporate financial statements, their analysis and interpretation.</li></ul>
3	1st Semester	Entrepreneurship development	<ul style="list-style-type: none"><li>• Introducing students with the entrepreneurial process of creating new business</li><li>• Understanding the role of creativity and innovation in entrepreneurial startups.</li></ul>
4	2nd Semester	Business communication	<ul style="list-style-type: none"><li>• To familiarize students with the process and elements of corporate communication</li><li>• To familiarize students with the tools of communication and teach about drafting various corporate communication messages.</li></ul>
5	2nd Semester	Statistics for business decision	<ul style="list-style-type: none"><li>• To familiarize students with various statistical data analysis tools</li><li>• To use these tools for effective decision making.</li></ul>
6	2nd Semester	Managerial economics	<ul style="list-style-type: none"><li>• To apply microeconomic concepts and techniques in evaluating business decisions by firms</li><li>• To explain how tools of standard price theory can be employed to formulate the decision problem</li></ul>
7	2nd Semester	Business ethics	<ul style="list-style-type: none"><li>• To make student understand the importance of ethics in business and practices of good corporate governance</li></ul>
8	3rd Semester	Human resource management	<ul style="list-style-type: none"><li>• To develop an understanding about the concept and techniques of essential functions of human resource management</li></ul>
9	3rd Semester	Marketing management	<ul style="list-style-type: none"><li>• To familiarize students with the marketing functions in organizations</li><li>• To equip the students with understanding of the marketing mix elements</li></ul>
10	3rd Semester	Management accounting	<ul style="list-style-type: none"><li>• To acquaint students with the role of management accounting in planning, control and decision making</li></ul>
11	3rd Semester	Production and operation management	<ul style="list-style-type: none"><li>• To understand the production and operation function and familiarize students with techniques of planning and control</li></ul>

12	3rd Semester	Information technology Tolls for business	<ul style="list-style-type: none"> <li>To introduce the concepts of worksheets and concepts of using formula and functions</li> <li>To familiarize students with various information technology Tools used in business</li> </ul>
13	4th Semester	Business research	<ul style="list-style-type: none"> <li>To provide an exposure pertaining to the nature and extent of research orientation</li> <li>To familiarize with the basic techniques and tools of marketing research</li> </ul>
14	4th Semester	Macroeconomics	<ul style="list-style-type: none"> <li>The course covers aspects of determination and linkages between major economic variables</li> <li>The course studies the impact of monetary and fiscal policy on the aggregate behavior of the individuals</li> </ul>
15	4th Semester	Financial management	<ul style="list-style-type: none"> <li>To acquaint students with the techniques of financial management</li> <li>To study their applications for business decision making</li> </ul>
16	4th Semester	Tax planning	<ul style="list-style-type: none"> <li>To acquaint students with the tax structure for individual and corporates</li> <li>To study its implications for planning</li> </ul>
17	4th Semester	E-commerce	<ul style="list-style-type: none"> <li>To understand the various tools and architecture and internet framework</li> <li>To acquaint the students with the development of various tools and building blocks in e-commerce business</li> </ul>
18	5th Semester	Quantitative techniques in management	<ul style="list-style-type: none"> <li>To acquaint students with the construction of mathematical models for managerial decision making</li> <li>To use computer software packages to obtain a solution wherever possible</li> </ul>
19	5th Semester	Legal aspects of business	<ul style="list-style-type: none"> <li>To gain the knowledge of business and corporate law</li> <li>To apply these laws in practical situations</li> </ul>
20	5th Semester	Strategic corporate finance	<ul style="list-style-type: none"> <li>To know the details of corporate finance</li> <li>To know the strategies involved in corporate decisions</li> </ul>
21	5th Semester	Consumer behavior	<ul style="list-style-type: none"> <li>To equip the decisions with basic knowledge about the issues and dimensions of consumer behavior</li> <li>To analyze consumer information</li> <li>To develop consumer behavior-oriented marketing strategies</li> </ul>
22	5th Semester	HRD: systems and strategies	<ul style="list-style-type: none"> <li>The course gives an overview of the need for HRD</li> <li>To familiarize with HRD practices which can develop and improve an organizations systems and strategies</li> </ul>
23	5th Semester	Investment analysis and portfolio management	<ul style="list-style-type: none"> <li>To provide a conceptual framework for analysis from an investors perspective of maximizing return on investment</li> <li>To provide a sound theoretical base with references to the Indian financial system</li> </ul>
24	5th Semester	Advertisement and brand management	<ul style="list-style-type: none"> <li>To equip the students with the nature, purpose and complex constructions in the planning and execution of a successful program</li> <li>the course exposes students to issues in brand management</li> </ul>
25	5th Semester	Management of industrial relationship	<ul style="list-style-type: none"> <li>To acquaint students with the concepts of industrial relations</li> <li>To familiarize with various legislations related to labor welfare and industrial relations</li> </ul>
26	5th Semester	Business policy and strategy	<ul style="list-style-type: none"> <li>To equip student with necessary insights for designing strategies for an organization</li> </ul>
27	6th Semester	Financial institutions and management	<ul style="list-style-type: none"> <li>To introduce students to the different aspects and components of financial institutions and financial markets</li> </ul>
28	6th Semester	Investment banking and financial services	<ul style="list-style-type: none"> <li>To know the different aspects of investment banking, mergers and acquisitions</li> <li>Detailed SEBI guidelines on issue management</li> </ul>
29	6th Semester	Marketing of services	<ul style="list-style-type: none"> <li>To equip students with the knowledge of marketing of all type of services</li> </ul>
30	6th Semester	Performance and compensation management	<ul style="list-style-type: none"> <li>To familiarize students about concepts of performance and compensation management</li> <li>To use these concepts to face challenges of attracting, retaining and motivating employees towards high performance</li> </ul>

➤ **Department of Commerce:**

Sl. No	Semester	Course Name	Course Outcome
1	1st Semester	GE 1.1 CHG: Micro-Economics I & Statistics	1) Identify consumers reaction to various price and income situation. 2: Visualize how equilibrium prices are determined. 3) To obtain practical knowledge about production and cost structure of the economy. 4. Gain knowledge regarding different types of market structures. 5. To enable students to understand internal and external economies of scale. 6. To explore and understand and discuss the issues related to statistical data survey, sampling and its significance. 7. To analyze statistical data graphically using frequency distributions and cumulative frequency distributions. 8. Students will be able to apply mean, mode, median, standard deviation & dispersion etc. in different areas of commerce, accounts and economics. 9. Using different interpolation technique student can forecast business data which helps them to formulate new business plan. 10. It helps the students to learn the application of statistical tools and techniques for decision making and limitations of statistical analysis.
2	1st Semester	CC 1.1 CHG: Business Law	1. To understand the ways and laws applicable on general Contracts, Companies Act, Sale of goods Act and the patterns of Negotiable Instruments Act. 2. To generate the relationship between private contract and understanding the consumer. 3. To make the students aware regarding consumer rights. 4. To identify legal issues and legal risks that arise in a business context. 5. To establish and evaluate legal material and information from various sources to form a convincing argument in order to influence business processes and policy.
3	1st Semester	CC 1.2 CHG: Principles of Management	1. Recognize opportunities and challenges associated with strategy-making 2. Identify how environments, strategy, structure, culture, tasks, people, and outputs, impact the managerial decisions 3. Understand and analyze how managers can formulate and implement strategies effectively 4. Understand the planning process in the organization 5. Understand the concept of organization 6. Demonstrate the ability to direct, leadership and communicate effectively 7. Analysis isolate issues and formulate best control methods
4	1st Semester	CC 1.1 CH: Financial Accounting I	1) To get knowledge of theoretical framework of accounting such as nature of accounting, basic concepts and conventions and generally accepted accounting principles. 2) Have knowledge of prevailing accounting standards in India as well as IFRS. 3) Build a detailed understanding relating to determination of depreciation and inventory value, consignment, sectional and self-balancing ledger and insurance claim. 4) Achieve the capabilities of preparing financial statements from incomplete records 5) Achieve the capabilities of preparing financial statements for trading and non-profit making organizations.
5	1st Semester	AECC 1.1CHG Language (Communicative English and Indian Language)	1) Learn the literature and as well as they shall increase their reading as well as writing skills in English and their mother tongue. 2) Enhance the knowledge of literature as well as the

			communicative skills with an object to understand and express the language of the business profoundly.
6	2nd Semester	Ge2.1CHG: E-Commerce & Business Communication	1. To provide the students an overview of the fundamental concepts of E-Commerce and internet technology. 2. To notify the students with the information on various online platforms to conduct business. 3. To create awareness on the importance and working of electronic payment system and virtual security. 4. Students will be able to analyze various platforms in which E-Commerce is conducted. 5. To identify the variants of digital platforms and online payment systems. 6. Develop basic online platform for conducting business. 7. To enrich the students with the essentials of business correspondence 8. To enable students to develop their business communication skill 9. To help students to understand the importance of communication in business 10. To comprehend the importance of communication in business 11. To evaluate the role of technology in making communication effective 12. How to prepare resume and presentable job application letters?
7	2nd Semester	CC2.1CHG: Company Law	1. To gain basic knowledge of the provisions of the companies act, 2013 in relation to types of companies, memorandum of association, articles of association, administration of company law 2. To comprehend the classification of directors, key managerial personnel, meetings of companies and the committees connected with the affairs of a company 3. To gain insight on the law related to maintenance of books of accounts, and auditor's report 4. To be familiarized with the concept of winding up of a company and the modes of winding up along with the legal provisions related to insider trading and whistle blowing
8	2nd Semester	CC2.2CHG: Marketing Management & Human Recourse Management	1. To understand various concepts related to communication design while emphasizing on important aspects of marketing 2. To familiarize students with marketing research and its utility for applying the fundamentals in their careers. 3. To conversant students with the importance of buyer behavior to help them analyze its importance in segmenting, targeting and positioning in marketing. 4. To evaluate marketing opportunities for creating and utilizing suitable models. 5. To understand the steps required for employee training development program 6. To understand importance of manpower planning and job analysis 7. To apply the theoretical and practical aspects of human resource management to formulate business strategies 8. To analyze the insights of organizational development 9. To evaluate the personnel functions with respect to its association in policy formulations create different kinds of HRM strategies
9	2nd Semester	CC2.1CH: Cost & Management Accounting I	1. Students must have to understand the concepts of cost accounting & management accounting 2. Students must have to understand the direct and indirect overhead concepts 3. Familiarize with cost sheet and process and service costing
10	3rd Semester	Sec 3.1 CHG Information Technology & Its Application in Business	1) Information technology and its impact in business. 2) Data organization and data base management system 3) Internet and its applications like IP address, URL, ftp, telnet, html, xml etc. 4) Ethical hacking, cloud computing, mobile computing, ethical Issues in social networking. 5) Scope of e-security and various types of security threats. 6) IT Act. 2000 and different types of cybercrimes. 7) Practical application of digital signature, electronic governance,

			attribution, digital signatures certificates. 8) Practical application of MS Word and creating business documents by using the facilities. 9) Practical application of MS PowerPoint and creating business presentation by using the facilities. 10) Practical application of spreadsheet and its business applications
11	3rd Semester	CC3.1CH: Financial Accounting II	1. To understand knowledge about process of dissolution of partnership firm 2. To understand the knowledge about departmental accounts, hire purchase and branch accounting 3. To create an exposure of limited liability partnership business and conversion procedure
12	3rd Semester	CC3.2 CH Indian Financial System	1. To understand happenings in the stock exchanges 2. To be aware about the mutual fund and concept of portfolio 3. To get introductory knowledge of derivatives and derivative market in India 4. To understand the meaning and differences of financial and non-financial institutions. 5. To enhance the knowledge of capital market, money market, and commodity market. 6. To familiarize with common and innovative financial products offered in different markets. 7. To study and differentiate the fund and fee based financial services offered in the market. 8. Describe and understand the components of Indian financial system. 9. To furnish with the knowledge of financial and non-financial institutions and its functions. 10. Familiar with functions and operations of capital, money and commodity markets. 11. To understand the features of common and innovative financial instruments. 12. Comprehensive knowledge on fund and fee-based services.
13	3rd Semester	GE 3.1 CHG Business Mathematics & Statistics	1. Students will be able to understand the concept of simple and compound interest, annuity, perpetuity and able to calculate loan Emi etc. 2. It gives idea regarding theory of probability and application of addition and multiplication law of probability in real life situation. 3. Get the idea regarding progression of numbers like AP, GP, HP series. 4. Students will be able to understand about the different types of averages, measures of variation, correlation analysis and regression analysis etc. 5. Students will be able to apply counting principles like combination and permutation in various problems. 6. Able to understand the concept of index number, cost of living index number and able to apply the concept in different real-life situation. 7. Concept of time series data helps students to understand the past behavior of business variables and to estimate the future behavior of the data which helps them to formulate policy and planning for future operations of business.
14	4th Semester	GE 4.1 CHG: Microeconomics II and Indian Economy	1) Generate knowledge about various form of market in the economy. 2) Learners can differentiate how demand curve, supply curve, equilibrium price differs from market to market. 3) Students are able to know how factor prices like wage rate, rental rate are determined in the economy. 4) Introduce student among the structure of the economy. 5) Learners get the perfect knowledge about basic feature of Indian economy 6) Students have clear idea about sectorial contribution of Indian national income during planning period.
15	4th Semester	CC 4.1 CHG: Entrepreneurship Development and Business Ethics	1. To discover their strengths and weaknesses in terms of qualities and traits required to be a successful entrepreneur in the context of a founding team. 2. Identify gaps in terms of qualities and traits required to be an entrepreneur, if any, and make a personal action

			plan to close those gaps. 3. Develop the entrepreneurial mind-set further in terms of acquiring a business focus, creative thinking, risk-taking ability, and more. 4. Practice critical talents and traits required for entrepreneurs such as problem solving, creativity, communication, business math, sales, and negotiation. 5. Lists the types of new venture establishment methods. 6. The importance of generating business ideas and entrepreneurship policies. 7. Explain the role and importance of the small and medium sized enterprises in the economy. 8. Analyze the financial needs of a business in the start-up phase. 9. Analyze the future and success of the entrepreneurial process
16	4th Semester	CC 4.1 CH: Taxation-I	1. To understand the basic concepts and to acquire the knowledge about computation of income 2. To gain knowledge of the provisions of income – tax including rules pertaining 3. To understand the concepts of heads of income and to compute the income under each head. 4. To understand the concept of deductions and provisions of sec. 80c to 80u to compute the taxable income of an individual, Hindu undivided family and companies. 5. To provide understanding of direct taxes including rules pertaining to their application in different business situations.
17	4th Semester	CC 4.2 CH: Cost & Management Accounting-II	1. Students must understand how cost are charged to product or service 2. Students will learn to identify and evaluate difference between actual and targeted cost 3. Students will understand management decision making. 4. Students get to know about profit maximization and cost minimization concepts. 5. Analyze variances between actual v/s budgeted / previous years' figures for corrective actions 6. Critically analyze relevant costs and provide recommendations for decision making 7. Prepare plans and budgets and analyze variances from standard cost to pinpoint areas that need control
18	5th Semester	CC 5.1CH: Auditing & Assurance	1. To get knowledge about preparation of audit report. 2. To realize financial reporting and corporate governance. 3. To impart knowledge and develop understanding of methods of auditing and their application. 4. To understand the various auditing concepts, audit programme, vouching, verification and valuation. 5. Role of Auditing and Assurance Standard board in India.
19	5th Semester	CC 5.2CH: Taxation II	1. Submission of income tax return, advance tax, and tax deducted at source 2. Taxation implications during decision making processes. 3. To understand the provision for computation of income of various entities and the provisions of returns, assessment and procedure of assessment. 4. To develop ability to calculate taxable income of individual, Hindu undivided family and company assesses 5. To understand principles underlying the goods and service tax 6. to understand basic concepts of goods and service tax and customs duty. 7. To understand the need and importance of tax planning and management as well as the basic concept and framework under GST act 8. To have a practical knowledge in customs duty
20	5th Semester	DSE 5.1 A: Macroeconomics and Advanced Business Mathematics	1) Understand the concept national income and identify various difficulties in calculating it. 2) Enabling students to understand the basics about money and its origin and types and its functions. 3) To enable students to have insights about inflation and deflation-its causes, consequences and remedies. 4) To enable students to

			understand the functions of commercial banks and credit creation & investment policy of commercial banks and to understand the concept and functions of central banking and various methods of credit control. 5) Concept of function helps student to understand the concept of different types of functions like, cost function, profit function and revenue function etc. 6) Concept of differentiation is used to find different types of marginal functions, like marginal profit, marginal costs, marginal revenue, and maximum and minimum values of costs, profit etc. 7) Integral calculus is used to calculate total revenue from the marginal revenue given. 8) Matrix is used to deal with the unique needs of the various sectors of industry. It gives opportunities to finance and logistics management, and customer relationship by providing them a variety of solutions.
21	5th Semester	DSE 5.2 A: Corporate Accounting	1. To make aware the students about the conceptual aspect of corporate accounting 2. To enable the students to develop skills about accounting standards 3. To understand and apply the knowledge of accounting standards 4. Different techniques of corporate accounting for restructuring and liquidating the corporate entities 5. Make use of relevant schedules (new format) to prepare final statement of accounts of banking company 6. To develop various accounting practices in the relevant fields
22	6th Semester	SEC6.1CHG: Computerized Accounting and E-Filing of Tax Returns	1. To state the meaning of accounting information system, understand the need for use of computers in accounting for preparing accounting reports. 2. To develop the understanding of comparing the manual and computerized accounting process and appreciate the advantages and limitations of automation. 3. To understand the different kinds of accounting software. 4. To manage different accounting procedures by using of relevant accounting software
23	6th Semester	CC6.1CH: Project Work	1. To understand meaning and scope of business research 2. To bring into the light with research terminologies and various types of research design 3. To get an insight into various scaling techniques and sources of data collection 4. To get up to date with various techniques of data analysis and its implications 5. To obtain basic learning of analytics in business.
24	6th Semester	DSE6.1A: Financial Reporting & Financial Statement Analysis	1. To demonstrates excellence in the ability to analyze the basic financial statements and footnotes. 2. To exhibit an ability to understand and utilize analysis and industry comparisons to interpret a company's financial health. 3. To enhance excellent ability to analyze and interpret the effects of differing accounting methods and management disclosures on financial statement analysis. 4. To comprehend the theory and practices of corporate financial reporting in practical exposure 5. Design appropriate business policies and strategic framework to meet stakeholder and shareholder requirements in the light of the recent changes in financial reporting. 6. The practical application areas of financial analysis
25	6th Semester	DSE6.2A: Financial Management	1. To understand basic concepts of financial management and their application in investment, financing and dividend decisions. 2. To understand concepts of cost of capital, leverage analysis, capital structure and dividend theories and identify courses of action in financial environment that would result in maximization of wealth of an organization. 3. To understand management of working

			capital and estimate the same for an organization. 4. To notify students with the techniques of financial management and their applications for business decision making
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➤ **Department of Botany:**

Sl. No	Semester	Course Name	Course Outcome
1	1 <sup>st</sup> Semester	Phycology And Microbiology (BOT-A-Cc-1-1-Th & P)	<p><b>Phycology</b> dealing with the scientific study of algae help student to get knowledge in</p> <ol style="list-style-type: none"> <li>(1) thallus organization</li> <li>(2) ultrastructure of algal cell</li> <li>(3) origin and evolution of sex</li> <li>(4) classification by different eminent phycologists</li> <li>(5) life cycle of different alga of different classes.</li> </ol> <p><b>Microbiology</b> deals with the study of virus and bacteria help student to get knowledge in</p> <ol style="list-style-type: none"> <li>(1) discovery</li> <li>(2) distinguishing physiochemical characteristics of bacteria &amp; virus</li> <li>(3) lytic cycle (t4 phage) and lysogenic cycle (lambda phage)</li> <li>(4) bacterial genome, plasmid &amp; different genetic recombination processes in bacteria</li> </ol> <p><b>Practical:</b></p> <ol style="list-style-type: none"> <li>(1) workout and identification of different algal specimens</li> <li>(2) preparation of bacterial media and sub culturing</li> <li>(3) simple and gram staining of bacteria</li> <li>(4) botanical excursion that familiarize the students with the natural habitats of algae and give scope to collect &amp; preserve specimens for future study</li> </ol>
2		Mycology and Phytopathology (BOT-A-CC-1-2-Th & P)	<p><b>Mycology</b> dealing with the scientific study of fungi, helps student to get knowledge in</p> <ol style="list-style-type: none"> <li>(1) classification of fungi by different eminent mycologists</li> <li>(2) fungal characteristics including hyphal forms, spore forms and their liberations</li> <li>(3) life cycles pattern of different fungal species</li> <li>(4) study of mycorrhiza and lichen &amp; their economic, ecological importance.</li> </ol> <p><b>Plant pathology</b> provides knowledge to the students about the of (1) Scientific study of diseases in plants caused by pathogens and environmental conditions.</p> <ol style="list-style-type: none"> <li>(2) host parasite interaction</li> <li>(3) plant disease management</li> <li>(4) study of different disease cycle.</li> </ol> <p><b>Practical:</b></p> <ol style="list-style-type: none"> <li>(1) workout and identifications of different fungal specimens</li> <li>(2) preparation of fungal media</li> <li>(3) isolation and inoculation of pathogen</li> <li>(4) Botanical excursion that familiarize the students with the natural habitats of fungi and give scope to collect &amp; preserve specimens for future study</li> </ol>
3	2 <sup>nd</sup> Semester	Plant anatomy (BOT-A-CC-2-3-Th & P)	<p><b>Plant anatomy</b> help students to get detailed knowledge about</p> <ol style="list-style-type: none"> <li>(1) ultrastructure of cell wall and stomata.</li> <li>(2) internal plant structure along with primary and secondary structure,</li> </ol>

			<p>(3) developmental anatomy,  (4) ecological anatomy,  (5) scope.  <b>Practical</b> includes  (1) microscopic studies of anatomical features in plants  (2) workout of stem, root and leaves with normal and anomalous structure  (3) workout to study adaptive anatomical characteristics</p>
4		Archegoniate (BOT-A-CC-2-4-Th & P)	<p>With this course <b>Archegoniate</b> student get an overall knowledge about the scientific study of bryophytes, pteridophytes and gymnosperms. They can learn about  (1) the characteristics, classification, life histories of different species of bryophytes along with their ecological and economical importance.  (2) Characteristics, classification, life histories of different species of pteridophytes along with their economic importance  (3) telome concept  (4) heterospory and origin of seed habit.  (5) Study of Progymnosperm  (6) Characteristics, classification, life histories of different species of gymnosperm along with their economic importance.</p> <p><b>Practical:</b>  (1) workout of different pteridophytes  (2) morphological study of some prominent genera of archegoniate  (3) identification through study from permanent slides  (4) Botanical excursion to familiarize the students with the natural habitats of these groups</p>
5	3 <sup>rd</sup> Semester	Palaeobotany and Palynology (BOT-A-CC-3-5-Th & P)	<p>With the study of <b>Palaeobotany</b> student get knowledge about  (1) different types of plant fossils, different modes of their preservations  (2) different reconstructed fossil pteridophytes &amp; gymnosperms  (3) Indian Gondwana system with major mega fossil assemblages.  (4) study of spore and pollen morphology, NPC classification  (5) applications of spores and pollen grains.</p> <p><b>Practical:</b>  (1) morphological study of palaeobotanical specimens  (2) study from permanent slides of different palaeobotanical specimens  (3) study of pollen types.</p>
6		Reproductive biology of Angiosperms (BOT-A-CC-3-6-Th & P)	<p><b>Reproductive biology</b> of angiosperms helps students to get knowledge about  (1) morphology of different types of inflorescence, flowers, fruits, seeds.  (2) Genetic and molecular aspects of flower development.  (3) fertilization process with pre-and post-fertilization changes,  (4) apomixis, polyembryony, etc.</p> <p><b>Practical:</b>  (1) study of different types of inflorescences, flower, fruits from fresh or preserved specimens  (2) study of ovules</p>

			(3) field work and project on comprehensive idea about different types of inflorescences, flowers and fruits with photographs taken during field study
7		Plant systematics (BOT-A-CC-3-7-Th & P)	<p><b>Plant systematics</b> help students to get detailed knowledge about (1) different components  (2) phases of taxonomy  (3) systems of classification of angiosperms  (3) numerical taxonomy  (4) data sources in taxonomy  (5) diagnostic features of some prominent families in dicots and monocots.</p> <p><b>Practical:</b>  (1) work out of specimen from different families  (2) spot identification of common wild plants  (3) different botanical excursion to familiarize the students with the natural habitats &amp; morphological features of angiospermic plants and give scope to collect &amp; preserve specimens, in form of herbaria for future study</p>
8		Applied phycology, mycology and microbiology (BOT-A-Sec-A-3-1-Th)	<p><b>Applied phycology, mycology and microbiology</b> help students to enhance their skill on applied phycology, mycology and microbiology by study of  (1) importance of algae in different industries, agriculture, biotechnology  (2) use of fungi as a source of different industries like food, pharmaceuticals and biotechnology  (3) use of bacteria in different industry, pharmaceuticals, mineral processing &amp; use of bacteria as biofertilizers and biopesticides.</p>
9	4 <sup>th</sup> Semester	Plant geography, ecology and evolution (BOT-A-CC-4-8-Th & P)	<p><b>Plant geography, ecology and evolution</b> help students to get detailed knowledge about  (1) concept of different phytogeographical regions of India  (2) idea of dominant flora of eastern and western Himalayas and Sundarbans  (3) brief concept on endemism  (4) Ecological interaction of organisms in an area with their environment  (5) conceptual understanding of terms and terminologies in ecology  (6) ecological succession  (7) phytoremediation  (8) conservation of biodiversity  (9) The study of changes in the characteristics of a species over several generations  (10) various theories supporting the process of selection (11) speciation  (12) study of phylogeny of different members of plant kingdom including fungi.</p> <p><b>Practical:</b>  Workout on ecological parameters by  (1) quadrat method  (2) comparative anatomical studies of leaves from polluted and less polluted areas  (3) measurement of dissolved O<sub>2</sub> by Winkler's method</p>

			<p>(4) comparison of free co<sub>2</sub> from different sources</p> <p>(5) botanical excursions at different phytogeographical regions of India to study of local flora and prepare a project report highlighting phytogeographical characteristics of the region.</p>
10		Economic Botany (BOT-A-CC-4-9-Th & P)	<p><b>Economic Botany</b> help the students to</p> <p>(1) gain knowledge on origin of cultivated crops</p> <p>(2) get detailed idea of economically important crops of different cereals, legumes, sugar and starches, spices, beverages, oil and fats, drug, timber and fibre yielding plants.</p> <p><b>Practical:</b></p> <p>(1) workout and microchemical tests of cereals, pulses, beverages, oils</p> <p>(2) microscopical analysis of timbre and fibre yielding plants</p> <p>(3) field visit to give an idea about cultivation of any crop</p>
11		Genetics (BOT-A-CC-4-10-Th & P)	<p><b>Genetics</b> help the students to</p> <p>(1) get clear concept on mendelian genetics, its extension</p> <p>(2) linkage, crossing over and gene mapping</p> <p>(3) comprehend the effect of chromosomal abnormalities in numerical and structural changes and its importance in evolution</p> <p>(4) get detailed idea of mutations and different molecular mechanisms of mutagens</p> <p>(5) brief concepts on transposon, split gene and overlapping gene.</p> <p><b>Practical:</b></p> <p>(1) hands-on learning in cytological slide preparation in different specimens,</p> <p>(2) observation, identification and characterization of different stages of mitosis and meiosis</p> <p>(3) learn to induce abnormalities and study of abnormal features.</p>
12		Mushroom culture technology (BOT-A-Sec-B-4-4-Th)	<p><b>Mushroom culture technology</b> help students to enhance their skill on mushroom culture technology with the study of</p> <p>(1) nutritional and medicinal value of mushroom</p> <p>(2) cultivation technology of mushroom</p> <p>(3) storage of mushroom</p> <p>(4) different food preparation from mushroom</p> <p>(5) marketing of mushroom in india and abroad</p>
13	5 <sup>th</sup> Semester	Cell and molecular biology (BOT-A-CC-5-11-Th & P)	<p><b>Cell and molecular Biology</b> help the students to</p> <p>(1) develop understanding on the origin and evolution of cell, events of cell cycle</p> <p>(2) build concept on nucleus and chromosome</p> <p>(3) get an idea on the molecular functioning of the cell starting with replication, transcription, translation</p> <p>(4) a brief account of gene regulation</p> <p>(6) develop interest in recombinant DNA technology and learn basic molecular tools used in it</p> <p>(7) basic concepts of the cellular and molecular machinery with the effect of developing cancer concludes this course.</p> <p><b>Practical:</b></p> <p>(1) acquire practical knowledge on cell measuring and cell counting using the technique of micrometry by use of hemocytometer</p>

			(2) students learn on the techniques of staining of DNA, RNA, (3) learn simple quantification techniques of the macromolecules like DNA , RNA and proteins
14		Biochemistry (BOT-A-CC-5-12-Th & P)	<p><b>Biochemistry</b>- a conceptual and brief course on biochemistry which help students to understand</p> <ol style="list-style-type: none"> <li>(1) the basics about nucleic acids, proteins, amino acids, carbohydrates, lipids and fatty acids</li> <li>(2) knowledge on energy flow and enzymology</li> <li>(3) study of electron transport through cell membrane</li> <li>(4) brief account on phosphorylation including chemiosmotic model.</li> </ol> <p><b>Practical:</b> students able to perform</p> <ol style="list-style-type: none"> <li>(1) qualitative assay (detection of carbohydrates, organic acids, proteins and plant ash minerals) from laboratory &amp; plant samples</li> <li>(2) quantitative assay (estimation of titrable acidity, different enzyme activity, amino-nitrogen and protein) from laboratory &amp; plant samples</li> </ol>
15		Biostatistics (BOT-A-DSE-A-5-1-Th & P)	<p>The course on <b>biostatistics</b> helps to</p> <ol style="list-style-type: none"> <li>(1) develop a basic idea on biostatistics, its different terms, limitations and uses</li> <li>(2) understand the different measures of central tendency</li> <li>(3) study the types of test of significance</li> <li>(4) build concept on probability and measurement of gene frequency.</li> </ol> <p><b>Practical:</b></p> <p>Students are able to</p> <ol style="list-style-type: none"> <li>(1) perform activities for univariate analysis of statistical data</li> <li>(2). learn calculation of correlation coefficient values and finding out the probability</li> <li>(3) determination of goodness of fit</li> <li>(4) calculation of "f" value</li> <li>(5) basic idea of computer programme for statistical analysis of correlation coefficient,t-test, standard error, standard deviation.</li> </ol>
16		Plant Biotechnology (BOT-A-DSE-B-5-5-Th)	<p>Course on <b>Plant Biotechnology</b></p> <ol style="list-style-type: none"> <li>(1) provides exposure to the concepts and milestones in plant tissue culture</li> <li>(2) helps to learn the different types of tissue culture and their applications and significance</li> <li>(3) impart a conceptual insight into plant genetic engineering with brief concept of different gene transfer methods and special emphasis on agrobacterium mediated gene transfer</li> <li>(4) incorporates achievements in crop biotechnology with some important examples to infuse zeal and enthusiasm in the topic</li> </ol> <p><b>Practical:</b></p> <ol style="list-style-type: none"> <li>(1) familiarization of basic equipments in plant tissue culture</li> <li>(2) study through photographs/ charts/ models of anther culture, somatic embryogenesis, endosperm and embryo culture, micropropagation.</li> <li>(3) perform preparation of basal media and learn the sterilization techniques.</li> </ol>

			(4) a field visit for demonstration of tissue culture technique during visit in a plant tissue culture lab.
16	6 <sup>th</sup> Semester	Plant physiology (BOT-A-CC-6-13-Th & P)	<p>From <b>Plant physiology</b>, the students get idea about different physiological processes to</p> <ol style="list-style-type: none"> <li>(1) understand the relation of plant to water</li> <li>(2) learn about stomatal physiology &amp; its role in transpiration</li> <li>(3) gain knowledge on role of micro &amp; macro nutrients in plant growth &amp; development</li> <li>(4) able to understand the process of translocation of organic solutes in plants</li> <li>(5) learn about the movement of phloem sap</li> <li>(6) get idea on plant growth hormones and their role</li> <li>(7) understand the concept of photomorphogenesis, seed dormancy and senescence.</li> </ol> <p><b>Practical:</b> students will</p> <ol style="list-style-type: none"> <li>(1) gain knowledge in plasmolysis and able for measurement of OP by plasmolytic method &amp; weighing method</li> <li>(2) learn how transpiration are influenced by light intensities &amp; stomata size &amp; number are responsible for transpiration rate</li> <li>(3) gain knowledge on imbibition of water by dry seeds - starchy, proteinaceous and fatty seeds and effect of seed coat</li> <li>(4) able to study the process of seed germination</li> <li>(5) able to study induction of amylase activity</li> <li>(6) able to study the effect of different concentrations of IAA on <i>Avena coleoptile</i> elongation</li> </ol>
18		Plant Metabolism (BOT-A-CC-6-14-Th & P)	<p>From <b>Plant Metabolism</b> course the students get idea about the plant metabolism on different physiological processes to</p> <ol style="list-style-type: none"> <li>(1) gain knowledge about chloroplast structure, photosynthetic pigments, concept of photosystems</li> <li>(2) understand the process of photosynthesis in higher plants with particular emphasis on light and dark reactions, c3, c4 &amp; cam pathways</li> <li>(3) understand the energy releasing steps in glycolysis</li> <li>(4) understand the respiration in higher plants with particular emphasis on aerobic and anaerobic respiration</li> <li>(5) understand the mechanism of nitrogen metabolism &amp; lipid metabolism</li> <li>(6) understand the process of signal transduction</li> </ol> <p><b>Practical :</b> Students will enable</p> <ol style="list-style-type: none"> <li>(1) to handle tools of separating biomolecules by chromatography</li> <li>(2) use of spectrophotometer for detecting a pigment molecule</li> <li>(3) perform an experiment in evolution of O<sub>2</sub> during photosynthesis (using graduated tube) &amp; effect of HCO<sub>3</sub> concentration on it</li> <li>(4) learn how respiration rates are measured by using germinating seeds with respiroscope and to determine RQ</li> <li>(5) learn to test of seed viability by TTC method.</li> </ol>
19		Medicinal and Ethnobotany (BOT-A-DSE-A-6-3-Th & P)	<b>Medicinal and Ethnobotany</b> explains

			<p>(1) the history, scope and importance of traditional and indigenous medicinal science, its utilization, and conservation of plants by ethnic people including polyherbal formulation</p> <p>(2) general account on classification and evaluation of crude drugs</p> <p>(3) biosynthesis of secondary metabolites and their types including their protective action</p> <p>(4) idea on pharmacologically active constituents</p> <p>(5) gaining knowledge on ethnobotany and folk medicine and their interactions between cultural practices, ecosystems, and modern science.</p> <p><b>Practical:</b> Students will workout and perform</p> <p>(1) chemical tests</p> <p>(2) histochemical tests</p> <p>(3) powder microscopy of different secondary metabolites of plants.</p>
20		Natural resource management (BOT-A-DSE-B-6-8-Th & P)	<p>Study on <b>Natural resource management</b> helps students to get idea on</p> <p>(1) different types of natural resources like land, water, forests, energy</p> <p>(2) basic concept and approaches of sustainable utilization of natural resources</p> <p>(3) knowledge of renewable and non-renewable sources of energy</p> <p>(4) significance of biological resources and their threats &amp; management strategies for their conservation</p> <p>(5) brief idea on contemporary practices in resource management like EIA, GIS, Carbon footprint, etc.</p> <p>(6) keen knowledge on national and international efforts in resource management and conservation.</p> <p><b>Practical:</b></p> <p>(1) estimation of solid waste generated by a domestic system</p> <p>(2) estimation of foliar dust deposition</p> <p>(3) determination of total solid in water (TDS)</p> <p>(4) determination of organic carbon and chemical properties of soil</p> <p>(5) collection of data on forest cover of specific area.</p>

### ➤ Department of Computer Science

Sl. No	Semester	Course Name	Course Outcome
1	1st Semester	CC-1 Digital Logic	1. Use number systems and complements. 2. Learn the minimization techniques to simplify the hardware requirements of digital circuits, implement it, design and apply for real time digital systems. 3. Understand the working mechanism and design guidelines of different combinational, sequential circuits and their role in the digital system design.
2	1st Semester	CC-2 Programming Fundamentals using C	1. Students will know the concept of variables, conditional and iterative statements, pointers, array, strings, functions and

			structure concepts and importance of C programming language 2. Students will be able to develop a C program.
3	2nd Semester	CC-3 Data Structure	1. Describe how arrays, linked structures, stacks, queues, trees are represented in memory and used by algorithms. 2. Write programs that use arrays, linked structures, stacks, queues and trees. 3. Describe the concept of recursion. 4. Demonstrate different methods for traversing trees. 5. Illustrate various technique to for searching, sorting and hashing.
4	2nd Semester	CC-4 Basic Electronics Devices and Circuits	1. Implement circuit and test the performance. 2. Analyze small signal model of FET and MOSFET. 3. Explain behavior of FET at low frequency. 4. Know the characteristics of diodes, transistors and amplifier.
5	3rd Semester	CC-5 Computer Organization & Architecture	1. Understand the architecture and functionality of central processing unit. 2. Understand the basics of instructions sets and their impact on processor design. 3. Evaluate cost performance and design trade-offs in designing and constructing a computer processor including memory. 4. Manipulate representations of numbers stored in digital computers.
6	3rd Semester	CC-6 Computational Mathematics	1. Design and apply algorithms to solve problems numerically, algebraically, and graphically. 2. Learn how computer handles scientific calculations by various algorithms. 3. Explain errors in mathematical calculations between true and approximate values. 4. Acquire the skills and confidence to learn new mathematical knowledge as becomes necessary in the course of a lifetime.
7	3rd Semester	CC-7 Operating System	1. Understand the different services provided by operating system at different level. 2. Understands the use of different process scheduling algorithm and synchronization techniques. 3. Understand deadlock, prevention and avoidance algorithms. 4. Learn different memory management techniques like paging, segmentation and demand paging etc. 5. Understand the functionality of file systems.
8	3rd Semester	SEC-A1 Computer Graphics	1. Describe the fundamental algorithms used in computer graphics and to some extent be able to compare and evaluate them. 2. Apply and compare the algorithms for drawing 2D images also explain aliasing, anti-aliasing and half toning techniques. 3. Analyze and apply clipping algorithms and transformation on 2D images. 4. Solve the problems on viewing transformations and explain the projection.
9	4th Semester	CC-8 Data Communication, Networking & Internet Technology	1. Understand network communication using the layered concept, Open System Interconnection (OSI) and the internet model, various types of transmission media, network devices; and parameters of evaluation of performance for each media and device. 2. Understand the concept of flow control, error control and LAN protocols; explain the working principles of LAN and the concepts behind physical and logical addressing, subnetting and supernetting. 3. Understand the functions performed by a network management system and to analyze connection establishment and congestion control with respect to TCP protocol, the principles and operations behind various application layer protocols like HTTP, SMTP, FTP.
10	4th Semester	CC-9 Introduction to Algorithms & its Applications	1. Analyze worst-case running times of algorithms using asymptotic analysis. derive and solve recurrences describing the performance of divide-and-conquer algorithms. 2. Describe and synthesize the dynamic-programming paradigm. recite algorithms

			that employ this paradigm. 3. Describe the greedy paradigm and explain when an algorithmic design situation calls for it. recite algorithms that employ this paradigm. 4. Explain the major graph algorithms and their analyses. employ graphs to model engineering problems, when appropriate. synthesize new graph algorithms and algorithms that employ graph computations as key components and analyze them.
11	4th Semester	CC-10 Microprocessor and its Applications	1. Describe the architecture & organization of 8085 & 8086 microprocessor, understand and classify the instruction set of 8085/8086 microprocessor and distinguish the use of different instructions and apply it in assembly language programming. 2. Relate the addressing modes used in the instructions, interfacing of memory & various i/o devices with 8085/8086 microprocessor. 3. Familiarize the architecture and operation of programmable interface devices and realize the programming & interfacing of it with 8085 microprocessors, interfacing various peripheral IC's with intel 8085/8086 microprocessor for its various applications.
12	4th Semester	SEC-B2 E-Commerce	1. Analyze the impact of e-commerce on business models and strategy, describing the major types of e-commerce, explaining the process that should be followed in building an e-commerce, identifying the key security threats in the e-commerce environment 2. Understanding the knowledge of the different types of management information systems 3. Describe how procurement and supply chains relate to B2B e-commerce, understanding the basic concepts and technologies used in the field of management information systems.
13	5th Semester	CC-11 DBMS	1. Understand the basic concepts and the applications of database management systems, basics of SQL and construct queries using SQL, relational database design principles. 2. Identify the data models for relevant problems, database storage structures and access techniques. 3. Design entity relationship diagram and convert it into RDBMS and formulate SQL queries on the respect data into RDBMS and formulate SQL queries on the data.
14	5th Semester	CC-12 Object Oriented Programming	1. Understanding the basic concepts and fundamentals of platform independent object-oriented language. 2. Use the syntax and semantics of java programming language and basic concepts of OOP. 3. Develop reusable programs using the concepts of inheritance, polymorphism, interfaces and packages. 4. Demonstrate skills in writing programs using exception handling techniques and multithreading. 5. Apply the concepts of multithreading and exception handling to develop efficient and error free codes. 6. Understand streams and efficient user interface design techniques. 7. Design event driven GUI and web related applications which mimic the real word scenarios.
15	5th Semester	DSE-A1 Digital Image Processing	1. Learn the image fundamentals and mathematical transforms necessary for image processing. 2. Study the image enhancement techniques, image restoration procedures, the image compression procedures. 3. Interpret image segmentation and representation techniques. 4. Learn morphological image processing: preliminaries, dilation, erosion, open and closing.
16	5th Semester	DSE-B2 Programming using Python	1. Understand why python is a useful scripting language for developers, learning how to design and program python applications. 2. Learn how to use lists, tuples, and dictionaries in

			python programs, how to identify python object types, how to use indexing and slicing to access data in python programs. 3. Define the structure and components of a python program. 4. Learn how to write loops and decision statements, functions and pass arguments in python. 5. Learn how to design object-oriented programs with python classes, how to use class inheritance and exception handling in python for reusability.
17	6th Semester	CC-13 Software Engineering	1. Decompose the given project in various phases of a lifecycle and perform various life cycle activities like analysis, design, implementation, testing and maintenance. 3. Apply the knowledge, techniques, and skills in the development of a software product. 4. Achieve an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
18	6th Semester	CC-14 Theory of Computation	1. Understand the basic properties of formal languages and grammars. 2. Differentiate regular, context-free and recursively enumerable languages. 3. Make grammars to produce strings from a specific language. 4. Acquire concepts relating to the theory of computation and computational models. 5. Discuss key notions of computation, such as algorithm, computability, decidability, reducibility, and complexity, through problem solving. 6. Solve computational problems regarding their computability and complexity and prove the basic results of the theory of computation.
19	6th Semester	DSE-A4 Multimedia and its Applications	1. Analyze the key components of multimedia technologies including text, graphics, voice, video and animation and the broad principles associated with multimedia concepts used in computer graphics. 2. Interpret the ethical, legal, and social impacts of various modes of media delivery and consumption in a wider societal and global context. 3. Interpret the ethical, legal, and social impacts of various modes of media delivery and consumption in a wider societal and global context.
20	6th Semester	DSE-B4 Advance Java	1. Learn the internet programming, using java applets. 2. Learn to access database through java programs, using java data base connectivity (JDBC). 3. create dynamic web pages, using Servlets and JSP. 4. make a reusable software component, using java bean. 5. Implement the web-based applications using effective data base access with rich client interaction. 6. Learn about various design patterns which are very useful to solve complex problems.
21	4th Semester	SEC-B-1 Information Security	1. Analyze the vulnerabilities in any computing system and hence be able to design a security solution. 2. Evaluate security mechanisms using rigorous approaches by key ciphers and hash functions. 3. Demonstrate various network security applications, IPsec, firewall, ids, web security, email security and malicious software etc.

### ➤ Department of English

Sl. No	Semester	Course Name	Course Outcome
1	1st Semester	CC 1- History of English Literature and Philology	1. To help the students to understand the range, significance and scope of English literature and the growth and evolution of the

			language. 2. To acquaint the students with various literary movements, genres and writers that are held to be the representatives of their times. 3. It helps the students to assess the way socio cultural and historical occurrence influence the literary production of a particular period. 4. To provide a detailed understanding about the growth of English language under the influence of various other languages including Latin, French to name a few.
2	1st Semester	CC 2- European Classical Literature	1. Tracing the origins of literature in Europe, from the oral and performative traditions to different forms of writing. 2. Familiarizing students with the early Greek and Latin literature in English translation. 3. Understanding the social and intellectual climate of contemporary Europe. 4. Correlating the ideas developed in the classical literary tradition with contemporary life and society and locate the points of similarities and differences.
3	2nd Semester	CC 3- Indian Writing in English	1. Students are introduced to the rich tradition of Indian writing that dates to Derozio, Toru Dutt, and Sarojini Naidu. 2. Modernist themes in the Indian context are presented through the works of poets like Nissim Ezekiel, Ramanujan, Kamala Das, and others. 3. Students are also introduced to the intricacies of life, particularly in the Indian setting, through Mahesh Dattani's play and Bankim Chandra's novel. 4. Students get a thorough understanding of the development, and growing significance of Indian writing in English in contemporary global literature.
4	2nd Semester	CC 4- British poetry and drama (14th-17th century)	1. To trace the development of English language and literature from medieval times to 17th century. 2. To understand the social, political and historical events that shaped the literature of the period. 3. To acquaint the students with genres, structures and diction of the literature of the period. 4. To familiarize the students with some of the most important contributors of English literature like Chaucer, Spenser, Shakespeare, Marlowe and metaphysical poets.
5	3rd Semester	CC5 - American Literature	1. It helps the students to have an idea regarding the historical, social and cultural background of American literature. 2. It helps the students to explore multiple genres - poetry, novel, stories focusing on race, class, gender and ethnicity. 3. The students are introduced to key concepts like puritanism, American dream, transcendentalism and issues found in American society through the texts included. 4. The texts familiarize the students with the development of American literature as a branch of English literature that is diverse.
6	3rd Semester	CC 6- Popular Literature	1. Appreciating a variety of texts, which have been primarily known for their significant commercial success, through an academic lens. 2. Understanding the wide variety of genres that popular literature consists of, including children's fantasy, literary nonsense, detective fiction, comics and other graphic fiction. 3) Evaluating such texts to locate the repetition of the patterns or tropes that are found in popular or genre fiction. 4) Tracing the complexities of "popular" literature and attempting to differentiate it from serious or elitist literature. 5) Interpreting popular texts through theoretical perspectives, and evaluating the possible social, cultural, or political subtexts.

7	3rd Semester	CC 7- British Poetry and Drama (17th-18th century)	1. the selection of works from restoration and Augustan literature continues to enrich the knowledge and nurture appreciation for British literature that has influenced the development of English literature during the later renaissance. 2. Students are introduced to the trend of satire in the eighteenth century through pope's mock epic, the rape of the lock. 3. Students learn the significant difference between epic and mock epic, and the essential purpose they provide in shaping social thought. 4. It provides a critical comprehension of social and cultural circumstances and helps to understand the texts through social lenses.
8	3rd Semester	Sec A2- Business Communication	1. To help the students to understand the significance of business communication in any organized job sector and how to write formal letter to bank, post office, newspaper and so on. 2. To make students understand how business communication is not only relevant for a working professional but for anyone in need of communication of various types. 3. Help the students to write their curriculum vitae for applying to any jobs or even the letters of acceptance or rejection afterwards. 4. To acquaint the students with e-correspondence, which in today's world is an absolute necessity.
9	4th Semester	CC 8- British Literature (18th century)	1. To help the students to identify and describe distinct literary peculiarities of the 18th century British literature. 2. To help the students to develop an understanding of 18th century British literature within its cultural and historical context. 3. To allow the students to appraise how novel as a genre evolved in England in the first part of the 18th century. 4. To provide the students a deeper insight into the sophistication of theatrical thinking during this period, like complex subplots and so on.
10	4th Semester	CC 9- British Romantic Literature	1. Understanding the importance of intuition, instincts, feelings, imagination, subjectivity, and individualism. 2. Familiarizing students with the ideas of industrialization, urbanization, inequality, rebellion, and liberty 3. Exploring the possible critiques of European enlightenment; and establishing re-defined ideas about art, nature, beauty, truth, thought, selfhood, contraries, supernatural, and the role of the writer. 4. Situating texts across a variety of genres like poetry, fiction and non-fiction through which romantic sentiments expressed itself. 5) Connecting the texts by romantic poets and writers to their social, historical, and intellectual backgrounds. 6) Tracing the echoes of romantic arguments in contemporary concerns about humanity and the environment.
11	4th Semester	CC 10- 19th century British Literature	1. Tracing the social and intellectual developments of the 19th century England surrounding scientific thought, industrialization, imperialism, gender, and morality. 2. Interpreting and analyzing major traits of Victorian literature with reference to the rise of the novel form, and poetry (specifically dramatic monologue). 3. Critical reading of a variety of Victorian literature: poets like Tennyson, Browning and Arnold; and novelists like Dickens and Austen. 4. Understanding how contemporary Indian social, cultural, and moral frameworks are heavily influenced by the Victorian standards, because of colonial history.
12	4th Semester	Sec B2- Academic Writing and Composition	1. To understand what necessitate in an academic writing and how is it different from any other creative piece of writing. 2. To acquaint the students with ethical work, free from plagiarism.

			3.To make the students understand the technicalities of research work; how to put citations, references and so on. 4.To conduct literature review.
13	5th Semester	CC 12- early 20th century British Literature	1. Understanding the literary, intellectual, and cultural consciousness of the early 20th century. 2 Identifying the several movements that constitute modernism, like the symbolist and imagist movements in poetry, or artistic movements like impressionism, expressionism, and cubism. 3. Tracing the shift in literary consciousness, moving away from the dominant forms, styles, and themes of the 19th century. 4. Critically interpreting the texts of the early 20th century, for the poetry of T.S. Eliot and W.B. Yeats, the fiction of Conrad and D.H. Lawrence, and the drama of G.B. Shaw. 5. Understanding the layers of violence, trauma and the futility of war.
14	5th Semester	DSE A2- Literary Theory and Criticism	1. Students are acquainted with the nature, purpose, and applicability of literary criticism and theory. 2. The texts motivate them to engage with radical and highly intellectual material to enhance their capacity for analytical thought and reasoning. 3. Students are encouraged to cultivate a sense of awareness and proficiency for the practical application of a critical perspective to literary texts. 4. The course acquaints students with the major texts in western literary criticism.
15	5th Semester	DSE B1- Literary Types, Rhetoric and Prosody	1. To familiarize the students with specific literary genres in English literature with relevant examples of texts from different ages. 2. To acquire rudimentary knowledge of the rhetorical devices used in English poetry. 3. To understand the use of different meters in English poetry and how to scan the lines of a poem understanding rhythm and rhyme. 4. To help the students develop the skills to understand different literary types and the structure of poetic language.
16	6th Semester	CC 13- Modern European Drama	1. To critically analyze the socio-cultural, historical and intellectual context of modern European dramas. 2. to understand the significance of the innovative plays written by Ibsen, Brecht and Beckett. 3. To understand how the plays depict the features of theatre of the absurd, epic theatre, realism etc. 4. To familiarize the way modern dramatists depicted social change and political issues on stage.
17	6th Semester	CC 14- Postcolonial Literature	1. Introducing students to the ideas of multiplicity of cultures, and alternative histories, understanding marginality and subaltern perspectives. 2. Reading and analyzing texts from a variety of cultures and nationalities outside Europe. 3. Tracing the politics of colonial oppression, or postcolonial resistance in such texts. 4. Understanding postcolonial phenomena such as hybridity, double consciousness, othering, diaspora, migration, orientalism, etc. through literary and cultural theories.
18	6th Semester	DSE A3- Partition Literature	1. To help the students to understand and analyze the background of Indian partition. 2. To explain the historical, social and cultural factors responsible for the partition of Indian sub-continent. 3. To demonstrate critical understanding of manifestations of the experience of the partition in various art forms. 4. To help them to analyze specific terms often related to partition literature such as nation, nationalism, violence, exile, refugee, border and so on.

19	6th Semester	DSE B3- Autobiography	1. Choosing selections from Tagore, Gandhi, Nirad Chaudhuri and Binodini Dasi, students are introduced to a unique kind of writing, the life narrative or autobiography. 2. Students will be able to identify the structure of autobiography as a unique literary genre. 3. They should be able to recognize how an author's personal ideology affects the reality in an autobiography, raising issues with factuality, objectivity, truth, and subjectivity. 4. It will encourage the students to critically analyze how memory functions in the writing of an autobiography.
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➤ **Department of Food & Nutrition**

Sl. No.	Semester	Course Name	Course Outcome
1.	1st Semester	CC-1-Basic Food Science-I	<ol style="list-style-type: none"> <li>1. To understand the chemistry of foods, composition of food, role of each component and their interaction.</li> <li>2. To understand the functional aspects of food components and to study their role in food and nutrition.</li> <li>3. To understand the general chemical structures of the major components of foods (water, proteins, carbohydrates and lipids).</li> </ol>
2.	1st Semester	CC-2-Human Physiology-I	<ol style="list-style-type: none"> <li>1. To recall the basic knowledge of human anatomy and physiology.</li> <li>2. To outline the different physiological systems of the body and their functions.</li> <li>3. To identify the concept of physiological changes and analyze the importance of hormonal regulation of the body's functions.</li> <li>4. To analyze the concept of digestion and absorption of various nutrients.</li> </ol>
3.	2nd Semester	CC-3-Basic Food Science-II	<ol style="list-style-type: none"> <li>1. To understand the role of vitamins and minerals in foods.</li> <li>2. To understand sources and functions of different vitamins and minerals, diseases related to their deficiencies and excess intake, their transport, digestion and metabolism.</li> </ol>
4.	2nd Semester	CC-4-Human Physiology-II	<ol style="list-style-type: none"> <li>1. To enables the students to gain of knowledge on different parts of the body.</li> <li>2. To gain knowledge on parts of the body and its functions.</li> </ol>
5.	3rd Semester	CC-5-Human Nutrition -I	<ol style="list-style-type: none"> <li>1. To gain knowledge about nutrition, malnutrition &amp; its relation to health &amp; scope of nutrition in various fields.</li> <li>2. To learn about nutritional recommendation of different age group &amp; when it is required in excess amount.</li> <li>3. To make the students understand about energy balance, how energy requirement can be assessed &amp; how energy in food can be determined.</li> <li>4. To learn about growth &amp; development in various stages of life &amp; different changes in different phases of life &amp; how proper nutrition may assure adequate development.</li> <li>5. To understand how growth rate of a child can be assessed by using growth chart, preventive measures of growth faltering.</li> </ol>

6.	3rd Semester	CC-6-Community Nutrition	<ol style="list-style-type: none"> <li>1. Student will be able to understand communication process &amp; their effectiveness.</li> <li>2. To assess the nutritional status of the community.</li> <li>3. To addressing the nutrition problems in the community through proper evaluation &amp; make improvements in developing the current public health programmes.</li> <li>4. To gain knowledge on the current nutritional scenario.</li> <li>5. To gaining knowledge on implement policies towards nutrition security.</li> </ol>
7.	3rd Semester	CC-7-Food Commodities	<ol style="list-style-type: none"> <li>1. To understand importance of commodities in cooking.</li> <li>2. To develop knowledge of manufacturing of different food products.</li> <li>3. To gain knowledge of the specifications of various products, their variation in composition basis and nutritional details.</li> <li>4. To gain basic knowledge about varieties of products in same category.</li> </ol>
8	3rd Semester	SEC-A-1-Sports Nutrition	<ol style="list-style-type: none"> <li>1. To understand the links between human nutrition and metabolism during exercise.</li> <li>2. To understand the links between nutrition and performance in sports and exercise.</li> <li>3. To gain knowledge about dietary practices adopted by athletes in various sports and at different levels of competition.</li> <li>4. To understand the links between physical activity, nutrition and health.</li> </ol>
7	4th Semester	CC-8-Human Nutrition- II	<ol style="list-style-type: none"> <li>1. To familiarize RDA and Recommendations &amp; Guidelines.</li> <li>2. To gain knowledge on changes during various stages throughout life cycle.</li> <li>3. To practically gain knowledge to plan diet for each stage of life according to the guidelines for dietary needs.</li> </ol>
8.	4th Semester	CC-9-Diet Therapy -I	<ol style="list-style-type: none"> <li>1. To gain knowledge about basic concepts of diet therapy, principles &amp; classification of therapeutic diet.</li> <li>2. To learn how to assess patient's needs &amp; prescribe modified diet according to patient's conditions.</li> <li>3. To learn about etiology, symptoms, complications &amp; management of various gastrointestinal diseases, fever, anemia.</li> <li>4. To gain knowledge how to modify diet in terms of nutrients, consistency &amp; mode of feeding in different diseased conditions, restriction of nutrients &amp; food in different diseases</li> </ol>
9.	4th Semester	CC-10-Nutritional Biochemistry-I	<ol style="list-style-type: none"> <li>1. To understand the basic biochemistry of inter relationships between food and body.</li> <li>2. The students will be able to understand the enzymes and lipids. students will be able to understand different metabolic pathways to get energy from food.</li> </ol>
10.	4th Semester	SEC-B-1-Nutrition and Health Education	<ol style="list-style-type: none"> <li>1. To gain knowledge to provide people in rural and urban areas with adequate information, skills and motivation to procure and to consume appropriate diets.</li> <li>2. To learn various methods of assessment of nutritional status.</li> </ol>

			3. To distinguish between the different levels of malnutrition in the community.
11.	5th Semester	CC-11-Diet Therapy -II	<ol style="list-style-type: none"> <li>1. To learn about various common degenerative diseases their etiology, symptoms, complications.</li> <li>2. Students will be able to know how to prepare an individualized diet chart for different diseases,</li> <li>3. To gain knowledge about different type of management of these diseases including dietary, surgical, physical.</li> <li>4. To learn how to manage weight, blood glucose level, blood pressure at home.</li> </ol>
12.	5th Semester	CC-12-Nutritional Biochemistry-II	<ol style="list-style-type: none"> <li>1. Students will gain knowledge about cell biology and biochemistry.</li> <li>2. Students will be able to understand cellular membrane, nucleic acids and proteins from cell biology parts and, vitamins and minerals from biochemistry part. that gives clear view about food utilization in molecular level.</li> </ol>
13.	5th Semester	DSE- A-1-Public Health	<ol style="list-style-type: none"> <li>1. To understand nutritional epidemiology and its role in health and disease.</li> <li>2. To gain knowledge about the food and nutrition security in India.</li> <li>3. To develop the knowledge about importance of different types of visual aids suitable to public health nutrition programmes.</li> <li>4. To gain knowledge about various communicable disease in the community and knowledge about sanitation, hygiene etc.</li> <li>5. To get the knowledge of various health data of the country, and community people.</li> </ol>
14.	5th Semester	DSE-B-1-Food Safety and Quality Control	<ol style="list-style-type: none"> <li>1. To recognize and identify the food contaminants influencing the safety of agricultural products.</li> <li>2. To identify the hazards of food chain to ensure food safety.</li> <li>3. To evaluate the food safety management systems and recommended the preventive measures.</li> <li>4. To understand and apply properly the national and international regulations of food safety.</li> </ol>
15.	6th Semester	CC-13-Food Microbiology	<ol style="list-style-type: none"> <li>1. This course aims to provide instruction in the general principles of Food Microbiology.</li> <li>2. It helps the students to have receive adequate introduction to microbiology.</li> <li>3. The course covers the biology and epidemiology of foodborne microorganisms of public health significance, including bacteria, yeasts, fungi, protozoa and viruses and food spoilage microorganisms.</li> <li>4. The microbiology of food helps the students to understand the preservation and food commodities, fermented and microbial foods.</li> <li>5. To understand the principles and methods for the microbiological examination of foods, micro biological quality control and quality schemes.</li> </ol>
16.	6th Semester	CC-14-Food Preservation	<ol style="list-style-type: none"> <li>1. Students will have a thorough understanding of various food processing techniques.</li> </ol>

			<ol style="list-style-type: none"> <li>Students will get knowledge about the importance of various preservation techniques.</li> <li>Students can understand the basic knowledge relating to food safety and principles of preservation.</li> <li>Students can locate and interpret government regulations regarding the manufacture of food products.</li> </ol>
17.	6th Semester	DSE-A-3-Diet Counseling and Patient Care	<ol style="list-style-type: none"> <li>To understand the principles and methods of counselling.</li> <li>To apply counselling methods to patients with different diseases.</li> <li>To deals with role of dietician in hospital and community settings in nutrition care.</li> </ol>
18.	6th Semester	DSE- A-4-Geriatric Nutrition	<ol style="list-style-type: none"> <li>To understand the process of aging and the changes occurring.</li> <li>To identify the nutritional implications of these changes in terms of nutrient and dietary requirements.</li> <li>To determine different techniques of nutritional assessment of the elderly.</li> <li>To learn the nutritional importance of the macronutrients and micronutrients in elderly.</li> <li>To understand the metabolism of nutrients in elderly people and deficiency diseases associated with them.</li> </ol>
19.	6th Semester	DSE-B-3-Food Fermentation	<ol style="list-style-type: none"> <li>To understand basics of fermenter and types of fermentation.</li> <li>To learn about importance of starter culture in preparation of fermented food product.</li> <li>To gain knowledge about traditional fermented food and their preparation method.</li> </ol> <p>To gain knowledge about probiotic microorganism which are present in fermented food products.</p>

### ➤ Department of Geography

Sl. No	Semester	Course Name	Course Outcome
1	1st Semester	1. GEO-A-CC-1-01-TH Geotectonics and Geomorphology	<ul style="list-style-type: none"> <li>Understand earth's tectonic and structural evolution.</li> <li>Know the internal and interior structure of the earth.</li> <li>Develop an idea about geomorphology and different types of fundamental concepts.</li> <li>Understand the work of internal and external forces and their associated landforms.</li> <li>Study the formation of rocks and identification of different types of rock and minerals.</li> <li>Gain knowledge about topographical maps to identifying interrelationship between nature and society.</li> </ul>
2	1st Semester	2. GEO-A-CC-1-02-TH Cartographic Techniques	<ul style="list-style-type: none"> <li>Develop an idea about scale and draw different types of scale like linear, diagonal and vernier.</li> <li>Acquire knowledge different types of map projection.</li> <li>Understand the coordinate system of earth by measuring the specific latitude and longitude.</li> </ul>

			<ul style="list-style-type: none"> <li>• Develop an idea about different types of thematic mapping techniques.</li> </ul>
3	2nd Semester	3. GEO-A-CC-2-03-TH – Human Geography	<ul style="list-style-type: none"> <li>• Gain knowledge about major themes of human geography.</li> <li>• Develop an idea about space and society. • studies of races of man kinds.</li> <li>• Build an idea about population growth and distribution of population.</li> <li>• Know about population-resource relationship.</li> <li>• Develop an idea about different types of age-sex structures and growth rate of population.</li> <li>• Understand the significance and uses of cartograms.</li> </ul>
4	2nd Semester	4. GEO-A-CC-2-04-TH Thematic Mapping and Surveying	<ul style="list-style-type: none"> <li>• Apply the theoretical knowledge gained in the practical aspects by using prismatic compass, dumpy level, and theodolite in the field.</li> <li>• Understand skill of drawing geological map.</li> <li>• Gain knowledge about the temporal or spatial data easily.</li> </ul>
5	3rd Semester	5. GEO-A-CC-3-05-TH Climatology	<ul style="list-style-type: none"> <li>• Learn the interaction between the atmosphere and the earth’s surface.</li> <li>• Understand the types of winds and composition of atmosphere and atmospheric pressure belts.</li> <li>• Understand the elements of weather and climate, different atmospheric phenomena, and climate change.</li> <li>• Develop an idea about cyclones.</li> <li>• Learn to use of various meteorological instruments.</li> <li>• Gain knowledge about Indian daily weather report.</li> </ul>
6	3rd Semester	6. GEO-A-CC-3-06-TH Hydrology and Oceanography	<ul style="list-style-type: none"> <li>• Obtaining knowledge about global hydrological cycle.</li> <li>• Develop an idea about the surface run-off and how it is control with the help of different factors.</li> <li>• Gain knowledge about integrated watershed management.</li> <li>• Learn about the circulation of ocean water and understand the wave and tide circulation.</li> <li>• Understand the distribution and determinants of temperature, salinity, and different properties of ocean water.</li> <li>• Learn how marine resources will be utilized in a sustainable way.</li> <li>• Analysis of hydrological parameters through hydrographs and rating curves.</li> <li>• Identifying the water budget of the atmosphere through climatic water budget.</li> </ul>
7	3rd Semester	7. GEO-A-CC-3-07-TH Statistical Methods in Geography	<ul style="list-style-type: none"> <li>• Recognize the importance and application of statistics in geography.</li> <li>• Interpret statistical data for a holistic understanding of geographical phenomena.</li> <li>• Understand the importance of use of data in geography.</li> <li>• Know about different types of sampling.</li> <li>• Learn to use tabulation of data.</li> <li>• Understand the mean, median, mode in statistics.</li> <li>• Evaluate the measures of dispersions.</li> <li>• Gain knowledge about association and correlation.</li> </ul>

8	3rd Semester	1. GEO-A-SEC-A-3-01-TH Coastal Management	<ul style="list-style-type: none"> <li>Assess interdisciplinary skills that demonstrate about the components of coastal zone and awareness of coastal hazard and vulnerability.</li> <li>Learn research skills to analysis the coastal morphology system and the evolution of landforms in coastal zone.</li> <li>Build multidisciplinary skills of coastal zone management as tourism, salt manufacturing and land reclamation and significance of CRZ notification.</li> <li>Assessing the nature, impact, and management of major coastal hazards.</li> </ul>
9	4th Semester	8. GEO-A-CC-4-08-TH Economic Geography	<ul style="list-style-type: none"> <li>Understand the concept of economic activity, factors affecting location of economic activity.</li> <li>Assess the significance of economic geography, the concept of economic man and theories of choice.</li> <li>Study of world transportation and trade patterns and transport.</li> <li>Map and interpret data on production, economic indices, transport network and flows.</li> <li>Gain knowledge about representation of state wise variation in occupational structure through proportional divided circles.</li> </ul>
10	4th Semester	9. GEO-A-CC-4-09-TH Regional Planning and Development	<ul style="list-style-type: none"> <li>Understand and identify regions as an integral part of geographical study.</li> <li>Appreciate the varied aspects of development and regional disparity, to formulate measures of balanced development.</li> <li>Build an idea about theories and models for regional planning.</li> <li>Know about measuring development indicators.</li> <li>Analysing the concept of regions and regionalization.</li> <li>Gain knowledge about definition of region, evolution, and types of regional planning.</li> <li>Gain knowledge about measuring inequality by Location Quotient and measuring regional disparity by Sopher Index.</li> </ul>
11	4th Semester	10. GEO-A-CC-4-10-TH Soil and Biogeography	<ul style="list-style-type: none"> <li>Gain knowledge about the character and profile of different soil types.</li> <li>Evaluate the functions of ecosystem.</li> <li>Explaining the pedological and Edaphological Approaches to soil studies - processes of soil formation, types of soil, and principles of soil and land classification, and management.</li> <li>Recognize the significance of biogeochemical cycles and biodiversity.</li> <li>Identify soil texture and species diversity using by Ternary Diagram and matrix method respectively.</li> <li>Determination of soil pH and salinity using field kit from different soil samples.</li> </ul>
12	4th Semester	2. GEO-A-SEC-B-4-04-TH Sustainable Development	<ul style="list-style-type: none"> <li>Build learning skills about basic knowledge of sustainability and problem-solving skills of sustainability.</li> </ul>

			<ul style="list-style-type: none"> <li>• Assess multidisciplinary skills of the crisis of sustainability according to global sustainable development.</li> <li>• Understand research skills of global environmental issues such as population income urbanization and their significance.</li> </ul>
13	5th Semester	11. GEO-A-CC-5-11-TH Research Methodology and Fieldwork	<ul style="list-style-type: none"> <li>• Have expertise in identification of area of study, methodology, quantitative and quantitative analysis, and conclusions to be drawn about the area-fundamental to geographical research.</li> <li>• Understand the meaning of field and identifying the case study.</li> <li>• Know about different types of field techniques.</li> <li>• Develop an idea about research problems.</li> <li>• Handle logistics and other emergencies on field.</li> <li>• Develop skills in photography, mapping, and video recording.</li> </ul>
14	5th Semester	12. GEO-A-CC-5-12-TH Remote Sensing, GIS and GNSS	<ul style="list-style-type: none"> <li>• Have knowledge of the principles of remote sensing, sensor resolutions and image referencing schemes.</li> <li>• Interpret satellite imagery and understand the preparation of false colour composites from them.</li> <li>• Training in the use Geographic Information System (GIS) software for contemporary mapping skills.</li> <li>• Analysing and interpreting remotely sensed satellite images and aerial photographs to understand topographical and cultural variations on the earth's surface.</li> <li>• Understand GPS and GNSS with its components.</li> <li>• Apply GIS to the preparation of thematic maps.</li> </ul>
15	5th Semester	1. GEO-A-DSE-A-6-01-TH Fluvial Geomorphology	<ul style="list-style-type: none"> <li>• Gain knowledge of models of channel initiation and network development.</li> <li>• Assess fluvial morpho dynamics with evolution of fluvial landforms.</li> <li>• Develop an idea about the surface run-off and its controlling factors with run-off cycle.</li> <li>• Assessing the nature, impact, quantification, vulnerability zonation and management of riverbank erosion.</li> <li>• Analyse the linear, areal, and altitudinal properties of a drainage basin.</li> <li>• Analysing channel pattern indices and shape indices of pebbles.</li> </ul>
16	5th Semester	2. GEO-A-DSE-B-6-05-TH Cultural and Settlement Geography	<ul style="list-style-type: none"> <li>• Understand the scope and content of cultural geography.</li> <li>• Understand the concept of cultural hearth and realm, cultural diffusion, diffusion of religion.</li> <li>• Develop an understanding of cultural segregation and cultural diversity, technology, and development.</li> <li>• Learn about the various races and racial groups of the world.</li> <li>• Build an idea about urban and rural settlements, and its relationship with environment and different theories related to settlement geography.</li> </ul>

			<ul style="list-style-type: none"> <li>Learn the rural house types, census categories of rural settlements and idea of social segregation.</li> </ul>
17	6th Semester	13. GEO-A-CC-6-13-TH Evolution of Geographical Thought	<ul style="list-style-type: none"> <li>Perceive the evolution of the philosophy of geography.</li> <li>Appreciate the contribution of the thinkers in geography.</li> <li>Discussing the evolution of geographical thought from ancient to modern times.</li> <li>Establishing relationship of geography with other disciplines and man-environment relationships.</li> <li>Build an idea about between environmental determinism and possibilism, systematic and regional.</li> <li>Develop an idea on different schools of geographical thought.</li> </ul>
18	6th Semester	14. GEO-A-CC-6-14-TH Hazard Management	<ul style="list-style-type: none"> <li>Understand the definition, classification of hazards and disasters.</li> <li>Assess risk, perception, and vulnerability with respect to hazards.</li> <li>Prepare hazard zonation maps.</li> <li>Assessing the nature, impact and management of major natural and man-made hazards affecting the Indian subcontinent.</li> <li>Know how to prepare a project report based on any one field-based case study on flood, landslide, earthquake, and human induced disaster.</li> </ul>
19	6th Semester	3. GEO-A-DSE-A-6-04-TH Resource Geography	<ul style="list-style-type: none"> <li>Develop an idea about concept and types of resource.</li> <li>Understand the approaches to resource utilization.</li> <li>Understand the distribution, utilization, problems, and management of metallic and non-metallic mineral resources.</li> <li>Analyse the contemporary energy crisis and assess the future scenario.</li> <li>Understand the concept of limits to growth, resource sharing and sustainable use of resources.</li> <li>Analyse the decadal changes in state-wise production of coal and iron ore.</li> <li>Gain knowledge about HDI.</li> </ul>
20	6th Semester	4. GEO-B-DSE-B-6-08-TH Geography of India	<ul style="list-style-type: none"> <li>Gain knowledge about land formation, climate, and natural vegetation of Indian sub-continent.</li> <li>Develop an idea about Regionalisation of India.</li> <li>Know about different tribes of India (Gaddi, Toda, Santal and Jarwa).</li> <li>Understand green revolution and its consequences.</li> <li>Build an idea about physiographic divisions, forest, water resources, agriculture, mining, industry, population growth-distribution and human development of West Bengal.</li> <li>Assess regional issues of Darjeeling Hills and Sundarban region.</li> <li>Analyse the annual trends of production of mineral resources and manufacturing goods.</li> <li>Assess comparison of developed and backward states through Composite Index.</li> </ul>

			<ul style="list-style-type: none"> <li>• Develop an idea about different types of temperature rainfall graphs based on physiographic divisions.</li> <li>• Gain knowledge about crop combination method of Weaver.</li> </ul>
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### ➤ Department of Hindi

Sl. No	Semester	Course Name	Course Outcome
1	1st Semester	Cc-1(Hindi Sahitya ka Itihaas (Riti Kal Tak)	1.The student will know about the Aadi kaal, Bhakti kaal and Riti kal. 2.The students will know about the origin of Hindi language. 3.They will also get the information about the ram kavya and Krishna kavya.
2	1st Semester	Cc-2 Hindi Sahitya Ka Itihaas	1.Students will know about the importance of Political, social and cultural condition of Aadhunik kaal. 2.The students will understand the features of Chhayavad to samkaleen Kavita along with their poets.3. The students will also know about the development of writings of Hindi prose during pro and pro Independence.
3	2nd Semester	Cc-3 Adikalin Evam Madhyakalin Hindi Kavita	1.The students will be updated by different poets like Kabir das, Surdas, Rahim and Meerabai. 2.By reading the poems they will know about Krishna devotee of the medieval era, and they also get the knowledge about Sufi poets. 3. By reading the poems the students know the bhakti cult in their poems. 4.The students will also get the knowledge about the different languages like Sadhukkadi and Braj.
4	2nd Semester	Cc-4 -Aadhunik Hindi Kavita (up to chhayavad)	1. By studying the poet Bhartendu Harishchandra the student will get the knowledge about Satirist viewpoint regarding the socio-political scenario by the poet during British raj. 2. By reading these poems the students will understand about the life of Gautam buddha and his life while he is leaving the palace and going for Sanyas. 3. Reading the poems of different poets who wrote about the nature its help to students to connect themselves with the nature. 4.The student also studying the revolutionary and the political satire of that time.
5	3rd Semester	Cc-5 Chhayavadottar Hindi Kavita	1. The students will be aware of their Rights, Enhancing their potential and fighting together for their liberation to read the poem of Kedarnath. 2.Students will know about how the people of that time fight against oppression, injustice to read the poems of Makhan Lal Chaturvedi. 3.Read the poems of different poets the students will know the rural and urban life of people their Edo, aesthetics and sexual frustrations. 4.Students will also understand the human relationships, inequality injustice and slavery.
6	3rd Semester	Cc-6 Bhartiya Kavya Shastra	1.Students will understand the concept of kavya Lakshan, kavya Hetu and kavya Prayojan. 2.Student will know about the different Siddhant like rasa Siddhant, Dhvani Siddhant and Alankar Siddhant by different Sanskrit and Hindi acharyas. 3.Students will get the knowledge about the Sanskrit language. 4.Students will also know about the history of kavya Shastra.
7	3rd Semester	Cc-7 Pashchatya Kavya Shastra	1.Students will learn about the history of Pashchatya kavya shastra. 2.Student will know about by reading the Coleridge. 3.Students will understand what the difference between

			imagination and fantasy is.4. Students will get the ideas of modernism, Postmodernism, structuralism and post-structuralism.
8	3rd Semester	Sec-A-1 Sahitya aur Hindi Cinema	1.Student will understand the relation between cinema and society. 2.Student will also understand the role of cinema in Society, its theory and cinema as an art or entertainment.3. Students will also get the knowledge of technical aspects of making cinema. 4. Students understand the effects of globalization on Hindi cinema.
9	4th Semester	Cc-8 Bhasha Vigyan Evam Hindi Bhasha	1.Students will understand the meaning and importance of language. 2.Students will know about the bhasha Vigyan. 3. Students will understand the general characteristics of Apbhransh, Rajastani,Avadi, Braj and Khadi Boli Hindi. 4.They also know about the different concepts of Hindi as Raj Bhasha, Sampark Bhasha.
10	4th Semester	Cc.9 Hindi Upanyas	1.Student will read the novel of Munshi Premchand and know about the society of that time. 2.Students will know about the Jainendra by reading the upanyas of Tyagpatra. 3.By reading the upanyas Manas Ka Hans student will know about the Maha kavi Tulsidas.
11	4th Semester	cc-10 Hindi Kahani	1. By reading the stories with reference to characters, storyline, economic, political and social states of life. The student understands a different culture society of that time. 2. There are different writers write different stories of their time. Students will get the knowledge about different culture of that time.
12	4th Semester	SEC B 4-2 Anuvaad: Sidhant aur Pravidhi	1.Student will understand the meaning form and nature of translation. 2.Student will get knowledge what is requirement and importance of translation work in their life. 3.Student will understand difference between creative literature translation and technical translation. 4. Student get the knowledge what is the role of translation in their life.
13	5th Semester	Cc-11 Hindi Natak Evam Ekaanki	1.Student will know about the history of drama and the story of drama. 2. By reading the Natak we know about the history of Kalidas.
14	5th Semester	Cc-12 Hindi Nibandh Evam Anya Gadhya Vidhayen	1.Students will know about the various genres of prose via essay, sketches, travel description and autobiography. 2.By reading the Nibandh student will know about the gaping of two generation and their thoughts. 3.Student will get knowledge about the Acharya Ram Chandra Sukhla and Hazari Prasad Dwivedi.
15	5th Semester	DSE-A (1) -5 Rashtriya Kavya Dhara	1.Knowing Maithili Saran Gupta as a patriotic poet. 2.The student will understand by reading this poem the situation of India of that time. 3.By reading the poems, the student will know about the sacrifices of the people for their country on that time.
16	5th Semester	DSE-B (2)- Chhayavaad	1.By reading chhayavaad the student will know about the chhayavaadi Kavi and their love for nature. 2.By reading the poems the student will know about the class struggle and socio-economic barriers in the way of establishing a well-balanced society. 3.Students will know the mystical sense of the poets in detail.
17	6th Semester	Cc-13 Hindi Ki Sahityik Patrakarita.	1. Student will understand the meaning, concept and importance of literary journalism. 2. Student will know about the role of translation in literary journalism. 3. Students will read about the popular papers of that time. 4. Student understand the

			introduction and trends of post- independence and contemporary literary journalism.
18	6th Semester	Cc-14 Prayojanmulak Hindi.	1.Students will understand the broad form of Hindi as a mother tongue and other language. 2.Student will know the origin and development of Hindi language. 3.Understanding the use of Hindi languages in various form of letter writing like official/government correspondence, comment, drafting. 4.They will understand the form and principle of technical word formation process and presentation in Hindi languages.
19	6th Semester	DSE -A 2(5) Pravasi Sahitya	1. Understanding of the socio-political and cultural vision expressed in the literatures of migrant authors. 2. Student know about the surrogacy by the reading of different story. 3.The story of the struggle of three generations of a migrant family. 4.The problem like racism in the job sector.
20	6th Semester	DSE-B 2 (6) Premchand	1. By reading this paper the student will know about Premchand and their story as well as their novels. 2. The social political and rural cultural vision expressed in the literature of munshi Premchand. 3. The student will know about the Karbala war. 4. Student will know about the child psychology and their love and sacrifice for their family.

### ➤ Department of Journalism & Mass Communication

Sl. No	Semester	Course Name	Course Outcome
1	1st Semester	JORA-CC1: Introduction to Journalism	1. General idea of news reporting 2. Reporting & editing technique 3. Basic structure of newspaper 4. Basic idea of print journalism
2	1st Semester	JORA-CC2: History of Indian Journalism	1. The beginning and the early history of the Indian press. 2. Role of press in Bengal's renaissance movement. 3. Role of Indian press in Indian freedom movement. 4. Role of Indian press after Indian independence.
3	2nd Semester	JORA-CC3: Reporting & Editing	1. Structures of news and news reporting principles (advanced). 2. Duties and responsibilities of editor, reporter, correspondent. 3. Structure of editorial and post editorial. 4. Specialization in Journalism: investigative, interpretative, political, crime, agriculture, science, entertainment, environment and sports. 5. Writing for magazine.
4	2nd Semester	JORA-CC4: Media & Communication	1. The definition of communication, levels of communication, levels of communication and functions of communication and mass communication. 2. Role of media in democracy, citizen journalism, online journalism, beat reporting, new media reporting and ethics in journalism 3. Writing skills for new, feature, agency copy, column, book and film review, editorial and post editorial. 4. Getting a hands-on training on page making, photo editing and publishing a tabloid newspaper in detail.
5	3rd Semester	JORA-CC5: Communication, Media, Society	1. Understanding communication theories and models 2. Understanding normative theories of the press, McQuail's Four models of communication and theories of mass communication 3. Phrases of media, society relations, mass society, functionalism, critical political-economy, technological determination, information

			<p>society, dominant media paradigm, diffusion of innovative and media dependency theory.</p> <p>4. Understanding cultivation theory, agenda settings series of models, information imbalance, globalization of media, media conglomeration and propaganda model.</p>
6	3rd Semester	JORA-CC6: Media and Cultural Studies	<p>1. Understanding the contribution of Frankfurt School and Birmingham school of cultural studies</p> <p>2. Understanding sign, symbol and semiology with respect to the Saussurian and Peircean school of thoughts.</p> <p>3. Understanding E.M. Roger's development communication school along with role of media in development of the third world.</p> <p>4. Understanding Jurgen Habermas and his concept of public sphere and public media.</p> <p>5. Understanding different forms of culture and power.</p> <p>6. Understanding political economy of media, ideology and hegemony, colonialism and post-colonialism, modernism and post modernism, structuralism and post structuralism.</p>
7	3rd Semester	JORA-CC7: Introduction to Radio	<p>1. Understanding history and growth radio in India.</p> <p>2. The function and autonomy of all India radio.</p> <p>3. Understanding the role of Prasar Bharati.</p> <p>4. Getting an idea upon structuring radio magazine, interview, talk-show, feature, radio documentary etc.</p> <p>5. Structuring and developing radio script.</p> <p>6. Getting practical training on radio program production from field recording up to studio production.</p> <p>7. Sound recording and editing for radio program production.</p>
8	3rd Semester	JORA-SEC-A: Photo-journalism	<p>1. Getting a basic idea of photo-journalism and importance of photographs in print media.</p> <p>2. Getting a basic idea on handling photography equipment.</p> <p>3. Understanding digital photography</p> <p>4. Getting an idea on different types of cameras, different types of lenses, camera accessories.</p> <p>5. Understanding exposure triangle and depth of field.</p> <p>6. Ethics of photo-journalism along with case studies.</p>
9	4th Semester	JORA-CC: Introduction to Television	<p>1. Getting idea on history and development of Doordarshan, development of satellite tv, 24x7 news channels.</p> <p>2. Sting operation and its ethical issues.</p> <p>3. Understanding television programme format, television news packaging, audience segmentation and viewership rating.</p> <p>4. Understanding TV reality shows and their construction.</p> <p>5. Learning practical know-how on television documentary script writing, shooting and post-production.</p>
10	4th Semester	JORA-CC9 Film Theory and Production	<p>1. Knowing the history of Indian motion pictures.</p> <p>2. French new wave cinema, Italian neo-realist movement and overview of Iranian new wave cinema.</p> <p>3. Understanding an overview of Indian new wave cinema.</p> <p>4. Exploring contemporary Bollywood cinema narratives.</p> <p>5. Knowing history and development of animation cinema.</p> <p>6. Knowing history and development of documentary films.</p> <p>7. Learning film production: pre-production, production and post-production.</p> <p>8. Understanding role of CBFC in India and its contribution.</p> <p>9. Understanding contribution of eminent film makers.</p>

11	4th Semester	JORA-CC10: Media Management & Press Law	<ol style="list-style-type: none"> <li>1. Understanding media ownership, patterns, management, corporatization, globalization and FDI.</li> <li>2. Dual economy of media, media autonomy, regulatory and publicity bodies.</li> <li>3. Understanding freedom of information and freedom of the press.</li> <li>4. Learning media laws and journalistic code of ethics.</li> </ol>
12	4th Semester	JORA SEC-B: Documentary Film Production	<ol style="list-style-type: none"> <li>1. Understanding documentary films</li> <li>2. Introduction to realism</li> <li>3. Learning editing styles: structure and scripting the documentary</li> <li>4. Learning, researching for the documentary and pre-production, production and post-production</li> <li>5. Learning proposal writing and budgeting for documentary films</li> </ol>
13	5th Semester	JORA CC11: Introduction to New Media	<ol style="list-style-type: none"> <li>1. Understanding the key concepts of new media theories, an overview of online journalism</li> <li>2. History of internet and its development till date</li> <li>3. Understanding concepts like user-generated content, alternative journalism, social media, citizen and participatory journalism, security challenges and ethical challenges in online journalism</li> <li>4. Getting a practical idea on tools of online journalism, website development, multimedia, interactivity and hyperlinks.</li> <li>5. Getting a practical idea on writing techniques for online contents including website planning, visual designing, content strategy, blogging and audience analysis.</li> </ol>
14	5th Semester	JORA CC12: Development Communication	<ol style="list-style-type: none"> <li>1. Understanding the concepts, concerns, and paradigms of development</li> <li>2. Understanding the difference between development and growth, understanding human development and development as freedom</li> <li>3. Indian development models: Gandhian and Neheruvian</li> <li>4. Understanding difference between developing countries and developed countries along with UN-MDGS</li> <li>5. Role of Mass Media in development, creativity, role and performance</li> <li>6. Role of development agencies and NGOs</li> <li>7. Knowing Indian development communication projects by government e.g.- SITE, Kheda, Krishi Darshan, JHABUA, MGNREGA</li> <li>8. Development Support Communication in India in different areas.</li> </ol>
15	5th Semester	JORA DSE-A: Media, Human Rights, Gender, Environment Studies	<ol style="list-style-type: none"> <li>1. Understanding basics of human rights</li> <li>2. Understanding the relationship between human rights, freedom of speech and expression and responsibility</li> <li>3. Understanding the basics of right to information and right to privacy</li> <li>4. Understanding gender construction by media, stereotypes</li> <li>5. Knowing about human rights institutions, NGOs, and their role in human rights issues in national &amp; international scenario</li> </ol>
16	5th Semester	JORA DSE-B: Communication Research	<ol style="list-style-type: none"> <li>1. Introducing the basic ideas of research, different types of research, steps of media research</li> <li>2. Understanding methods of media research e.g.- qualitative and quantitative</li> <li>3. Understanding basics of statistical tests e.g.- chi-square, t-test,</li> <li>4. Understanding sampling methods for media research-primary and secondary data collection, constructing questionnaire, Likert Scale, survey methods</li> <li>5. Understanding data analysis techniques- coding and tabulation</li> </ol>

17	6th Semester	JORA- CC13: Advertising	<ol style="list-style-type: none"> <li>1. Understanding the basics of advertisement along with historical overview, socio-economic and cultural impact</li> <li>2. Understanding different advertisement, advertisement theories and models</li> <li>3. Understanding the basics of advertisement research.</li> <li>4. Understanding ethics and laws related to advertisements</li> <li>5. Understanding the work procedure of Ad Agencies.</li> <li>6. Online advertising and case studies</li> <li>7. Getting practical idea of planning and designing advertisement.</li> </ol>
18	6th Semester	JORA-CC14: Public Relations	<ol style="list-style-type: none"> <li>1. Understanding Public Relations as a discipline of Mass Communication, along with its historical overview.</li> <li>2. understanding theories of Public Relations, research, planning, implementation and evaluation etc.</li> <li>3. understanding the role of public relations officers-qualities and functions.</li> <li>4. understanding tools of PR: press release, house journals, corporate films etc.</li> <li>5. Understanding financial PR and crisis management.</li> </ol>
19	6th Semester	JORA-DSE-A: Dissertation with Presentation	<ol style="list-style-type: none"> <li>1. Students will learn to conduct a micro research project within 7000 to 8000 words on topics e.g. social, political and cultural with proper reference and bibliography.</li> <li>2. Preparing a suitable presentation on research project undertaken by students.</li> </ol>
20	6th Semester	JORA-DSE-B: Health & Science Communication.	<ol style="list-style-type: none"> <li>1. Understanding the basics of health communication, characteristics, barriers and effectiveness.</li> <li>2. Understanding the role of culture in health communication.</li> <li>3. Understanding the basics of epidemiology for health communication.</li> <li>4. Understanding the role of interpersonal communication in health communication along with health literacy</li> <li>5. Understanding healthcare marketing along with writing about medicines</li> <li>6. Understanding science journalism along with popular science magazines (print and online).</li> </ol>

➤ **Department of Microbiology**

<b>Sl. No</b>	<b>Semester</b>	<b>Course Name</b>	<b>Course Outcome</b>
1	1st Semester	CC1-Introduction to Microbiology and Microbial diversity	1. Gather knowledge of developments in the field of microbiology and enlist the contributions of eminent scientists in the field. 2. To develop good understanding of different classes of microorganisms and their characteristics. 3. Understand the methods of classifying microorganisms and learn about the basic tools to study them. 4. Acquiring knowledge to explain the beneficial and harmful effects of microorganisms present in nature. 5. Become able to maintain the basic safety measures in microbiology laboratory and perform the experiments to cultivate and analyze basic features of microorganisms.
2	1st Semester	CC2-Bacteriology	1. Developing knowledge about the characteristic features of bacterial cells. 2. To know the basic details and composition of cell wall, cell membrane, cell organelles, and various appendages like capsules, flagella and pili. 3. Acquire knowledge to isolate pure culture of microorganisms, knowing various methods of cultivation of aerobic and anaerobic microorganisms. 4. Develop concept about nutritional requirement of microorganisms and their cultivation techniques under laboratory conditions. 5. Illustrate the basic concept of microscopy and to study the parts of different types of microscopes. 6. Study important groups of bacteria and get idea about the classification through systematics approach. 7. To perform experiments for visualization of microorganisms using staining.
3	2nd Semester	CC-3: Biochemistry	1. Learn about different types of biomolecules required for cellular metabolism and function. 2. To develop good understanding about the thermodynamic principles and become able to calculate the energy changes associated with biochemical processes. 3. Acquire thorough understanding of the structure and function of important biomolecules like carbohydrate, protein, nucleic acid and lipid. 4. Understanding the catalytic role of enzymes and function of vitamins in biological systems. 5. Able to prepare buffers, study enzyme kinetics and calculate $V_{max}$ , $K_m$ , $k_{cat}$ values. 6. Illustrate effect of activators and inhibitors on enzyme activity and estimation of vitamins.
4	2nd Semester	CC-4: Cell Biology	1. To know about the structure and composition of eukaryotic and prokaryotic cells. 2. Having profound knowledge of different types of cell organelles through electron micrographs and concept of cell-to-cell interaction mechanism. 3. Acquiring knowledge of structure of nucleic acid and the packaging mechanism. 4. Get detailed idea about cell signaling mechanism, regulation and control of cell cycle and other cellular events, visualization of stages of mitosis and meiosis through microscopy. 6. Evaluate the process of protein sorting and cellular transport.
5	3rd Semester	CC-5: Virology	1. Get insight about the nature of a virus and the differences of viruses with the others in the microbial world 2. Able to understand the structure of different types of viruses and the components of viruses like capsid, envelop, genome. 3. To know the replication strategies of different viruses and bacteriophages. 4. Accumulate

			information about the structure and transmission of sub-viral pathogens. 5. Learn to identify the role of viruses in disease and cancer and their prevention techniques. 6. Get the ability to isolate and cultivate bacteriophages.
6	3rd Semester	CC-6: Microbial physiology and metabolism	1. Have good knowledge about microbial growth and its dependence on various environmental factors. 2. Gain thorough knowledge of aerobic and anaerobic respiration. 3. Acquire information regarding the process of nutrient uptake and mode of transport in microbial cells. 4. To develop clear concept of phototrophic, chemolithotrophic and nitrogen metabolism. 5. Able to analyze bacterial growth curve and the effect of various factors on bacterial growth.
7	3rd Semester	CC-7: Molecular Biology	1. Know detailed structure and composition of different forms of DNAs and RNAs. 2. Integrate in detail knowledge of replication, transcription and translation both in prokaryotes and eukaryotes. 3. Able to understand the mechanism of gene expression in both prokaryotes and eukaryotes. 4. Able to isolate DNA from bacterial cells and estimate DNA and RNA. 5. To know the process of different types of electrophoresis methods.
8	3rd Semester	SEC-A1: Microbial Quality Control in food and pharmaceutical industries	1. Can address practical aspects of good laboratory practices and microbiological safety rules. 2. Will have good understanding of various detection methods used for detection of microbes in foods and pharmaceutical products. 3. Come to know about the importance of pathogenic microorganisms and their role in food and water borne diseases. 4. Understand the significance of food safety, issues related to food safety and microbial standards of various types of food.
9	3rd Semester	SEC-A2: Biofertilizers and Biopesticides	1. Students will get idea about the adverse effects of plant production and protection of chemicals on the biotic and abiotic components of environment. 2. To familiarize students with the microbes used as biofertilizers for various crop plants and their advantages over chemical fertilizers. 3. The course will give an overview of relevant use of microbial biofertilizers and biopesticides. 4. Students will become familiar with the vast reserves of available microbial biodiversity that provide abundant opportunities to harness the ability of microorganisms and their chemical constituents. 5. To sustainably minimize damage from pests or increase agricultural productivity and production.
10	4th Semester	CC-8: Microbial Genetics	1. Knowing the basic concepts of genome organization in different organisms. 2. Understanding the role of plasmids in microorganisms and their types. 3. Getting thorough idea about different gene transfer mechanisms like transformation, transduction, conjugation and genetic recombination. 4. Gathering knowledge about the basic concepts of mutation, types of mutagens, causes of mutation. 5. Able to integrate the fundamental concepts of phage genetics and mechanism of transposition. 6. Able to perform tests to investigate the effect of mutagens on bacterial cells.
11	4th Semester	CC-9: Environmental Microbiology	1. Will be acquainted with the basic idea of microorganisms and their natural habitat, role of various microorganisms in maintaining the quality of soil, air and water. 2. Will help in understanding the concept of biogeochemical cycles and the involvement of microorganisms in them. 3. Will be equipped with the knowledge of waste disposal, segregation and management and the concept of

			using microorganisms and plants for remediating toxic substances from environment. 4. Get the ability to assess the quality of water and knowledge of analyzing water quality and addressing safety issues. 5. Gather idea of various types of microbial interactions and their implications in natural environment. 6. Will have the basic background of isolation of microorganisms from various natural sources, assessment of microbiological quality of water.
12	4th Semester	CC-10: Recombinant DNA Technology	1. Providing in depth knowledge of properties and applications of various DNA modifying enzymes, cloning strategies, vector types, method of selection and screening of recombinants and/or transformants. 2. Understanding various gene transfer techniques and identifying suitable hosts used in cloning. 3. Knowing the basics of DNA amplification like various types of PCR, concept of sequencing of a gene and high throughput sequencing techniques used for genome sequencing. 4. Having familiar with the methods of construction and screening of genomic and cDNA libraries and their applications. 5. Getting informed about the various applications of RDT in industrial and medical purposes. 6. Becoming competent in using various cloning strategies, DNA amplification and hybridization methods.
13	4th Semester	SEC-B2: Microbiological analysis of air and water	1. To have sound knowledge about the types of microorganisms present in air and water and their role in disease transmission. 2. To acquire information regarding various types of air sampling techniques and microbiological examinations of air and water to check their quality. 3. Get in details knowledge of air and waterborne diseases. 4. To know the control measures of air and waterborne diseases.
14	5th Semester	CC-11: Food and Dairy Microbiology	1. To understand the significance and activities of microorganisms in various types of foods, the role of intrinsic and extrinsic factors on growth and survival of microorganisms. 2. To have detailed knowledge regarding spoilages associated with vegetables, fruits, eggs, meat, fish. 3. To get knowledge of the principles in traditional and newer food preservation techniques including salting, pickling, refrigeration, freezing, oxidation, and canning and chemical preservation. 4. To be able to identify types of starter cultures required for preparation of fermented foods, preparation scheme of various fermented foods, vegetables, meats and fermented milk products, probiotics. 5. Acquiring thorough concept of various types of microbes causing food intoxications and food infections, prevention of food borne illnesses and method of food sanitation and control. 6. Able to perform methods to identify spoilage causing microorganisms in fruits & vegetables, bread, assess the quality of milk, preparation of yogurt.
15	5th Semester	CC-12: Industrial Microbiology	1. Develop an understanding of isolation of important strains for industrial production of antibiotics, enzymes, amino acids, alcohol; formulation of fermentation media. 2. Get acquainted with the types of fermenters/bioreactors, their components and different control parameters. 3. To develop profound knowledge of different methods of downstream processing and recovery techniques used in industry. 4. To become conversant with various application processes of both enzyme and cell, such as immobilization techniques. 5. To get idea about fermentative production of enzymes, organic acid, amino acid, alcohol, vitamins, antibiotics. 6. To achieve practical experience of working principle of fermenters/

			bioreactors and various methods of extraction and purification of industrially important products.
16	5th Semester	DSE-A1: Microbial Biotechnology	1. To gain knowledge about scope and applications of microorganisms in therapeutics, sustainable agriculture; genetically engineered microbes. 2. Develop comprehensive idea about recombinant production of various microbial products having therapeutic and economic importance. 3. To be able to demonstrate the concept of biotransformation and the bio-catalytic processes with their application. 4. Conceptualize the methods used for recovery of microbial products; identification of microorganisms used for remediation of environment; idea of biogas and biodiesel production. 5. Knowing the applications of RNAi in therapeutics; detailed knowledge of intellectual property rights and its aspects. 6. Able to perform the processes of enzyme and cell immobilization; isolation of important enzymes, production of SCP.
17	5th Semester	DSE-B2: Microbes in sustainable agriculture and development	1. Inculcating knowledge of soil composition, types and the microbial consortia of various soil types. 2. Identifying the role of microorganisms in maintaining soil quality; use of microbes in biogas production. 3. Attaining idea about mineralization of organic and inorganic substances; production of biofertilizers, bioinsecticides; assessment of production parameters of biofuel, bio manure and biogas. 4. Understanding the preventive measures adopted for controlling soil borne plant pathogens; development of genetically modified crops. 5. Able to check soil profile and isolate rhizobia, azotobacter and other normal microflora of various soil types.
18	6th Semester	CC-13: Immunology	1. Will be able to understand the history and development of immunology, the barriers of immune system for protection of host from diseases. 2. Acquire basic understanding of the functioning of the repertoire of cells and organs involved in executing immunological response. 3. To discern the mechanism of primary and secondary immune response; concept of innate and adaptive immunity. 4. Get detailed view of the structure of antigen, concept of epitopes, adjuvants; structure of antibody, overview of isotype, idio type and allotype. 5. Know the fundamental principles of MHC, complement, concept of antigen antibody interactions, various types of immunological techniques and immunological disorders. 6. Get acquainted with the practical applications of human blood group identification, TC, DC and different other immunological methods.
19	6th Semester	CC-14: Medical Microbiology	1. Develop a comprehensive knowledge about the microbial consortia of human body and their interaction with the host. 2. Acquire knowledge about the types of clinical specimens; collection and transportation of samples and diagnostic tools used for infectious diseases. 3. Able to understand the pathophysiology of various bacterial, viral, fungal and protozoan diseases and their prevention. 4. Know the importance of different types of antimicrobial agents including antibiotics, antifungal, antiviral agents. 5. Will be equipped with the ability of identifying disease causing microorganisms, perform techniques for identification and enumeration of microorganisms. 6. Gather knowledge about the types and composition of various media used for transportation and cultivation of microorganisms present in clinical specimens.

20	6th Semester	DSE-A3: Plant Pathology	1. Know history of plant pathology and imbibe the basic concept of host-pathogen interaction and disease cycle. 2. Become familiar with the epidemiology of plant diseases, the stages in the development of a disease. 3. Gather knowledge of microbial pathogenicity, the defense mechanism in plants, genetics of plant diseases. 4. Will be empowered with the ability to control plant diseases. 5. Congregate in depth knowledge of different plant diseases.
21	6th Semester	DSE-B3: Instrumentation and Biotechniques	1. To have thorough knowledge about the underlying principles of bioinstrumentation. 2. Can describe the methodology involved in different types of Biotechniques like microscopy, chromatography, electrophoresis, centrifugation, spectrophotometry. 3. Will be able to demonstrate knowledge and practical skills of using instruments in biology and medical field. 4. Become acquainted with the use of techniques involved in molecular biology and diagnosis of diseases.

➤ **Department of Zoology**

<b>Sl. No</b>	<b>Semester</b>	<b>Course Name</b>	<b>Course Outcome</b>
1	1st Semester	ZOOA-CC1-1 : Non-chordates I (Protists to Pseudocoelomates)	1. To impart fundamental knowledge of identifying, grouping & naming animals, learn about their origin & evolution, understand relatedness among various species. 2. To distinguish non-chordates from chordates, differentiate among the listed non-chordates by observing their morphological features, systemic features and interactions with their environments. 3. To understand body organization, development from unicellular to complex organisms, concepts of organogenesis & its need. 4.To learn about interspecific & intraspecific interactions. 5.To understand the importance of corals & coral reefs and its conversation. 6. To learn about various infections caused by different invertebrates, its effects on human life & its preventive measures that can be taken. 7. To learn staining methods, use of microscopes and identifying various microorganisms.
2	1st Semester	ZOOA-CC1-2 : Molecular Biology	1.To gain a comprehensive knowledge about the molecular basis of life, how a cell functions in order to survive and propagate. 2. To learn about the biomolecules, their structure, function and interactions, how gene expression occurs, the basis of gene expression regulation, cellular quality control strategies for repairing DNA damage and cope with stress are quintessential factors to understand. 3.To understand the basis of central dogma of life and how it operates differentially in the prokaryotes and eukaryotes. 4.To gain idea about epigenetic factors regulating gene expression. 5.To gain knowledge about the basic tools of molecular biology for performing basic experiments and thereupon developing a basic sense/ orientation for pursuing career in biomedical research. 6.Learn techniques such as DNA isolation, gel electrophoresis, & PCR.
3	2nd Semester	ZOOA-CC2-3 : Non-chordates II – Coelomates	1. Learn how coelom provides a structural foundation for growth of the body, helps in immunity & provides support. 2.Learn identifying, grouping & naming coelomates. 3.Learn about evolution of complex systems of respiration, feeding & excretion. 4.Learn about the relationship of non-chordates with chordates. 5.Understand the need for community formation in the coelomates.
4	2nd Semester	ZOOA-CC2-4 : Cell Biology	1. To develop the foundational knowledge of the membrane structure and composition, transport and trafficking of protein, the cytoskeleton, cell movement and extra cellular matrix. 2. To thoroughly understand the mechanism of cell division and their regulation through different check points. 3. To understand the means of communication among cells and to understand the mechanism of disruption of this pathway for gaining an insight into disease and medical biology. 4. Learn preparing permanent slides & identify the stages of cell division.
5	3rd Semester	ZOOA-CC3-5 : Chordata	1. Learn to identify, classify & group the different chordates. 2.Obtain comprehensive idea about chordates, their body form, organization, behavior and evolutionary inter-relationship to help towards appreciation of chordate diversity. 3. Gain understanding about the development of vital organ systems as well as concept of

			metamorphosis as crucial parts of chordate development. 4. Learn about the physical basis of specialized adaptations and movements including Echolocation and flight in mammals and birds respectively to get an idea about how animals communicate in their natural habitat.
6	3rd Semester	ZOOA-CC3-6 : Animal Physiology: Controlling and Coordinating System	1. Develop a deeper understanding of the complex physiological systems in the animals and their coordinated functioning to maintain systemic homeostasis. 2. Learn about regulatory systems including Endocrine and Nervous systems along with feedback loops to control the physiological processes like synaptic transmission, hormonal secretion and associated responses. 3. Develop skills to identify different types of animal tissues. 4. Learn to preserve animal tissues and the process for preparing histological sections, staining and pathological analyses to identify abnormalities in tissue architecture which is a fundamental requirement for diagnosing diseases 5. Develop skills which can be used to get job in the Histopathology laboratories which require trained personnel for slide preparation and Histopathology.
7	3rd Semester	ZOOA-CC3-7 : Fundamentals of Biochemistry	1. Gain knowledge about cellular metabolism from the perspective of biological molecules, learn about the structure of major biomolecules including proteins, carbohydrates, lipids, and nucleic acids along with the pathways leading to their synthesis and regulation. 2. Comprehensive understanding of the basics of enzyme biochemistry, cellular bioenergetics, anabolic and catabolic processes operating for maintaining cellular physiological homeostasis. 3. After completing this course, the students are expected to be able to relate to the theoretical knowledge on enzyme biochemistry and translate them in real life situations like understanding the basis for action of medicines which often modulate enzyme activities within the system. 4. Learn to analyze a biological samples for detection of protein, lipid, urea, uric acid and carbohydrate from blood & urine samples which is a basic knowledge requirement for all pathological laboratories as well as for students of biomedical field.
8	4th Semester	ZOOA-CC4-8 : Comparative Anatomy of Vertebrates	1. Development of clear concept of the anatomy of different vertebrates. 2. Developmental diversity involved in the evolution of major organ systems in the vertebrates including digestive, respiratory, circulatory, urinogenital, integumentary, skeletal and nervous systems. 3. The students will be able to correlate the functional similarities and dissimilarities of the various organ systems and understand the basis of evolution of organ systems in response to changing demands as life evolved from aquatic to terrestrial forms. 4. The course aims at providing a comprehensive understanding of the evolution of brain, types of olfactory and auditory receptors along with the basic features of axial and appendicular skeleton which underlies the evolution of behavior and cognitive abilities in the higher mammals.
9	4th Semester	ZOOA-CC4-9 : Animal Physiology: Life Sustaining Systems	1. To be able to correlate the vertebrate anatomy with digestion, respiration, circulation, excretion & thermoregulation. 2. To understand the environmental factors determining the functional diversity of these processes of the different animals residing in various ecosystems. 3. To develop ideas and analytical aptitude for pursuing higher studies in the fields of animal physiology & clinical studies. 4. Develop skill in blood sample collection, Hb-estimation,

			cell counting, using medical devices such as a Sphygmomanometer & Hemoglobin meter.
10	4th Semester	ZOOA-CC4-10: Immunology	1. This course will enable the students to understand the basis of different types of immune responses including allergy and auto-immune responses along with learning about antigenic diversity and basis of inflammation as the major immunological response. 2. The course will further help the students to gain insight into the basis of acquired immunity mainly through active and passive immunization along with strategies for vaccine development. 3. The students will learn about crosstalk between various immunological processes. 4. Students will get both theoretical and hands-on training on few basic immunological processes like ELISA.
11	5th Semester	ZOOA-CC5-11: Ecology	1. Students will be able to gain idea about levels of interaction between population, community and ecosystem. 2. Students will be able to get insights on mathematical and theoretical ways of factors controlling those aspects. 3. Students will be able to gain idea about conservation, its need, ways and significance in modern times along with its prospects. 4. Students will get a field training on performing various ecological analysis including biodiversity analysis, human animal conflict and conservational methods.
12	5th Semester	ZOOA-CC5-12: Genetics	1. Students will be able to generate understanding and ideas to apply the Mendelian principles in experimental studies while gaining deeper insight in the altercations of these principles in real world. 2. Students will be able to gain knowledge about Mutations, its causes and effects and various ways of its detection. 3. Students will be able to understand various concepts molecular sex determination, transposition and cytoplasmic inheritance. 4. Students will learn to apply statistical hypothesis testing methods and identify genetic diseases based of Pedigree analysis and Karyotyping.
13	6th Semester	ZOOA-CC6-13: Developmental Biology	1. Students will be able to develop intellect related to origin of development, gametogenesis, fertilization, organogenesis and organizer of model animals. 2. Students will be able to gain concept on cellular and molecular interactions during embryonic development. 3. Students will be able to learn about various reproductive complications of modern times, their causes and potential treatments and its prospects. 4. Students will get a clear idea about Stem Cells, their present implications and prospects. 5. Students will be able to identify various larval and embryonic stages of model organisms.
14	6th Semester	ZOOA-CC6-14: Evolutionary Biology	1. Concept building on the origin of life, evolution, geological time scale and natural selection, population genetics and extinction 2. Students will learn to construct phylogenetic trees, study Fossils and analyze phylogenetic relationship.
15	3rd Semester	ZOOA-SEC-A-1: Apiculture	1. Students will be able to understand the significance of Bee rearing as an economically viable industry, specifically cottage industry. 2. Students will be able to understand the basics of Beekeeping tools, equipment and managing Beehives for honey production and pollination.
16	4th Semester	ZOOA-SEC-B-1: Aquarium Fisheries	1. Students will be able to understand the significance of Aquarium fish keeping as an economically viable industry, specifically fish-based cottage industry. 2 Students will be able to develop skills and learn techniques of fish rearing, management of aquarium and ornamental fisheries, strategies for commercialization including fish handling, packaging and transportation as well as formulation of fish

			feeds with high nutrition value. 3. Students will be aware about the prospect and employment opportunities in aquarium fish-based small-scale industry in public and private, as well as to invest upon as independent entrepreneur.
17	5th Semester	ZOOA-DSE-B-1: Endocrinology	1. Students will be able to get a clear concept of different vertebrate Endocrine glands, their hormones and their modes of action. 2. Students will be able to get an idea on different levels of interaction between metabolism and hormones. 3. Students will get a hands-on experience on collection, preservation, sectioning and staining of various Endocrine glands.
18	5th Semester	ZOOA-DSE-A-1: Parasitology	1. To gain experience with diagnostic keys and assistance in choosing appropriate keys. 2. To build concept on different parasitic forms belonging to different species, their life-cycle patterns, pathogenicity etc. 3. To develop concept about the various types of Parasites and Hosts. 4. To differentiate the Parasitic Protozoan, Trematodes, Cestodes and Nematodes. 5. To identify different stages of life cycle of Parasites thorough slides 6. To develop hands-on training in isolation of Parasites from fishes and poultry birds 7. To generate the idea of Vertebrate Parasites through literature review.
19	6th Semester	ZOOA-DSE-A-2: Animal Biotechnology	1. Students will build up a concept on Molecular Techniques in Gene manipulation and Genetically Modified Organisms, their methodologies, applications and prospects. 2. To help gain knowledge on utilization of Biotechnology in various biological fields. 3. To learn about the advancement in biological techniques and their utilization. 4. Students will get hands-on training on few molecular techniques.
20	6th Semester	ZOOA-DSE-B-2: Animal Behavior	1. Students will get a concept on patterns of behavior in different organisms and its relation to ecosystem. 2. Students will have an idea of Chronobiology & biological rhythm in their day-to-day life. 3. To provide the students a hands-on training on habitat and behavior study and management of different animals.
21	5th Semester	ZOOA-DSE-A-2- Biology of Insects	1. Students will be able to get an idea about insect diversity, distribution, structural and behavioral peculiarities. 2. Students will be able to understand concept of ecological and economical importance of the insects around us. 3. Students will get to learn to collect, preserve and identify various common insects.

➤ **Department of Political Science (offered as GE courses):**

Sl. No.	Semester	Paper Code	Subject	Outcome
1	1st Semester	CC1/GE1	Introduction to Political Theory	This paper emphasizes on the philosophical and methodological foundations of Political Theory, namely the different concepts and ideas in Political Science.
2	2nd Semester	CC2/GE2	Comparative Government & Politics	This paper focuses on the study of different world political systems using approaches and techniques of comparison to arrive at generalizations.

3	3rd Semester	CC3/GE3	Government and Politics in India	The course on Indian government and politics aims to provide an outline of the Indian Constitution- its text and context, the structure and functioning of union/state level governmental/extra governmental institutions in the light of constitutional provisions and to develop insights about the style and content of Indian politics and the trends and issues affecting it.
4	4th Semester	CC4/GE4	International Relations	The course on International Relations aims to help students cultivate their own theoretical/analytical framework to understand and explain international affairs, develop a deeper appreciation of global issues and challenges.
5	5th Semester	DSE-A-5-1B	Indian Foreign Policy	This paper is designed as a comprehensive review of some of the key issues related to India's world view and its behaviour towards the external world. It also includes India's relations with its neighbours and great powers, its nuclear weapons policy and the ideological foundations of its foreign policy after independence.
6	6th Semester	DSE-B-6-2B	Human Rights: Theory and Indian Context	This course provides an introduction to basic human rights philosophy, principles, instruments and institutions and also an overview of current issues and debates in this field.
7	3rd and 5th Semester	SEC-3-A	Legal Literacy	Legal literacy provides the knowledge of law that can be used as a tool by vulnerable groups to understand and evaluate the law and get acquainted with the scope of their rights under the law and get them enforced with the help of legal machinery.
8	4th Semester and 6th Semester	SEC-6-B	Basic Research Methods	Basic Research Methods exposes researchers to varying dimensions within a field of study.

➤ **Department of Bengali (offered as GE courses):**

Paper		Outcomes
সেমিস্টার -১	১) এ ই সি সি-১	আধুনিক বাংলা প্রবন্ধ, রবীন্দ্রনাথ ঠাকুরের ছোটগল্প ও নৈবেদ্য কাব্যগ্রন্থ এবং পরিভাষা।

	<u>সি সি/জি ই-১</u>	বাংলা সাহিত্যের ইতিহাসের আধুনিক যুগ- ১)গদ্য ও প্রবন্ধসাহিত্য। ২)কাব্য-কবিতা ও নাটক। ৩)উপন্যাস ও ছোটগল্প।
<u>সেমিস্টার-২</u>	<u>সি সি/জি ই-২</u>	১) বাংলাঐতিহাসিক ভাষাবিজ্ঞান-প্রাচীন ভারতীয় আৰ্যভাষা থেকে আধুনিক ভারতীয় আৰ্যভাষা হিসেবে বাংলা ভাষার উদ্ভবের গতিরেখা। ২)আদি-মধ্য যুগের বাংলা ভাষার ভাষাতাত্ত্বিক লক্ষন (প্রেক্ষিত-শ্রীকৃষ্ণকীর্তন)। ৩)ছন্দ। ৪) অলংকার।
<u>সেমিস্টার-৩</u>	<u>সি সি/জি ই-৩</u>	বাংলা কাব্য- কবিতা ও নাটক- ১)প্রাগাধুনিক বাংলা কবিতা-বৈষ্ণব পদাবলী। ২) আধুনিক <b>বাংলা</b> কবিতা- রবীন্দ্রনাথ ঠাকুরের পুনশ্চ গদ্যকবিতা ও একালের কবিতা সম্বন্ধে। ৩) রবীন্দ্রনাথ <b>ঠাকুরের নাটক</b> - রাজা ও রাণী।
	<u>এস ই সি সি-৩/৫</u> <u>এ-১</u>	মুদ্রণ ও প্রকাশনা ১)পান্ডুলিপি, বাংলা যুক্তাক্ষরের ধারণা, সংগ্রহ সম্পাদনা ও সংকলন বিষয়ক ধারণা, কভার, টাইটেলপেজ,গ্রন্থ/ পত্রিকার পঞ্জিকরণ সংক্রান্ত ধারণা। ২)এম এস ওয়ার্ড, পেজ মেকার,কোরেল ড্র,ইনডিজাইন। ৩)প্রফ সংশোধন/ অশুদ্ধি সংশোধন,ছাপার প্রযুক্তি,সিটিং, বাইন্ডিং, মার্কেটিংসংক্রান্ত ধারণা।
<u>সেমিস্টার-৪</u>	<u>সি সি/জি ই-৪</u>	বাংলা কথাসাহিত্য ও প্রবন্ধ ১) শরৎচন্দ্র চট্টোপাধ্যায়ের পল্লীসমাজ উপন্যাস। ২) কলকাতা বিশ্ববিদ্যালয় নির্বাচিত কিছু আধুনিক ছোটগল্প। ৩) রবীন্দ্রনাথ ঠাকুরের সংকলন নামক প্রবন্ধগ্রন্থের অন্তর্ভুক্ত চারটি প্রবন্ধ।
	<u>এস ই সি -৪/৬-বি-১</u>	ব্যবহারিক বাংলা ও সাহিত্য গবেষণার পদ্ধতিবিজ্ঞান ১) সংবাদপত্রঅথবা ব্যক্তিগত প্রচারের লক্ষ্যে প্রতিবেদন রচনা, বিভিন্ন প্রকার সহ চিঠিপত্র রচনা, কাল্পনিকসাক্ষাৎকার রচনা। ২) ছাপারমাধ্যম ও বৈদ্যুতিন মাধ্যমের জন্য বিজ্ঞাপন রচনা, অনুবাদেরভাষা ও শৈলী, ইংরেজিথেকে বাংলা অনুবাদ। ৩) গবেষণাররীতি ও নির্মাণ পদ্ধতি, গবেষণারআদর্শ বিন্যাসক্রম, তথ্যসংগ্রহ, উদ্ধৃতিপ্রয়োগ, কপিরাইট আইন, পাদটীকা/ প্রান্তটীকা,সূত্রনির্দেশ,গ্রন্থপঞ্জি ও নির্ঘণ্ট প্রণয়ন বিধি।
	<u>এল সি সি (২)-৪-১</u>	বাংলা ভাষাবিজ্ঞান, সাহিত্যের রূপভেদ ও কাব্য ১) বাংলাভাষার শব্দ ভান্ডার, বাংলাশব্দার্থ পরিবর্তনের ধারা, বাংলা ভাষার ধ্বনি পরিবর্তনের রীতি ও প্রকৃতি। ২) মহাকাব্য, গীতিকাব্য, ট্রাজেডি,কমেডি নাটক, পৌরাণিক- ঐতিহাসিক- সামাজিক নাটক, রোমান্স ও উপন্যাস, সামাজিক- ঐতিহাসিকউপন্যাস, ছোটগল্পের হাতে উপন্যাসের তুলনা,প্রবন্ধ ও সমালোচনা সাহিত্য। ৩) মাইকেল মধুসূদন দত্তের মেঘনাদবধ কাব্য ( প্রথম সর্গ)
<u>সেমিস্টার -৫</u>	<u>ডিএস ই</u>	ক) এ-১- বাংলার সমাজ ও সংস্কৃতির ইতিহাস ১) বাংলাও বাঙালি জাতির ভৌগোলিক ও নৃতাত্ত্বিক পরিচয়,বাংলার সমাজ কাঠামো ও অর্থনৈতিক ভিত্তি, বাংলার রাজনৈতিক ইতিহাস,বাংলার ধর্ম, চৈতন্যসংস্কৃতি, বাঙালিরসংস্কৃতির স্বরূপ। ২) ঔপনিবেশিকআধুনিকতার অভিঘাত-- শিক্ষায়- ধর্ম সংস্কারে ও মুক্ত চিন্তায়, কৃষকআন্দোলন, নীলবিদ্রোহ, ফকিরআন্দোলন,ধর্ম- সমাজ ও শিক্ষা সংস্কারের উদ্দেশ্যে গঠিত সভা ও সমিতি(১৯ শতক)। ৩)বঙ্গভঙ্গ ও বয়কট- স্বদেশী আন্দোলন, প্রান্তবর্গ/ দলিত জনগোষ্ঠীর জাগরণ, বাঙালিজাতিসত্তার সন্ধান, খাদ্য ও নকশার আন্দোলন।

		<p>খ)এ-২- বাংলা গোয়েন্দা সাহিত্য, কল্পবিজ্ঞানআশ্রয়ী রচনা এবং অলৌকিক কাহিনী।</p> <p>১) শরদিন্দু বন্দ্যোপাধ্যায়ের সজারুর কাঁটা</p> <p>২) শঙ্কুসমগ্র -(ব্যোমযাত্রীর ডায়েরী, প্রফেসর শঙ্কু ও ম্যাকাও, প্রফেসরশঙ্কু ও গোলোক রহস্য, প্রফেসর শঙ্কু ও রোবু, হিপনোজেন, মহাকাশেরদূত, শঙ্কু ও আদিম মানব, শঙ্কু ও ফ্রাঙ্কেনস্টাইন।</p> <p>৩) লীলা মজুমদারের সব ভুতুড়ে।</p>
	এস ই সি সি ৩/৫-এ-২	<p>ব্যবহারিক বাংলা-১</p> <p>১) গল্পসূত্র থেকে কাহিনী নির্মাণ, গল্প, উপন্যাস থেকে নাট্য রূপ/ চিত্রনাট্য নির্মাণ।</p> <p>২) বাংলা ভাষা ও শব্দের সঠিক উচ্চারণ, ছন্দ সম্পর্কিত জ্ঞান, আবৃত্তি চর্চা।</p> <p>৩) সাহিত্য ও চলচ্চিত্রের পারস্পরিক সম্পর্ক, বাংলা সাহিত্যের চলচিত্রায়ণ, কয়েকটি গল্প উপন্যাসের বিশেষ পাঠ-ক্ষুধিতপাষণ, বাড়ি থেকে পালিয়ে, পথের পাঁচালী।</p>
সেমিস্টার -৬	ডি এস ই	<p>ক)বি-১ দেশভাগ ও বাংলা সাহিত্য।</p> <p>১) উপন্যাস-অতীন বন্দ্যোপাধ্যায়ের - নীলকণ্ঠ পাখির খোঁজে।</p> <p>২) ছোটগল্প- জ্যোতির্ময়ী দেবীর -এপার গঙ্গা ওপার গঙ্গা, সতীনাথ ভাদুড়ী র-গণনায়ক, মানিক বন্দ্যোপাধ্যায় এর- ছেলেমানুষী, নরেন্দ্রনাথ মিত্রের- পালঙ্ক, সলিল চৌধুরীর- ড্রেসিং টেবিল, রমাপদ চৌধুরীর - করুণকন্যা, প্রফুল্ল রায়ের - রাজা আসে রাজা রায়,, দীপেন্দ্রনাথ বন্দ্যোপাধ্যায়ের - জটায়ু।</p> <p>৩) কবিতা- অচিন্ত্যকুমার সেনগুপ্তর- পূব ও পশ্চিম, অন্নদাশঙ্কর রায়ের- খুকু ও খোকা, দীনেশ দাসের- ১৫ই আগস্ট ১৯৪৭, বিষ্ণু দেব - জল দাও, সুভাষ মুখোপাধ্যায় এর- পারাপার, মঙ্গলাচরণ চট্টোপাধ্যায়ের- বাংলা,হায় বাংলা, নীরেন্দ্রনাথ চক্রবর্তীর- তোমাকে বলেছিলাম, শঙ্খ ঘোষ এর- দেশহীন, সুনীল গঙ্গোপাধ্যায়ের- ধাত্রী, সমরেন্দ্র সেনগুপ্তর- ভাষাদেশ।</p> <p>খ)বি-২ লোকসংস্কৃতি ও লোকসাহিত্য।</p> <p>১) লোকসংস্কৃতি ও লোকসাহিত্যের সাধারণ পরিচয়, টাইপ মোটিফ ইনডেক্স( বৈশিষ্ট্য ও প্রয়োগ শিক্ষার প্রাথমিক পাঠ।বাংলার ব্রত ও পার্বণ-পুণ্যপুকুর, মাঘমন্ডল, সঁজুতি।</p> <p>২) লোকছড়া এবং ধাঁধা, লোকনৃত্য ( ছৌ, রায়বেঁশে, গস্তীরা)।</p>
	এস ই সি সি -৪/৬-বি-২	<p>ব্যবহারিক বাংলা-২</p> <p>১) সৃজনশীলরচনা (গল্পরচনা, প্রবন্ধরচনা)।</p> <p>২) বাংলাবানানের বিবর্তনের সাধারণ ধারণা ( পশ্চিমবঙ্গ বাংলা আকাদেমির বানান বিধি)।</p> <p>৩) আন্তর্জাতিক ধ্বনিমূলক বর্ণমালা (IPA) ও রোমীয় লিপি।</p>
	এল সি সি (২)-২-৬	<p>সাময়িক পত্র ও কথাসাহিত্য</p> <p>১) বাংলাসাময়িক পত্রের ইতিহাস- দিগ্দর্শন থেকে কবিতা পত্রিকা পর্যন্ত।</p> <p>২) বঙ্কিমচন্দ্র চট্টোপাধ্যায়ের রজনী উপন্যাস।</p> <p>৩) একালেরছোটগল্প সঞ্চয়ন- বনফুলের ছোটলোক, জ্যোতিরিন্দ্র নন্দীর চোর, নারায়ণ গঙ্গোপাধ্যায়ের রেকর্ড, সাবিত্রী রায়ের অন্তঃসলিলা, সমরেশ বসুর আদাব, সাদাত হোসেন মন্টার টোবাটেক সিং।</p>

➤ Department of History (offered as GE courses)

Sl. No.	Semester	Paper	Outcomes
1	1st Semester	CC -1/GE-1:	Classify and understand the concepts like Pre-history, Proto-history and History. To know various sources of history. Understand the concept of first

		History of India from Earliest Times up to 300 CE	urbanization, basic features of Indus Valley Civilization. Describe the Vedic Age- the political, social, economic and religious changes from Rig Vedic to later Vedic age. To get acquainted with Ashoka's Policy of Dhamma and its application in everyone's daily life.
2	2nd Semester	CC-2/GE- 2: History of India from. C.300 to1206	To know the political history of various dynasties in Post-Mauryan period- Sunga, Satavahana, Indo Greeks, Parthians, Kusana, Saka. Understand the cultural development in Post-Mauryan period up to Guptas Critically evaluate the concept of 'Golden Age'. To understand the causes, course of events and impact of various foreign invasions on India like Arab invasion, invasion of Mahammad of Ghazni, Mohammad Ghorī. To understand the concept of feudalism and theories related to the origin of Rajput.
3	3rd Semester	CC-3/GE-3: History of India from 1206 to1707	After the completion of the course, students will be able to understand the advent of Islam and Turkish invasion and the struggling phase of an era of transformation in medieval India Know about Turks and Mongols. Understand role of the Delhi Sultanate in the field of development of new political system and policies in India Know about the Kingship Theory of Delhi Sultanate. After the completion of the course, students will be able to understand the advent of Mughals and Babur's invasion. Assess the consolidation of Mughal Empire in India. Analysis of Akbar as a great ruler of Medieval India.
4	4th Semester	CC-4/GE-4: History of India; 1707-1950	In the understanding of India under the Crown after the revolt of 1857, the course teaches about the Constitutional Development of India from 1858-1909. In continuation of the History of India under the Crown, the students will get a complete picture up to Independence through- Pre-Gandhian political and revolutionary activities in the first half of 20th century, towards partition and independence various political and administrative phases.
5	5th Semester	DSE- A -2: Some Aspects of European History: C.1780-1945	After the completion of this course, students will have the in-depth knowledge about: The three French Revolutions- 1789, 1830 and 1848A.D. To develop the various ideologies and domestic affairs of few European nations.
6	6th Semester	DSE-B-2: Some aspects of Society & Economy of Modern Europe: 15th – 18th Century	Acquisition of knowledge about the historical significance of the dawn of Modern Age. Knowledge gained about the Christian Reformation and Counter Reformation. Students will be able to

			understand the emergence of the age of Renaissance and Benevolent Despotism in Europe.
7	3rd and 5th Semester	SEC-A- 1: Historical Tourism: Theory & Practice	Enable the students to know about the important tourist centres and popular pilgrim tourist centres in India. Students will be able to understand the Cultural attractions of India and main adventure centres of tourist interest in India. The course will help students to know the complex character of heritage.
8	4th Semester and 6th Semester	SEC-B -1: Museums & Archives in India	To study further in the applied field of history as Museology. The course will enable students to know these two repositories of history. They would know how the heritage is preserved and kept alive here and the difficulties faced in the process. The learner would get to know the actual working of these places of cultural importance.

➤ **Department of Film Studies (offered as GE courses)**

Sl. No.	Semester	Paper	Outcomes
1	1st Semester	CC I / GE I  Film Language & Cinema's Journey from Primitive to Narrative	Students get to know on Indian cinema and world cinema and are introduced to methods employed by film makers to communicate of how to make a film and various concept to film release like Pre-Production, Production, and Post-Production. They gain knowledge on cinematography (shot, angle, movements), editing (transition, time & space), sound (sync sound & non-sync Sound) etc. They also learn on how to do film analysis- the process of shot, mise-en-scene etc.
2	2nd Semester	CC II / GE II History: World Cinema	POST WORLD WAR-I Students are introduced to the world cinema with focus on Post World War I & II Film Movements with German Expressionism, contribution of expressionism, contribution and the theories of Lev Kuleshov, Vsevolod Pudovkin and Eisenstein. The next emphasis is on surrealism through the film Un-Chien Andalou by Luis Bunuel. Last and the most important parts are Silent Comedy and the contribution of Charlie Chaplin. POST WORLD WAR II In this section students are introduced with Italian Neo-Realism, work of Roberto Rossellini and Vittorio De- Sica. The next emphasis is on French New Wave Cinema – a detailed study of New Wave filmmakers like Truffaut and Godard. In the last section students are introduced with Japanese

			Cinema and works of eminent film directors like Ozu, Akira Kurosawa and Kenji Mizoguchi.
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➤ **Department of Economics [offered as GE subject for students opting for B.Sc. Honors in Geography] :**

Sl. No.	Semester	Name of the Course	Outcome
1	1st Semester	GE-I Introductory Microeconomics	This Paper is designed to provide a comprehensive coverage & knowledge on Microeconomics. This section has incorporated the theories including the equilibrium analysis of several economic agents ( <i>i.e., consumer, producer, firm etc</i> ) of the economy. These basic theories in microeconomics can be used to deal with several practical issues. Apart from that this paper has also incorporated several market structures and their equilibrium analysis in economics.
2	2nd Semester	GE-II Introductory Macroeconomics	This portion has been framed to deliver basic knowledge on macroeconomics with emphasizing on solving some practical problems on macroeconomics. Several theoretical chapters under macroeconomics have been included in the course curricula with an objective to analyze macro issues along with policy formulation. These understandings would help the students to inculcate their knowledge on macroeconomics.

➤ **Department of Human Development (offered as GE subject for students opting for B.Sc. Honors in Food and Nutrition)**

Sl. No.	Semester	Paper	Course Outcome
1	1st Semester	GE 1A	<p>Introduction to Human Development:</p> <ul style="list-style-type: none"> <li>• To introduce the students to the field of human development- Concept, scope, need of study</li> <li>• Understanding the dimensions and the interrelationship between the domains of human development.</li> <li>• Awareness of the processes and principals underlying human growth and development.</li> <li>• To sensitize students into an interplay between biology and behavior.</li> <li>• To gain an understanding of the life span approach to human development</li> <li>• To acquaint the students with the process of Conception</li> <li>• Gaining knowledge about the physical and psychological care of the expectant mother</li> <li>• Understanding nuances of prenatal development</li> </ul>

			<ul style="list-style-type: none"> <li>• Studying the characteristics of the neonate and the care of the neonate.</li> <li>• Highlights of development during infancy</li> </ul>
2	3rd Semester	GE 3A	<p>Psychological bases of Human Development:</p> <ul style="list-style-type: none"> <li>• Developing an understanding about Intelligence – Definition of intelligence, nature of intelligence</li> <li>• Knowledge about the origins of intelligence testing and different types of intelligence tests.</li> <li>• Acquainting the students with definition of emotion, adaptive functions of emotion,</li> <li>• Developing an understanding of basic emotions of fear, anger and love</li> <li>• Knowledge about universal aspects of emotions.</li> <li>• Gaining knowledge about definition and various influencing factors of personality.</li> <li>• Gaining a clear knowledge about the role of social norms in personality development.</li> <li>• Detailed understanding of different tests of personality.</li> <li>• Understanding the process of Socialization- Definition and various agencies of socialization.</li> <li>• Understanding gender differences in socialization.</li> </ul>

➤ **Department of Chemistry (offered as GE courses)**

Sl. No.	Semester	Paper	Course Outcome
1	1st Semester	GE-1	Students will learn the basic concepts of Kinetic Theory of Gases and Real gases, Liquids, Chemical Kinetics, Atomic Structure, Chemical Periodicity and Acids and bases. The students will also gain understanding about the Fundamentals of Organic Chemistry i.e. Stereochemistry, Nucleophilic Substitution and Elimination Reactions. The Practical syllabus of this paper includes different types of estimation using the knowledge of acid-base titration, permanganometry, dichromatometry and iodometry.
2	2nd Semester	GE-2	Students will get basic knowledge from the chapters of physical chemistry e.g., chemical thermodynamics, chemical equilibrium, solutions, phase equilibria & solids. Syllabus will also provide some important chemistry of aliphatic hydrocarbons, redox reactions, some basic concept of error analysis & computer applications. The Practical syllabus of this paper set the experiments regarding the study of kinetics, viscosity, surface tension, solubility of sparingly soluble salt and pH of buffer solutions.
3	3rd Semester	GE-3	In this course students will learn mainly inorganic chemistry consisting of chemical bonding, comparative study of p block elements, transition elements (3d series) and coordination chemistry. In addition, this course provides few chapters of physical chemistry and organic chemistry. Students will learn the qualitative semi-micro analysis of mixtures containing two radicals in this course.
4	4th Semester	GE-4	Students will learn organic chapters as a major part of the syllabus comprising alcohol, phenol, ethers, carbonyl compounds, carboxylic acids, amines, amino acids and carbohydrates. In addition, one chapter from inorganic chemistry like crystal field theory and another chapter from physical chemistry e.g., quantum chemistry & spectroscopy are included in this course. In GE-4 practical students will learn the qualitative analysis of single organic compounds and identification of a pure solid/liquid organic compound.

➤ **Department of Physics (offered as GE courses)**

Sl. No.	Semester	Paper Code	Name of the Course	Outcome
1	1st Semester	GE-I	Mechanics	This course is designed to provide a complete knowledge on Mechanics, which includes Newtonian mechanics, rotational motion, oscillations, gravitation, elasticity and surface tension. The students develop knowledge on mathematical tools required to study theoretical and experimental physics and learn the basic tools like vectors, matrices, how to solve the differential equations etc.
2	2nd Semester	GE-2	Electricity and Magnetism	This course helps student to gain information and understanding of the phenomena of electricity and magnetism which is enormously important for various engineering applications. They learn about fundamental properties of charged particles and electric fields, Ferro-magnetism, magneto statistics, magnetic vector potential, electro statistics, electromagnetic induction and electrodynamics.

➤ **Department of Mathematics (offered as GE courses)**

Sl. No.	Semester	Course Code	Course Outcomes
1	3 <sup>rd</sup> semester	MTM-G-GE-3-3-TH and MTM-G-GE-3-3-TU (Integral Calculas)	Upon successful completion of this course, students will be able to do Limit of a sum, reduction formula. They learn different properties of Beta and Gamma functions and application of integration.
		MTM-G-GE-3-3-TH and MTM-G-GE-3-3-TU (Numerical Methods)	Students will able to know basic concepts of operators $\Delta$ , $E$ , $\nabla$ . Solve different interpolation problems using Newton forward formula and Newton backward formula. Solved definite integral using Simpson's 1/3, trapezoidal rule. They also solved numerical equation by Bisection method, Newton – Raphson method.
		MTM-G-GE-3-3-TH and MTM-G-GE-3-3-TU (Linear Programming)	Students will have the knowledge and skills to formulate a given simplified description of a suitable real-world problem as a linear programming model in general, standard and canonical forms. Solve a two-dimensional linear programming problem graphically. Use the simplex method to solve small linear programming problem by hand, Reduction of basic feasible solution from feasible solution. The transportation model can be defined as the determination of only one commodity that is being transported from one destination to various locations.

2	4 <sup>th</sup> semester	MTM-G-GE-4-4-TH and MTM-G-GE-4-4-TU (Algebra-II)	This course will enable the students to learn Group, its properties and examples, Subgroup, it's properties and examples. Learn the definition of Ring, Subring, Field and their properties and theorems in the Ring Theory and in Linear Algebra, the fundamentals of vector Space, Eigen Values, Eigen Vectors.
		MTM-G-GE-4-4-TH and MTM-G-GE-4-4-TU (Computer Science & Programming)	Learn to write the computer programming of the numerical methods, decision making problem in Fortran, fundamentals of Computer Science and Boolean Algebra.
		MTM-G-GE-4-4-TH and MTM-G-GE-4-4-TU (Probability & Statistics)	Students determine whether two events are mutually exclusive and whether two events are independent. They understand continuous probability density functions and probability mass function in general, recognize the standard normal probability distribution and apply it appropriately. They learn hypothesis testing in general and in practice. They also learn linear regression and correlation.