PROGRAM OUTCOMES, PROGRAM SPECIFIC OUTCOMES AND COURSE OUTCOMES

	DEPAPRTMENT OF BENGALI
COURSE	**COURSE OUTCOMES**
Semester-I	History of Bengali literature (old and medieval period): It forms an initial basic knowledge of Bengali literature on which modern literature stands.
Core Course-1-2	Modhyojuger kobita: a) (Boishnav Padabolee) b) Shakto padabolee: It gives us a basic concept of medieval poetry which leads the Bengali poetic world towards Renaissance and romantic era.
Semester-II	History of Sanskrit and English literature: Sanskrit and English both are Ancient languages. To create an idea of these two forms of literature on which the Bengali literature depends, a comparative study is necessary.
Core Course-3-4	History of Bengali language: as language is the cradle of literature, evolution of Bengali language is required to be known, understanding the origin and development of Bengali language up to the modern age.
Semester-III	Mongol Kabya O Chorit Sahitya: a) Chandi Mongol b) Chaitannya Bhagobat : It enhances the knowledge of the socio economic and political background in the medieval era of Bengali literature, which depends on Spiritual belief.
Core Course-5-7	Chhanda-Alonkar: It helps to know the different forms to compose and create the Bengali poetry.
	Unish Shataker Kabyo: It gives an idea of Bengali literature in the beginning of the modern age after Renaissance.
SEC-1	Bangla Byakaran: It creates a primary conception of Bengali language.
Semester-IV	Unish Shataker Natok: It portrays the social picture of the post Renaissance period.
Core Course-8-10	Bish Shatoker Natok: Twentieth century is a time of individualism. So it reveals the picture of the modern age through allegory in the pre and post-Independence era.
	Unish Bish Shatoker Uponyas: As novel is the mirror of the society, so it shows the transformation of the social life during 100 years.
SEC-2	Byaboharik Bangla Charcha: It helps the general idea of our daily life, which assists the students to communicate the Bengali teaching in practical life.
Semester-V	Unish Bish Shatoker kabita: a) Sanchayita b) Adhunik kabita: It brings out how the two world wars change the realization of an individual in his own poetic imagination.
Core Course-11-12	Adhunik Bangla Uponyas: a) Srikanta b) Aranyak: it exposes the socio economic condition through the modern Bengali novel.
DSE-3	Tara Shankar And Manik Bandhyapadhyay- er Chhoto Galpo: It reveals the Universal communication of mankind.

DSE-5	Bangla Probondho Nibandho: It helps to learn the theory of Bengali literature. It also shows the social crisis in our society.
Semester-VI	Bangla Chhoto Golpo: a) Golpo Guchho b) Ekaler Golpo: It portrays the picture of the whole Bengali society in various aspects of life.
Core Course-13-14	Sahitya Tatwo: a) Kabyo Jignasa b) Sahityer rup O Reeti: It helps to learn various theories of literature with the help of Sanskrit and English.
DSE-3	Patra Sahitya O Atmo jivanee: a) Chinna patra b)Jokhon Choto Chilam: It helps to unfold own selves of Rabindranath Thakur and Satyajit Ray.
DSE-5	Lok Sanskriti O Lok Sahitya: It defines the cultural heritage of Folk community of Bengal

PROGRAM OUTCOMES, PROGRAM SPECIFIC

OUTCOMES AND COURSE OUTCOMES

	B. Sc. Botany (H)
Programme Outcomes	**A. Knowledge and understanding of:** 1. The plant diversity in terms of structure, function and environmental relationships. 2. The evaluation of plant diversity and its classification. 4. The role of plants in the functioning of the global ecosystem. 5. Scope of study more specialized optional topics. 6. Application of statistics in biological data. **B. Intellectual skills development** 1. Think logically and organize tasks into a structured form. 2. Gather knowledge and ideas through the use of internet. 3. Transfer of appropriate knowledge and methods from one topic to another within the subject. 4. Understand the evolving state of knowledge in a rapidly developing field. 5. Construct and test hypothesis. **C. Practical skills: Students learn how to carry out practical work in laboratory and field.** 1. Interpreting plant morphology and anatomy. 2. Plant identification by taxonomic key. 3. Vegetation analysis techniques. 4. Physiochemical analyses of plant parts 5. Analyze data using appropriate statistical methods and software. 6. Plant pathology to be added for sharing of field and lab data obtained.

	D. Transferable skills: 1. Learn how to use of IT (Internet, statistical software and databases). 2. Communication of scientific ideas. 3. Ability to work as part of a team. 4. Ability to use library resources. 5. Time management. 6. Career planning. **E. Scientific Knowledge:** Apply the knowledge of basic science, life sciences and fundamental process of plants to study and analyze any plant form. **F. Problem analysis**: Identify the taxonomic position of plants, formulate the research literature, and analyze non reported plants with substantiated conclusions using first principles and methods of nomenclature and classification in Botany. **G. Design/development of solutions**: Design solutions from medicinal plants for health problems, disorders and disease of human beings and estimate the phytochemical content of plants which meet the specified needs to appropriate consideration for the public health **H. Conduct investigations of complex problems**: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and development of the information to provide valid conclusions. **I. Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern instruments and equipments for Biochemical estimation, Molecular Biology, Biotechnology, Plant Tissue culture experiments, cellular and physiological activities of plants with an understanding of the application and limitations. **J. The Botanist and society**: Apply reasoning informed by

	the contextual knowledge to assess plant diversity, its importance for society, health, safety, legal and environmental issues and the consequent responsibilities relevant to the biodiversity conservation practice. **K. Environment and sustainability**: Understand the impact of the plant diversity in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development. **L. Ethics:** Apply ethical principles and commit to environmental ethics and responsibilities and norms of the biodiversity conservation. **M. Individual and team work**: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings. **N. Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions. **O. Project management and finance**: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments. Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.
Course	**Outcomes** 1. Evaluation of ideas and arguments by collecting relevant information about the plants, so as recognize the position of

	plant in the different classification system. 2. Identify problems and independently propose solutions using creative approaches, acquired through interdisciplinary experiences, and a depth and breadth of knowledge/expertise in the field of Plant Identification. 3. Accurately interpretation of collected information and use taxonomical information to evaluate and formulate a position of plant in taxonomy. 4. Students will be able to apply the scientific method to questions in botany by formulating testable hypotheses, collecting data that address these hypotheses, and analyzing those data to assess the degree to which their scientific work supports their hypotheses. 5. Students will be able to present scientific hypotheses and data both orally and in writing in the formats that are used by practicing scientists. 6. Students will be able to identify the major groups of plants and be able to classify them within a common phylogenetic tree. Students also able to compare the characteristics of different plants groups. 7. By using comparative biology students will be able to explain the theory of evolution on earth. 8. Students will be able to understand how Plants function at the level of the gene, genome, cell and tissue. On the basis upon this knowledge, they will be able to cite specific examples of the adaptations, development, reproduction and mode of life cycle by different plants. 0. Students will be able to explain the ecological relationship of life on earth by learning energy flow through the environment. They will be able to correlate the physical properties of the environment with the populations, communities and ecosystems. 10. Students will be able to demonstrate effectively in the

	experimental techniques and methods of analysis appropriate for their area of specialization.
Programme Specific Outcomes	**Course Outcomes of B.Sc. Botany**
Phycology and Microbiology	• Develop the concept of microbial nutrition • Classify viruses based on their characteristics. • Develop basic understanding of plant diseases and their control. • Understand the general characteristics of bacteria and their genetic recombination • Increase the awareness of beneficial and harmful viruses, bacteria, algae.
Biomolecules and Cell Biology	• Develop understanding the chemical structure of different Biomolecules. • Acquire the general ideas of chemical composition and structure of cell wall and membrane • Classify the enzymes and explain mechanism of action and structure • Compare the structure and function of cells. • Describe the relationship between the structure and function of biomolecules
Mycology and Phytopathology	• Identify true fungi and demonstrate the principles and application of plant pathology. • Demonstrate skills in laboratory, field and glasshouse work related to mycology and plant pathology. • Develop an understanding of microbes, fungi and lichens and appreciate their adaptive strategies • Identify the common plant diseases and its control measures
Archegoniatae: Bryophytes, Pteridophytes, Gymnosperms	• Comparative knowledge to understanding archegoniatae, Bryophytes, Pteridophytes and Gymnosperms in respect of morphology, anatomy and reproduction. • Understanding of plant evolution and their transition to land habitat. • Demonstrate proficiency in the experimental techniques and methods of appropriate analysis of Bryophytes, Pteridophytes, Gymnosperms

Anatomy of Angiosperms	• Develop an understanding of primary and secondary structure of plants. • Examine the internal anatomy of plant systems and organs. Develop critical understanding on the evolution of concept of organization of shoot and root apex. • Analyze the composition of different parts of plants and their relationships • Evaluate the adaptive and protective tissue systems of plants
Morphology and Reproductive Biology of Angiosperms	• To know about different plants organ like root, stem and leaves and their importance. • Recall the history of reproductive biology of angiosperms & recognize the importance of genetic and molecular aspects of flower development • Understand structure and functions of anther wall and pollen wall • Evaluate the special structures of Ovule • Solve Self-incompatibility in Pollination and fertilization & relate between Embryo, Endosperm and Seed • Comprehend the causes of Polyembryony and apomixes with its classification • To learn structure and function of pollen and its role in fertilization, forensic science, melisso palynology.
Plant Systematics	• Classify Plant systematics and recognize the importance of herbarium and Virtual herbarium • Evaluate the Important herbaria and botanical gardens • Interpret the rules of ICN in botanical nomenclature • Assess terms and concepts related to Phylogenetic Systematics • Generalize the characters of the families according to Bentham & Hooker's system of classification
Plant Ecology and Phytogeagraphy	• Understand concepts of biotic and abiotic component of ecosystem • Classify the soils on the basis of physical, chemical and biological components • Analysis the phytogeography or phytogeographical division of India • Evaluate energy sources of ecological system • Assess the adaptation of plants in relation to light, temperature, water, wind and fire. • Conduct experiments using skills appropriate to

	subdivisions
Economic Botany and Pharmacognosy	• Understand core concepts of Economic Botany and relate with environment, populations, communities, and ecosystems • Develop critical understanding on the evolution of concept of organization of apex new crops/varieties, importance of germplasm diversity, issues related to access and ownership • Develop a basic knowledge of taxonomic diversity and important families of useful plants • Increase the awareness and appreciation of plants & plant products encountered in everyday life. • Appreciate the diversity of plants and the plant products in human use. • To know about medicinal properties and uses of plants by folklore and ayurveda system.
Agronomy	• Understand the concept of agronomy and sustainable agriculture. • Analyze different aspects diversified agriculture and farm enterprises, production technology of vegetation and flowers. • Examine the implications integrated farming system along with production economics and farm management • Evaluate the IT communication and diffusion of agricultural innovation
Plant Physiology and Metabolism	• Understand Water relation of plants with respect to various physiological processes. • Understand about macro and micro nutrient and their deficiency symptoms. • Explain the significance of Photosynthesis and respiration • Assess dormancy and germination in plants • To acquire adequate knowledge about translocation in plants, carbon dioxide concentrating mechanisms, growth regulators and flowering of plants.
Cytology and Genetics	• Have conceptual understanding of laws of inheritance, genetic basis of loci and alleles and their linkage. • Comprehend the effect of chromosomal abnormalities in numerical as well as structural

	changes leading to genetic disorders. • Develop critical understanding of chemical basis of genes and their interactions at population and evolutionary levels.
Molecular Biology	• Analyse the structures and chemical properties of DNA and RNA through various historic experiments. • Differentiate the main types of prokaryotes through their grouping abilities and their characteristic • Evaluate the experiments establishing central dogma and genetic code. • Understanding the process of protein synthesis and protein modification.
Plant Biotechnology and Genetic Engineering	• Understand the core concepts and fundamentals of plant biotechnology and genetic engineering • Critically analyze the major concerns and applications of transgenic technology • To learn about gene cloning, recombinant DNA technology and bioinformatics includes recent biotechnological advancement related to genomics and proteomics. • Acquire the knowledge about gene transfer and applications of biotechnology. • Acquire the knowledge about tissue culture techniques, restriction digestion, isolation and electrophoresis of plasmid DNA.

B.Sc. Chemistry Honours

Course Outcome:

Semester	Paper	Subject	Topics	Outcome	Remarks
I	BCHEM 0101	Inorganic I (Th)	1. Atomic Structure and Nuclear Chemistry 2. Periodic Table and Periodic Properties 3. Chemical Bonding in Covalent Compounds 4. Molecular Orbital Theory	Gives comprehensive ideas about the basics of inorganic chemistry, MO theory, particularly the molecular orbital of polyatomic molecules are interesting for the beginners.	
	BCHEM 0102	Organic I (Th)	1. Classification and nomenclature 2. Structure, bonding and properties of organic molecules; Organic acids and bases 3. Organic reaction mechanism 4. Nucleophilic substitution 5. Stereochemistry	Gives comprehensive ideas about the basics of organic chemistry, The areas- mechanism and stereochemistry help in developing a sound knowledge about organic chemistry.	
II	BCHEM 0201	Physical Chemistry I (Th)	1. Properties of gas 2. Thermodynamics I 3. Properties of fluids	Gives comprehensive ideas about the basics of physical chemistry, The areas- gas and thermodynamics help in developing a sound knowledge about physical chemistry.	
	BCHEM 0202	Physical Chemistry I (Lab)	1. Surface Tension 2. Viscosity		

	BCHEM 0203 BCHEM 0204	Organic Chemistry II (Th) Organic Chemistry II (Lab)	1. Stereochemistry II 2. Elimination reactions 3. Addition reactions 4. Nucleophilic addition to carbonyl group Org Qualitative and derivative preparation	The students are enriched with substantial knowledge of name reactions and synthesis	
III	BCHEM 0301 BCHEM 0302 BCHEM 0303 BCHEM 0304 BCHEM 0305 BCHEM 0306 BCHEM 0307	Inorganic Chemistry II (Core V) Inorg Lab Organic Chemistry III (Core VI) Org Lab Physical Chemistry II (Core VII) Physical Chem Lab Industrial Chemistry	1. Chemistry of s and p block elements 2. Acids and bases Qualitative analysis 1. Molecular rearrangements 2. Aromatic Electrophilic Substitution 3. Synthesis Org Quantitative 1. Thermodynamics II 2. Statistical Thermodynamics 3. Chemical Kinetics 4. Ionic Equilibrium 5. Solids 1. Hydrogen Peroxide decomposition 2. Solubility Product Water, Electrochemical and electrothermal industries, Ceramics, Rusting in iron and steel, Industrial Safety and Fire Protection, Pollution	The students are made aware of the recent trends in chemistry of elements and their compounds as well as about acids and bases. It gives a complete profile of synthetic methodology and name reactions. The students get a thorough knowledge of the mentioned areas of the topics. The candidate gets a good knowledge about the fundamental areas of industrial chemistry Enlights the students with drug discovery, design and development	

	BCHEM 0308	Pharmaceutical Chemistry	Drugs and pharmaceuticals, Fermentation		
IV	BCHEM 0401	Inorganic Chemistry III (Core VIII)	1. d and f blocks 2. Coordination Chemistry I	The students have a difficulty in understanding transition metal chemistry without the proper knowledge of Coordination Chemistry II, however the problem can be sorted out with collective efforts from students and Teachers.	
	BCHEM 0402	Inorg Lab	Preparation	Students get a sound knowledge	
	BCHEM 0403	Organic Chemistry IV (Core IX)	1. Heterocyclic compounds 2. Alicyclic compounds 3. Amino acids and proteins 4. Carbohydrates 5. Alkaloids and Terpenoids	of natural products chemistry	
	BCHEM 0404	Org Lab	Identification of some compounds	Helps in developing knowledge of	
	BCHEM 0405	Physical Chemistry III (Core X)	1. Chemial Equilibrium 2. Electrochemistry 3. Chemical Kinetics II 4. Interface and dielectrics	electrochemistry and interface chemistry	
	BCHEM 0406	Physical Lab	1. Equilibrium constant 2. Conductometry 3. Potentiometry	Students are made aware of a relatively new area	
	BCHEM 0407	Cosmetics and Perfumes	Preparation and uses	The students get knowledge of sources and uses of conventional fuels, alternative sources	
	BCHEM 0408	Fuel Chemistry	Energy sources, Petroleum and petrochemical industry, Lubricants		
V	BCHEM 0501	Organic Chemistry V (Core XI)	1. Methodology in organic synthesis 2. Pericyclic reactions 3. Spectroscopy	Candidate get knowledge about how to use modern techniques to	

				elucidate structures	
	BCHEM 0502	Org Lab	Preparation	Students acquire	
	BCHEM 0503	Inorganic Chemistry IV (Core XII)	1. Redox Processes 2. Bioinorganic Chemistry 3. Organometallic compounds	lessons about functioning of different metallo proteins and metalloenzymes	
	BCHEM 0504	Inorg Lab	Volumetric analysis	Enthusiasm will be created among the	
	BCHEM 0505	DCE	Green Chemistry	students about this new branch of chemistry particularly regarding eco-friendly synthetic routes	
	BCHEM 0506	DCE	Environmental Chemistry	Students can learn about environmental pollution and their remedial measures	
	BCHEM 0507	DCE	Solid StateChemistry	The basic principles regarding structures, crystallographic studies are developed	
VI	BCHEM 0601	Inorganic Chemistry V(Core XIII)	1. Coordination Chemistry 2. Analytical Chemistry	Helps in developing thorough knowledge about metal-ligand bonding and how to treat analytical data	
	BCHEM 0602	Inog Lab	Estimation of binary mixture, gravimetric analysis	The students are briefed about these areas with strong mathematical reasoning	
	BCHEM 0603	Physical Chemistry IV (Core XIV)	1. Phase rule and colligative properties 2. Symmetry, group theory		
	BCHEM 0604	Physical Lab	3. Quantum Chemistry	Gives basic idea of synthesis, properties and	
	BCHEM	DCE			

	0605 BCHEM 0606 BCHEM 0607	 DCE DCE	4. Photochemistry Saponification, Ostwald dilution law, pK value Nanochemistry Dynamic stereochemistry Quantum Chemistry and Spectroscopy	applications of nanomaterials Gives comprehensive idea about stereoselectivity, stereospecificity, and stereochemical aspects of organic reactions Gives a complete understanding about alkali metal spectra, molecular spectroscopy and quantum mechanics	

Programme Outcome	Students will demonstrate an understanding of major concepts in all disciplines of chemistry. Students will employ critical thinking and the scientific method to design, carry out, record and analyze the results of chemical experiments and get an awareness of the impact of chemistry on the environment, society, and other cultures outside the scientific community.
Programme Specific Outcome	The ability to explain chemical nomenclature, structure, reactivity, and function in their specific field of chemistry. The design and execution of the experiment should demonstrate an understanding of good laboratory and the proper handling of chemical waste streams and also explain how the applications of Chemistry relates to the real world.

BANWARILAL BHALOTIA COLLEGE, ASANSOL

DEPARTMENT OF COMMERCE

(EVENING SHIFT)

CRITERIA 2.6.1

PROGRAM OUTCOMES, PROGRAM SPECIFIC OUTCOMES, COURSE OUTCOMES

Program Objectives and Course Outcomes for B.Com (Honours)

Program	Program Objectives	Program Specific Objectives
B.Com. (Honours)	B.Com (Hons.) Programme aims to equip students with the knowledge, skills and attitude to meet the challenges of the modern-day business organizations. The curriculum of B.Com. (Hons.) Degree provides a carefully selected subject combination of Accounting, Economics, Finance, Management, Tax, Marketing and Law etc. The programme aims to nurture the students in intellectual, personal, interpersonal and social skills with a focus on Holistic Education and development to make informed and ethical decisions and equips graduates with the skills required to lead management position. This programme brings out reflective and scientific thinking in the students which makes them inquisitive and curious to get deep	**PSO1:** The curriculum planning of B.Com. (Hons.) Course envisages the students demonstrating inclusive knowledge of the areas related to finance, human resource management, marketing, international business, corporate and business laws, accounting and taxation etc. The students will be made capable of using modern ways and means of dealing with issues arising in the dynamic business world and will also help them tackle the resistance.
		PSO2: The graduates of this programme will be trained to develop skills and attitudes needed for critical thinking and adopting a comprehensive problem solving approach. They shall be exposed to the pedagogy that helps them understand real life situations through case-studies. It aims at building the basic ability to think critically, evaluate dispassionately and solve complex problems creatively. The content is organized in such a way that the students would be able to think from diverse perspectives and suggest solutions according to their own sensibilities.

	insights of the business world and tackle the complex situations with much knowledge and wisdom.	**PSO3:** The teaching learning pedagogies used in the programme make the students capable enough to deliver and communicate information effectively with a mark.
		PSO4: The curriculum also inculcates in the young minds the qualities of teamwork, cooperation and solidarity which can be seen as a vision of the current business world though full of competition. The courses included in the programme teach the students to cultivate such characteristics keeping the larger societal goal in mind.
		PSO5 The courses also involve training the students to check unethical behaviour, falsification and manipulation of information in order to avoid debacles which can be seen rising persistently over the period of time. It would also help in making responsible citizens and facilitate character building
		PSO6: This course broadens the horizons of the students by making them understand the intricacies of the business world and overall the economics of the country as well as the world. This learning makes them inquisitive to raise concerns and act accordingly. The curriculum is designed in such a way that the students are driven to develop an attitude of life-long learning.
		PSO7: This programme enables the students to be technologically updated as it has courses like computerized accounting system, income tax return filing, GST return filing, stock market operation, and computer applications etc. which not only make them work using software but also makes them independent enough in this world of digitization. In all the courses, wherever applicable and possible, components related to technological changes have been incorporated which not only makes them digitally literate but also makes them

		aware of various cyber-crimes and how to take precautionary measures.
		PSO8: The courses of this programme give a global perspective to the students such that they will be able to integrate national values and beliefs with international culture and competence.
		PSO 9: This programme enables the student to analyze the situation objectively and give effective arguments and judgments on the basis of the analysis being done. This programme teaches the student how to move sequentially in order to solve a problem effectively.
		PSO 10: This programme enables the students to think of a given problem or situation from different Perspectives like economic, financial, social, national, global etc. and broadens the horizon of their thought processes. It not only helps the students add dimensions to its decision making but also in reaching to inclusive conclusions.

Course Outcomes for B.com (Hons.)

Courses		Course outcome
Semester-1	**Core Course-1** **Course Name**: **Financial Accounting** **Course Code: BCOMHC101**	CO1: understand the theoretical framework of accounting. CO2: learn the accounting system of Consignment Business CO3: learn accounting for hire purchase transactions and installment payment system CO4: understand the concept of Sectional and Self Balancing Ledgers CO5: understand the system of accounting for dissolution of a partnership firm in details
	Core Course-2 **Course Name**: **Business Law** **Course Code: BCOMHC102**	CO1: understand basic aspects of contracts for making the agreements, contracts and subsequently enter valid business propositions. CO2: recognize and differentiate the special contracts and identify their appropriate usage at varied business scenarios. CO3: understand the legitimate rights and obligations under The Sale of Goods Act CO4: apply their skills to initiate entrepreneurial ventures as LLP CO5: understand the fundamentals of Internet based activities under the Information and Technology Act.
	GE-1 **Course Name**: **Micro Economics** **Course Code: BCOMHGE101**	CO1: understand the concepts of demand and supply and determination of equilibrium price through the interaction of market forces. CO2: analyze different approaches explaining the theoretical foundation of consumer behaviour. CO3: understand the concepts of cost, nature of production and its relationship to Business operations. CO4: understand the concepts of different market forms and to analyze short run and long run equilibrium conditions for different market forms. CO5: understand and analyze different theories related to determination of factor prices

Semester-II	**Core Course-III** **Course Name**: **Corporate Accounting** **Course Code: BCOMHC201**	CO1: develop an understanding of accounting for share capital and debentures CO2: prepare financial statements of a company CO3: develop an understanding of valuation of shares. CO4: understand the accounting for amalgamation and liquidation of companies CO5: prepare consolidated balance sheet for Holding company
	Core Course-IV **Course Name**: **Corporate Laws** **Course Code: BCOMHC202**	CO1: understand the regulatory aspects and the broader procedural aspects involved in different types of companies covering the Companies Act 2013 and Rules thereunder. CO2: follow the basic legal documents and their usage essential for operations and management of company. CO3: enable the students to synthesis company processes, meetings and decisions. CO4: equip the students with framework of dividend distribution and role of auditors in a company. CO5: comprehend and evaluate working of depositories and their functions in stock markets
	GE-2 **Course Name**: **Macro Economics** **Course Code: BCOMHGE201**	CO1: describe the nature and scope of Macro Economics, Income, Expenditure and their components and determinants. CO2: expose fiscal and monetary policy implications through IS-LM framework in short run and long run. CO3: comprehend the different theories of demand for money, supply of money approach and working of money multiplier. CO4: elucidate causes and effects of different types of inflation and trade-off between inflation and unemployment. CO5: describe the role of saving and investment in different size of economies on trade and exchange rate and rate of interest.
	Core Course-V **Course Name**: **Human Resource Management** **Course Code: BCOMHC301**	CO1: understand basic nature and importance of human resource management. CO2: analyze the current theory and practice of recruitment and selection. CO3: realize the importance of performance management system in enhancing employee performance.

Semester-III		CO4: recommend actions based on results of the compensation analysis and design compensation schemes that are cost effective, that increase productivity of the workforce, and comply with the legal framework. CO5: understand role of modern HRM in meeting challenges of changing business environment.
	Core Course-VI **Course Name**: **Income Tax Law and Practice** **Course Code: BCOMHC302**	CO1: understand the basic concepts in the law of income tax and determine the residential status of different persons. CO2: identify the five heads in which income is categorized and compute income under the heads Salaries 'and 'Income from House Property'. CO3: compute income under the head 'Profits and gains of business or profession', 'Capital gains' and 'Income from other sources'. CO4: understand clubbing provisions, aggregate income after set-off and carry forward of losses, and deductions allowed under the Income Tax Act; and further to compute taxable income and tax liability of individuals and firms. CO5: develop the ability to file online returns of income
	Core Course-VII **Course Name: Management Principles and Applications** **Course Code: BCOMHC303**	CO1: understand the evolution of management and apprehend its effect on future managers. CO2: analyze how organizations adapt to an uncertain environment and decipher decision making techniques managers use to influence and control the internal environment. CO3: comprehend the changes happening in organization structure over time. CO4: analyze the relationship amongst functions of management i.e. planning, organizing, directing and Controlling. CO5: appreciate the changing dynamics of management practice.
	GE-3 **Course Name: Business Statistics** **Course Code: BCOMHGE301**	CO1: acquire a fair degree of proficiency in comprehending statistical data, processing and analysing it using descriptive statistical tools. CO2: gather knowledge about various probability concepts and distributions and their business applications.

		CO3: understand the relationship between two variables using concepts of correlation and regression and its use in identifying and predicting the variables. CO4: develop an understanding of the index numbers and their utility in daily life and stock market. CO5: become aware of the patterns revealed by the time series data and to use it to make predictions for the future.
	SE-1 **Course Name: E-Commerce** **Course Code: BCOMHSE301**	CO1: understand the basics of E-commerce, current and emerging business models. CO2: familarize with basic business operations such as sales, marketing, HR etc. on the web. CO3: enhance the students' skills for designing and developing website. CO4: identify the emerging modes of e payment. C05: understand the importance of security, privacy, ethical and legal issues of ecommerce.
Semester-IV	**Core Course-VIII** **Course Name: Cost Accounting** **Course Code: BCOMHC401**	CO1: understand thoroughly the conceptual framework of Cost Accounting; identification of differences between different financial and cost accounting; cost concepts and elements of cost; preparation of cost sheet. CO2: understand the accounting and control of material and labour cost. CO3: develop ability to understand classification, allocation, apportionment and absorption of overheads in cost determination; under and over absorption of overheads; treatment of various item of overheads CO4: develop ability to calculate the cost of products, jobs, contracts, processes and services after understanding the basic concepts and processes involved in them. CO5: understand cost accounting book keeping systems and reconciliation of cost and financial account profits
	Core Course-IX **Course Name: Business Mathematics** **Course Code: BCOMHC402**	CO1: comprehend the concept of systematic processing and interpreting the information in quantitative terms to arrive at an optimum solution to business problems. CO2: develop proficiency in using different mathematical tools (matrices, calculus, linear programming, and mathematics of finance) in solving daily life problems.

		CO3: acquire competence to use computer for mathematical computations, especially with Big data. CO4: obtain critical thinking and problem-solving aptitude. CO5: evaluate the role played by mathematics in the world of business and economy.
	Core Course-X **Course Name: Computer Application in Business** **Course Code: BCOMHC403**	CO1: understand the various concepts and terminologies used in computer networks and internet and be aware of the recent developments in the fast changing digital business world. CO2: handle document creation for communication. CO3: acquire skills to create and make good presentations CO4: make various computations in the area of accounting and finance and represent the business data using suitable charts. S/He should be able to manipulate and analyze the business data for better understanding of the business environment and decision making CO5: understand and apply the various database concepts and tools in the related business areas with the help of suggested popular software.
	GE-3 **Course Name: Indian Economy** **Course Code: BCOMHGE401**	CO1: understand the basic features of Indian Economy CO2: Understand different issues of Indian agricultural sector and food security system prevailing in the country CO3: Address the issues of Industrial development of the country and to gauge the impact of impact of new industrial policy on industrial sector of the country CO4: conceptualize Indian Financial sector and address global issues related to economic development of the country CO5: Know about the Process of economic planning and its reforms in the context of Indian economy.
	SE-2 **Course Name: Entrepreneurship Development**	CO1: understand the concept of entrepreneurship in the context of Indian economic scenario. CO2: link the individual‘s capability and strength as a guiding factor towards entrepreneurial orientation.

	Course Code: BCOMHSE401	CO3: understand social support system for gaining strength towards entrepreneurial preferences. CO4: understand entrepreneurial process for initiating new venture creation. CO5: understand various dimensions of managing a business enterprise once it is formed.
Semester- V	**Core Course-XI** **Course Name: Principles of Marketing** **Course Code: BCOMHC501**	CO1: develop understanding of basic concepts of marketing, marketing philosophies and environmental conditions effecting marketing decisions of a firm. CO2: understand the dynamics of consumer behaviour and process of market selection through STP stages. CO3: understand and analyze the process of value creation through marketing decisions involving product development. CO4: understand and analyze the process of value creation through marketing decisions involving product pricing and its distribution. CO5: understand and analyze the process of value creation through marketing decisions involving product promotion and also to equip them with the knowledge of various developments in marketing area that may govern marketing decisions of a firm.
	Core Course-XII **Course Name: Fundamentals of Financial Management** **Course Code: BCOMHC502**	CO1 - explain the nature and scope of financial management as well as time value of money and risk return trade off. CO2 – analyze capital budgeting process and capital budgeting techniques. CO3 - estimate various capital structure theories and factors affecting capital structure decisions in a firm. CO4 - critically examine various theories of dividend and factors affecting dividend policy CO5 - evaluate working capital requirement
	DSE-1 **Course Name: Management Accounting** **Course Code: BCOMHACDSE501**	CO1: understand thoroughly the conceptual framework of Management Accounting; identification of differences between different forms of accounting—Financial, Cost and Managerial; distinction between cost control and cost reduction.

		CO2: understand the concept of marginal cost and marginal costing; preparation of income statements using absorption and variable costing; learningof cost-volume-profit analysis and break-even analysis using mathematical and graphical approaches; and the application in businesses.CO3: understand the concept of relevant and irrelevant costs and make decisions related to different business situations using marginal costing and differential costing techniques. CO4: understand budgetary control system as a tool of managerial planning and control; ability to prepare various types of budget. Ability to understand standard costing system as a tool of managerial control; calculation of variances in respect of each element of cost and sales; control ratios. CO5: understand management accounting issues of Responsibility accounting, Divisional performance Measurement and Transfer pricing.
	DSE-II **Course Name: Advanced Financial Accounting** **Course Code: BCOMHACDSE502**	CO1: develop understanding of basic concepts of Branch and departmental accounting and apply the techniques learnt for recording the transactions related to branches and departments of business organisations. CO2: Understand the basic concept and purpose of Investment accounting and Maintain systematic records of Investments made. Students will also learn the process of maintaining accounts for voyages. CO3: understand the concepts and need of having different accounting structure for local bodies and to apply the techniques of accounting in practical field . CO4: understand and analyze the process of ascertaining insurance claims for loss of stock and loss of profit policies. CO5: understand different concepts of accounting for royalties and to apply the accounting process in practical field. Students will also learn the accounting process for sale on approval system.
	DSE-III **Course Name: Accounting Theory**	CO1: Develop understanding of basic concepts of accounting theory and practice.

	Course Code: BCOMHACDSE503	CO2: Understand the basic concept and purpose accounting concepts and conventions. CO3: understand the concepts related to accounting income and its measurement. CO4: understand and analyze the different concepts of capital and its relation to income, financial statement and its limitations CO5: understand different concepts of assets and liabilities, their recognition criterion and need for their valuation.
Semester- VI	**Core Course-XIII** **Course Name: Auditing and Corporate Governance** **Course Code: BCOMHC5601**	CO1: differentiate between different aspects of auditing especially for internal check, internal control and for overall corporate governance. CO2: understand the concept of corporate governance in organisations and its essence for management. CO3: provide and assimilate information leading to failure of organisation and corporate scams. CO4: comprehend the governance framework for an organisation provided by different regulatory bodies in India and Abroad. CO5: understand the corporate governance framework in India.
	Core Course-XIV **Course Name: Indirect Tax Laws** **Course Code: BCOMHC602**	CO1: connect with the genesis of goods and services tax (GST), decipher the constitutional amendment carried out to install GST in India and comprehend the composition and working of GST council. CO2: understand the meaning of supply under GST law, differentiate between intra-state and inter-state supply, comprehend rules related to the place of supply and compute the value of supply. CO3: comprehend the utilization of input tax credit, and the reverse charge mechanism of paying GST and to know the procedure for claiming refund under GST law. CO4: understand the provisions for registration under GST along with special provisions such as those related to anti profiteering; avoidance of dual control; e-way bills and penalties. CO5: know the basic concepts of Customs Act and to compute the assessable value for charging customs duty

	DSE-IV **Course Name: Corporate Reporting** **Course Code: BCOMHACDSE601**	CO1: understand the basics of corporate reporting and its role in business world. CO2: understand the conceptual framework of corporate reporting and different principles underlying corporate reporting. CO3: understand different Indian accounting standards and their importance. CO4: understand different aspects of IFRS and its convergence with Indian accounting standards. CO5: understand the basics of revenue and liabilities-based accounting standards and also about some other related accounting standards in India.
	DSE-V **Course Name: Advanced Cost accounting** **Course Code: BCOMHACDSE602**	CO1.conceptualize different aspects of marginal costing and its difference with other costing techniques and apply different tools of marginal costing in taking appropriate decisions. CO2: Understand the concepts of standard costing and variance analysis and measure relevant deviations. CO3: understand the concepts and applications of process costing. CO4: understand the concepts of uniform costing, make inter firm comparison with relevant tools and understand the concepts of operating costing and its application in selected areas of operation. CO5: understand the concepts and different aspects of cost audit.
	DSE-VI **Course Name: Computerized Accounting** **Course Code: BCOMHACDSE603**	CO1.To know the basics of ERP and its application. CO2: Understand the concepts and applications of computerized inventory management. CO3: understand different aspects of recording day to day transactions in ERP. CO4: understand the process of computerized receivables and payables management. CO5: understand the concepts of management information system and its applications in ERP.

Program Objectives and Course Outcomes for B.com (Program)

Program	Program Objectives	Program Specific Objectives
B.com (Program)	B.Com (Program) offers a deep dive into various facets of commerce and business. The curriculum of this programme provides a carefully selected subject combination of Accounting, Management, Tax, Finance, Marketing and Law. The programme will be able to make the students blend theoretical concepts with practice, furthering students with a better skillset and a fresh perspective. This programme will be able to give insight to the students of the day to day commercial procedures for becoming good leaders and assets for an organization.	**PSO1:** The curriculum planning of B.Com (Program) envisages the students demonstrating fundamental knowledge of the areas related to finance, accounting, human resource management, international business, corporate and business laws, taxation, marketing etc. The students will be made capable of evaluating diverse perspectives provided by the prism of these areas and a comprehensive picture of business situations, using modern ways and means of dealing with issues arising in the dynamic business world.
		PSO 2: The teaching learning pedagogies used in the programme will make the students capable enough to deliver and communicate information pertaining to business effectively.
		PSO 3: The programme involves acquainting the students with problem solving techniques by providing them with real life situations through case-studies. The students shall be able to develop better sense of problem solving after going through the courses.
		PSO 4: The courses offer opportunity for students to develop analytical reasoning through their active participation and involvement in teaching-learning process as envisioned in the student centric approach.
		PSO 5: The curriculum also inculcates in the young minds the qualities of teamwork, cooperation and solidarity which can be seen as a vision of the current business world. They shall be able to gain insight into the need to balance the aspects of collaboration and competition for healthier delivery to society whose hallmark currently is fierce competition. The courses included in the programme teach the students to

		cultivate such characteristics keeping the larger societal welfare and sustenance in mind
		PSO 6: The courses make them understand the need of the current business world and make them capable to view different aspects and dimensions from global perspective. The courses are designed in such a way that the learners are encouraged to seek deeper understanding of issues and develop research ability.
		PSO 7: The courses also involve training the students to check unethical behaviour, falsification and manipulation of information in order to avoid debacles which can be seen rising persistently over the period of time.
		PSO 8: The programme shall be able to inculcate management skills like teamwork, cooperation, motivation and leadership etc. that help build the character of a future employee and facilitate him/her in inspiring others in an organisation. The courses would be able to make the students capable of handling present complexities and future challenges.

Course Outcome for B.Com (Program)

Courses		Course outcome
Semester-1	**Core Course-1** **Course Name**: **Financial Accounting** **Course Code: BCOMPC101**	CO1: understand the theoretical framework of accounting. CO2: learn the accounting system of Consignment Business CO3: learn accounting for hire purchase transactions and installment payment system CO4: understand the concept of Sectional and Self Balancing Ledgers CO5: understand the system of accounting for dissolution of a partnership firm in details
	Core Course-II **Course Name**: **Business Oraganisation and Management** **Course Code: BCOMHP102**	CO1: understand the foundation of Indian Business. CO2: explain and determine different types of Business Enterprises. CO3: learn managing styles of Organization. CO4: understand the concepts of Leadership, Motivation and Control. CO5: learns different functional areas of Management
Semester-II	**Core Course-III** **Course Name**: **Business Law** **Course Code: BCOMPC201**	CO1: understand basic aspects of contracts for making the agreements, contracts and subsequently enter valid business propositions. CO2: recognize and differentiate the special contracts and identify their appropriate usage at varied business scenarios. CO3: understand the legitimate rights and obligations under The Sale of Goods Act CO4: apply their skills to initiate entrepreneurial ventures as LLP CO5: understand the fundamentals of Internet based activities under the Information and Technology Act
	Core Course-IV	CO1: comprehend the concept of systematic processing and interpreting the information in quantitative terms to arrive

	Course Name: **Business Mathematics and Statistics** **Course Code: BCOMPC202**	at an optimum solution to business problems. CO2: develop proficiency in using different mathematical tools (matrices, calculus, linear programming, and mathematics of finance) in solving daily life problems. CO3: acquire competence to use computer for mathematical computations, especially with Big data. CO4: obtain critical thinking and problem-solving aptitude. CO5: evaluate the role played by mathematics in the world of business and economy.
Semester-III	**Core Course-V** **Course Name**: **Company Law** **Course Code: BCOMPC301**	CO1: understand the regulatory aspects and the broader procedural aspects involved in different types of companies covering the Companies Act 2013 and Rules thereunder. CO2: follow the basic legal documents and their usage essential for operations and management of company. CO3: enable the students to synthesis company processes, meetings and decisions. CO4: equip the students with framework of dividend distribution and role of auditors in a company. CO5: comprehend and evaluate working of depositories and their functions in stock markets.
	Core Course-VI **Course Name**: **Income Tax Law and Practice** **Course Code: BCOMPC302**	CO1: understand the basic concepts in the law of income tax and determine the residential status of different persons. CO2: identify the five heads in which income is categorised and compute income under the heads "Salaries" and "Income from House Property" CO3: compute income under the head "Profits and gains of business or profession", Capital gains' and "Income from other sources" CO4: understand clubbing provisions, aggregate income after set-off and carry forward of losses, and deductions allowed

		under the Income Tax Act; and further to compute taxable income and tax liability of individuals and firms. CO5: develop the ability to file online returns of income.
	SE-1 **Course Name: Computer Application in Business** **Course Code: BCOMPSE301**	CO1: understand the various concepts and terminologies used in computer networks and internet and be aware of the recent developments in the fast changing digital business world. CO2: handle document creation for communication. CO3: acquire skills to create and make good presentations CO4: make various computations in the area of accounting and finance and represent the business data using suitable charts. S/He should be able to manipulate and analyze the business data for better understanding of the business environment and decision making. CO5: understand and apply the various database concepts and tools in the related business areas with the help of suggested popular software.
Semester-IV	**Core Course-VII** **Course Name: Corporate Accounting** **Course Code: BCOMPC401**	CO1: develop an understanding of accounting for share capital and debentures. CO2: prepare financial statements of a company. CO3: develop an understanding of valuation of share. CO4: understand the accounting for amalgamation and liquidation of companies. CO5: prepare consolidated balance sheet for Holding company.
	Core Course-VIII **Course Name: Indirect Tax Law and Practice** **Course Code: BCOMPC402**	CO1: connect with the genesis of goods and services tax (GST), interpret the constitutional amendment carried out to install GST in India and comprehend the composition and working of GST council. CO2: understand the meaning of supply under GST law, differentiate between intra-state and inter-state supply, comprehend rules related to the place of supply and compute the value of supply. CO3: comprehend the utilization of input tax credit, and the reverse charge mechanism of paying GST and to know the

		procedure for claiming refund under GST law. CO4: understand the provisions for registration under GST along with special provisions such as those related to anti-profiteering; avoidance of dual control; e-way bills and penalties. CO5: know the basic concepts of Customs Act and to compute the assessable value for charging customs duty
	SE **Course Name: E-Commece** **Course Code: BCOMPSE401**	CO1: understand the basics of E-commerce, current and emerging business models. CO2: familarize with basic business operations such as sales, marketing, HR etc. on the web. CO3: enhance the students' skills for designing and developing website. CO4: identify the emerging modes of e payment. C05: understand the importance of security, privacy, ethical and legal issues of e-commerce
Semester-V-	**DSE** **Course Name: Management Accounting** **Course Code: BCOMPACDSE501**	CO1: understand thoroughly the conceptual framework of Management Accounting; identification of differences between different forms of accounting—Financial, Cost and Managerial; distinction between cost control and cost reduction. CO2: understand the concept of marginal cost and marginal costing; preparation of income statements using absorption and variable costing; learning of cost-volume-profit analysis and break-even analysis using mathematical and graphical approaches; and the application in businesses. CO3: understand the concept of relevant and irrelevant costs and make decisions related to different business situations using marginal costing and differential costing techniques. CO4: understand budgetary control system as a tool of managerial planning and control; ability to prepare various types of budget. Ability to understand standard costing system as a tool of managerial

		control; calculation of variances in respect of each element of cost and sales; control ratios. CO5: understand management accounting issues of Responsibility accounting, Divisional performance measurement and Transfer pricing
	DSE **Course Name: Advanced Financial Accounting** **Course Code: BCOMPACDSE502**	CO1: develop understanding of basic concepts of Branch and departmental accounting and apply the techniques learnt for recording the transactions related to branches and departments of business organizations. CO2: Understand the basic concept and purpose of Investment accounting and Maintain systematic records of Investments made. Students will also learn the process of maintaining accounts for voyages. CO3: understand the concepts and need of having different accounting structure for local bodies and to apply the techniques of accounting in practical field. CO4: understand and analyze the process of ascertaining insurance claims for loss of stock and loss of profit policies. CO5: understand different concepts of accounting for royalties and to apply the accounting process in practical field. Students will also learn the accounting process for sale on approval system.
	DSE **Course Name: Cost Accounting** **Course Code: BCOMPACDSE503**	CO1: understand thoroughly the conceptual framework of Cost Accounting; identification of differences between different financial and cost accounting; cost concepts and elements of cost; preparation of cost sheet. CO2: understand the accounting and control of material and labour cost. CO3: develop ability to understand classification, allocation, apportionment and absorption of overheads in cost determination; under and over absorption of overheads; treatment of various item of overheads CO4: develop ability to calculate the cost of products, jobs, contracts, processes and services after understanding the basic concepts and processes involved in them.

		CO5: understand cost accounting book keeping systems and reconciliation of cost and financial account profits.
	GE **Course Name: Principles of Micro Economics** **Course Code: BCOMPGE501**	CO1: describe the nature and scope of Macro Economics, Income, Expenditure and their components and determinants. CO2: expose fiscal and monetary policy implications through IS-LM framework in short run and long run. CO3: comprehend the different theories of demand for money, supply of money approach and working of money multiplier. CO4: elucidate causes and effects of different types of inflation and trade-off between inflation and unemployment. CO5: describe the role of saving and investment in different size of economies on trade and exchange rate and rate of interest.
	SE **Course Name: Entrepreneurship Development** **Course Code: BCOMPSE501**	CO1: understand the concept of entrepreneurship in the context of Indian economic scenario. CO2: link the individual's capability and strength as a guiding factor towards entrepreneurial orientation. CO3: understand social support system for gaining strength towards entrepreneurial preferences. CO4: understand entrepreneurial process for initiating new venture creation. CO5: understand various dimensions of managing a business enterprise once it is formed
Semester- VI	**DSE** **Course Name: Advanced Cost Accounting** **Course Code: BCOMPACDSE601**	CO1.conceptualize different aspects of marginal costing and its difference with other costing techniques and apply different tools of marginal costing in taking appropriate decisions. CO2: Understand the concepts of standard costing and variance analysis and measure relevant deviations. CO3: understand the concepts and applications of process costing. CO4: understand the concepts of uniform costing, make inter firm comparison with relevant tools and understand the concepts of operating costing and its application in selected areas of operation.

		CO5: understand the concepts and different aspects of cost audit.
	DSE **Course Name: Auditing** **Course Code: BCOMPACDSE602**	CO1: define auditing, find out the objectives, principles, techniques, advantages and limitations of auditing, classifying auditing, differentiate internal control, internal check, internal audit, vouching and verification CO2: understand various aspects of audit of companies CO3: understand the concept of audit report and certificates CO4: identify the audit process of different institutions CO5: understand the special areas of audit
	DSE **Course Name: Computerised Accounting** **Course Code: BCOMPACDSE603**	CO1: know the basics of ERP and its application. CO2: Understand the concepts and applications of computerized inventory management. CO3: understand different aspects of recording day to day transactions in ERP. CO4: understand the process of computerized receivables and payables management. CO5: understand the concepts of management information system and its applications in ERP.
	GE **Course Name: Indian Economy** **Course Code: BCOMPGE601**	CO1: understand the basic features of Indian Economy. CO2: Understand different issues of Indian agricultural sector and food security system prevailing in the country. CO3: Address the issues of Industrial development of the country and to gauge the impact of impact of new industrial policy on industrial sector of the country. CO4: conceptualize Indian Financial sector and address global issues related to economic development of the country. CO5: Know about the Process of economic planning and its reforms in the context of Indian economy.
	SE **Course Name: Personal Selling and Salesmanship** **Course Code: BCOMPSE601**	CO1: understand the basic of personal selling CO2: Understand different issues of buying motives CO3: Address the issues of Selling process CO4: conceptualize about sales report CO5: Know about the Process of economic planning and its reforms in the context of Indian economy.

BANWARILAL BHALOTIA COLLEGE, ASANSOL

DEPARTMENT OF COMMERCE

(HINDI SHIFT)

CRITERIA 2.6.1

PROGRAM OUTCOMES, PROGRAM SPECIFIC OUTCOMES, COURSE OUTCOMES

Program Objectives and Course Outcomes for B.Com (Honours) in Accounting

Program	Program Objectives	Program Specific Objectives
B.Com. (Honours) in Accounting	B.Com (Hons.) Programme aims to equip students with the knowledge, skills and attitude to meet the challenges of the modern-day business organizations. The curriculum of B.Com. (Hons.) Degree provides a carefully selected subject combination of Accounting, Economics, Finance, Management, Tax, Marketing and Law etc. The programme aims to nurture the students in intellectual, personal, interpersonal and social skills with a focus on Holistic Education and development to make informed and ethical decisions and equips graduates with the skills required to lead management position. This programme brings out reflective and scientific thinking in the students which makes them inquisitive and curious to get deep	**PSO1:** The curriculum planning of B.Com. (Hons.) Course envisages the students demonstrating inclusive knowledge of the areas related to finance, human resource management, marketing, international business, corporate and business laws, accounting and taxation etc. The students will be made capable of using modern ways and means of dealing with issues arising in the dynamic business world and will also help them tackle the resistance.
		PSO2: The graduates of this programme will be trained to develop skills and attitudes needed for critical thinking and adopting a comprehensive problem solving approach. They shall be exposed to the pedagogy that helps them understand real life situations through case-studies. It aims at building the basic ability to think critically, evaluate dispassionately and solve complex problems creatively. The content is organized in such a way that the students would be able to think from diverse perspectives and suggest solutions according to their own sensibilities.

	insights of the business world and tackle the complex situations with much knowledge and wisdom.	**PSO3:** The teaching learning pedagogies used in the programme make the students capable enough to deliver and communicate information effectively with a mark.
		PSO4: The curriculum also inculcates in the young minds the qualities of teamwork, cooperation and solidarity which can be seen as a vision of the current business world though full of competition. The courses included in the programme teach the students to cultivate such characteristics keeping the larger societal goal in mind.
		PSO5 The courses also involve training the students to check unethical behaviour, falsification and manipulation of information in order to avoid debacles which can be seen rising persistently over the period of time. It would also help in making responsible citizens and facilitate character building
		PSO6: This course broadens the horizons of the students by making them understand the intricacies of the business world and overall the economics of the country as well as the world. This learning makes them inquisitive to raise concerns and act accordingly. The curriculum is designed in such a way that the students are driven to develop an attitude of life-long learning.
		PSO7: This programme enables the students to be technologically updated as it has courses like computerized accounting system, income tax return filing, GST return filing, stock market operation, and computer applications etc. which not only make them work using software but also makes them independent enough in this world of digitization. In all the courses, wherever applicable and possible, components related to technological changes have been incorporated which not only makes them digitally literate but also makes them

		aware of various cyber-crimes and how to take precautionary measures.
		PSO8: The courses of this programme give a global perspective to the students such that they will be able to integrate national values and beliefs with international culture and competence.
		PSO 9: This programme enables the student to analyze the situation objectively and give effective arguments and judgments on the basis of the analysis being done. This programme teaches the student how to move sequentially in order to solve a problem effectively.
		PSO 10: This programme enables the students to think of a given problem or situation from different Perspectives like economic, financial, social, national, global etc. and broadens the horizon of their thought processes. It not only helps the students add dimensions to its decision making but also in reaching to inclusive conclusions.

Course Outcomes for B.com (Hons.) in Accounting

Courses		Course outcome
Semester-1	**Core Course-1** **Course Name**: **Financial Accounting** **Course Code: BCOMHC101**	CO1: understand the theoretical framework of accounting. CO2: learn the accounting system of Consignment Business CO3: learn accounting for hire purchase transactions and installment payment system CO4: understand the concept of Sectional and Self Balancing Ledgers CO5: understand the system of accounting for dissolution of a partnership firm in details
	Core Course-2 **Course Name**: **Business Law** **Course Code: BCOMHC102**	CO1: understand basic aspects of contracts for making the agreements, contracts and subsequently enter valid business propositions. CO2: recognize and differentiate the special contracts and identify their appropriate usage at varied business scenarios. CO3: understand the legitimate rights and obligations under The Sale of Goods Act CO4: apply their skills to initiate entrepreneurial ventures as LLP CO5: understand the fundamentals of Internet based activities under the Information and Technology Act.
	GE-1 **Course Name**: **Micro Economics** **Course Code: BCOMHGE101**	CO1: understand the concepts of demand and supply and determination of equilibrium price through the interaction of market forces. CO2: analyze different approaches explaining the theoretical foundation of consumer behaviour. CO3: understand the concepts of cost, nature of production and its relationship to Business operations. CO4: understand the concepts of different market forms and to analyze short run and long run equilibrium conditions for different market forms. CO5: understand and analyze different theories related to determination of factor prices

Semester-II	**Core Course-III** **Course Name**: **Corporate Accounting** **Course Code: BCOMHC201**	CO1: develop an understanding of accounting for share capital and debentures CO2: prepare financial statements of a company CO3: develop an understanding of valuation of shares. CO4: understand the accounting for amalgamation and liquidation of companies CO5: prepare consolidated balance sheet for Holding company
	Core Course-IV **Course Name**: **Corporate Laws** **Course Code: BCOMHC202**	CO1: understand the regulatory aspects and the broader procedural aspects involved in different types of companies covering the Companies Act 2013 and Rules thereunder. CO2: follow the basic legal documents and their usage essential for operations and management of company. CO3: enable the students to synthesis company processes, meetings and decisions. CO4: equip the students with framework of dividend distribution and role of auditors in a company. CO5: comprehend and evaluate working of depositories and their functions in stock markets
	GE-2 **Course Name**: **Macro Economics** **Course Code: BCOMHGE201**	CO1: describe the nature and scope of Macro Economics, Income, Expenditure and their components and determinants. CO2: expose fiscal and monetary policy implications through IS-LM framework in short run and long run. CO3: comprehend the different theories of demand for money, supply of money approach and working of money multiplier. CO4: elucidate causes and effects of different types of inflation and trade-off between inflation and unemployment. CO5: describe the role of saving and investment in different size of economies on trade and exchange rate and rate of interest.
	Core Course-V **Course Name**: **Human Resource Management** **Course Code: BCOMHC301**	CO1: understand basic nature and importance of human resource management. CO2: analyze the current theory and practice of recruitment and selection. CO3: realize the importance of performance management system in enhancing employee performance.

Semester-III		CO4: recommend actions based on results of the compensation analysis and design compensation schemes that are cost effective, that increase productivity of the workforce, and comply with the legal framework. CO5: understand role of modern HRM in meeting challenges of changing business environment.
	Core Course-VI **Course Name**: **Income Tax Law and Practice** **Course Code: BCOMHC302**	CO1: understand the basic concepts in the law of income tax and determine the residential status of different persons. CO2: identify the five heads in which income is categorised and compute income under the heads Salaries'and 'Income from House Property'. CO3: compute income under the head 'Profits and gains of business or profession', 'Capital gains' and 'Income from other sources'. CO4: understand clubbing provisions, aggregate income after set-off and carry forward of losses, and deductions allowed under the Income Tax Act; and further to compute taxable income and tax liability of individuals and firms. CO5: develop the ability to file online returns of income
	Core Course-VII **Course Name: Management Principles and Applications** **Course Code: BCOMHC303**	CO1: understand the evolution of management and apprehend its effect on future managers. CO2: analyze how organizations adapt to an uncertain environment and decipher decision making techniques managers use to influence and control the internal environment. CO3: comprehend the changes happening in organization structure over time. CO4: analyze the relationship amongst functions of management i.e. planning, organizing, directing and Controlling. CO5: appreciate the changing dynamics of management practice.
	GE-3 **Course Name: Business Statistics** **Course Code: BCOMHGE301**	CO1: acquire a fair degree of proficiency in comprehending statistical data, processing and analysing it using descriptive statistical tools. CO2: gather knowledge about various probability concepts and distributions and their business applications.

		CO3: understand the relationship between two variables using concepts of correlation and regression and its use in identifying and predicting the variables. CO4: develop an understanding of the index numbers and their utility in daily life and stock market. CO5: become aware of the patterns revealed by the time series data and to use it to make predictions for the future.
	SE-1 **Course Name: E-Commerce** **Course Code: BCOMHSE301**	CO1: understand the basics of E-commerce, current and emerging business models. CO2: familarize with basic business operations such as sales, marketing, HR etc. on the web. CO3: enhance the students' skills for designing and developing website. CO4: identify the emerging modes of e payment. C05: understand the importance of security, privacy, ethical and legal issues of ecommerce.
Semester-IV	**Core Course-VIII** **Course Name: Cost Accounting** **Course Code: BCOMHC401**	CO1: understand thoroughly the conceptual framework of Cost Accounting; identification of differences between different financial and cost accounting; cost concepts and elements of cost; preparation of cost sheet. CO2: understand the accounting and control of material and labour cost. CO3: develop ability to understand classification, allocation, apportionment and absorption of overheads in cost determination; under and over absorption of overheads; treatment of various item of overheads CO4: develop ability to calculate the cost of products, jobs, contracts, processes and services after understanding the basic concepts and processes involved in them. CO5: understand cost accounting book keeping systems and reconciliation of cost and financial account profits
	Core Course-IX **Course Name: Business Mathematics** **Course Code: BCOMHC402**	CO1: comprehend the concept of systematic processing and interpreting the information in quantitative terms to arrive at an optimum solution to business problems. CO2: develop proficiency in using different mathematical tools (matrices, calculus, linear programming, and mathematics of finance) in solving daily life problems.

		CO3: acquire competence to use computer for mathematical computations, especially with Big data. CO4: obtain critical thinking and problem-solving aptitude. CO5: evaluate the role played by mathematics in the world of business and economy.
	Core Course-X **Course Name: Computer Application in Business** **Course Code: BCOMHC403**	CO1: understand the various concepts and terminologies used in computer networks and internet and be aware of the recent developments in the fast changing digital business world. CO2: handle document creation for communication. CO3: acquire skills to create and make good presentations CO4: make various computations in the area of accounting and finance and represent the business data using suitable charts. S/He should be able to manipulate and analyze the business data for better understanding of the business environment and decision making CO5: understand and apply the various database concepts and tools in the related business areas with the help of suggested popular software.
	GE-3 **Course Name: Indian Economy** **Course Code: BCOMHGE401**	CO1: understand the basic features of Indian Economy CO2: Understand different issues of Indian agricultural sector and food security system prevailing in the country CO3: Address the issues of Industrial development of the country and to gauge the impact of impact of new industrial policy on industrial sector of the country CO4: conceptualize Indian Financial sector and address global issues related to economic development of the country CO5: Know about the Process of economic planning and its reforms in the context of Indian economy.
	SE-2 **Course Name: Entrepreneurship Development**	CO1: understand the concept of entrepreneurship in the context of Indian economic scenario. CO2: link the individual‘s capability and strength as a guiding factor towards entrepreneurial orientation.

	Course Code: BCOMHSE401	CO3: understand social support system for gaining strength towards entrepreneurial preferences. CO4: understand entrepreneurial process for initiating new venture creation. CO5: understand various dimensions of managing a business enterprise once it is formed.
Semester- V	**Core Course-XI** **Course Name: Principles of Marketing** **Course Code: BCOMHC501**	CO1: develop understanding of basic concepts of marketing, marketing philosophies and environmental conditions effecting marketing decisions of a firm. CO2: understand the dynamics of consumer behaviour and process of market selection through STP stages. CO3: understand and analyze the process of value creation through marketing decisions involving product development. CO4: understand and analyze the process of value creation through marketing decisions involving product pricing and its distribution. CO5: understand and analyze the process of value creation through marketing decisions involving product promotion and also to equip them with the knowledge of various developments in marketing area that may govern marketing decisions of a firm.
	Core Course-XII **Course Name: Fundamentals of Financial Management** **Course Code: BCOMHC502**	CO1 - explain the nature and scope of financial management as well as time value of money and risk return trade off. CO2 – analyze capital budgeting process and capital budgeting techniques. CO3 - estimate various capital structure theories and factors affecting capital structure decisions in a firm. CO4 - critically examine various theories of dividend and factors affecting dividend policy CO5 - evaluate working capital requirement
	DSE-1 **Course Name: Management Accounting** **Course Code: BCOMHACDSE501**	CO1: understand thoroughly the conceptual framework of Management Accounting; identification of differences between different forms of accounting—Financial, Cost and Managerial; distinction between cost control and cost reduction.

		CO2: understand the concept of marginal cost and marginal costing; preparation of income statements using absorption and variable costing; learning of cost-volume-profit analysis and break-even analysis using mathematical and graphical approaches; and the application in businesses. CO3: understand the concept of relevant and irrelevant costs and make decisions related to different business situations using marginal costing and differential costing techniques. CO4: understand budgetary control system as a tool of managerial planning and control; ability to prepare various types of budget. Ability to understand standard costing system as a tool of managerial control; calculation of variances in respect of each element of cost and sales; control ratios. CO5: understand management accounting issues of Responsibility accounting, Divisional performance Measurement and Transfer pricing.
	DSE-II **Course Name: Advanced Financial Accounting** **Course Code: BCOMHACDSE502**	CO1: develop understanding of basic concepts of Branch and departmental accounting and apply the techniques learnt for recording the transactions related to branches and departments of business organisations. CO2: Understand the basic concept and purpose of Investment accounting and Maintain systematic records of Investments made. Students will also learn the process of maintaining accounts for voyages. CO3: understand the concepts and need of having different accounting structure for local bodies and to apply the techniques of accounting in practical field . CO4: understand and analyze the process of ascertaining insurance claims for loss of stock and loss of profit policies. CO5: understand different concepts of accounting for royalties and to apply the accounting process in practical field. Students will also learn the accounting process for sale on approval system.
	DSE-III **Course Name: Accounting Theory**	CO1: Develop understanding of basic concepts of accounting theory and practice.

	Course Code: BCOMHACDSE503	CO2: Understand the basic concept and purpose accounting concepts and conventions. CO3: understand the concepts related to accounting income and its measurement. CO4: understand and analyze the different concepts of capital and its relation to income, financial statement and its limitations CO5: understand different concepts of assets and liabilities, their recognition criterion and need for their valuation.
Semester- VI	**Core Course-XIII** **Course Name: Auditing and Corporate Governance** **Course Code: BCOMHC5601**	CO1: differentiate between different aspects of auditing especially for internal check, internal control and for overall corporate governance. CO2: understand the concept of corporate governance in organisations and its essence for management. CO3: provide and assimilate information leading to failure of organisation and corporate scams. CO4: comprehend the governance framework for an organisation provided by different regulatory bodies in India and Abroad. CO5: understand the corporate governance framework in India.
	Core Course-XIV **Course Name: Indirect Tax Laws** **Course Code: BCOMHC602**	CO1: connect with the genesis of goods and services tax (GST), decipher the constitutional amendment carried out to install GST in India and comprehend the composition and working of GST council. CO2: understand the meaning of supply under GST law, differentiate between intra-state and inter-state supply, comprehend rules related to the place of supply and compute the value of supply. CO3: comprehend the utilization of input tax credit, and the reverse charge mechanism of paying GST and to know the procedure for claiming refund under GST law. CO4: understand the provisions for registration under GST along with special provisions such as those related to anti profiteering; avoidance of dual control; e-way bills and penalties. CO5: know the basic concepts of Customs Act and to compute the assessable value for charging customs duty

	DSE-IV **Course Name: Corporate Reporting** **Course Code: BCOMHACDSE601**	CO1: understand the basics of corporate reporting and its role in business world. CO2: understand the conceptual framework of corporate reporting and different principles underlying corporate reporting. CO3: understand different Indian accounting standards and their importance. CO4: understand different aspects of IFRS and its convergence with Indian accounting standards. CO5: understand the basics of revenue and liabilities-based accounting standards and also about some other related accounting standards in India.
	DSE-V **Course Name: Advanced Cost accounting** **Course Code: BCOMHACDSE602**	CO1.conceptualize different aspects of marginal costing and its difference with other costing techniques and apply different tools of marginal costing in taking appropriate decisions. CO2: Understand the concepts of standard costing and variance analysis and measure relevant deviations. CO3: understand the concepts and applications of process costing. CO4: understand the concepts of uniform costing, make inter firm comparison with relevant tools and understand the concepts of operating costing and its application in selected areas of operation. CO5: understand the concepts and different aspects of cost audit.
	DSE-VI **Course Name: Computerized Accounting** **Course Code: BCOMHACDSE603**	CO1.To know the basics of ERP and its application. CO2: Understand the concepts and applications of computerized inventory management. CO3: understand different aspects of recording day to day transactions in ERP. CO4: understand the process of computerized receivables and payables management. CO5: understand the concepts of management information system and its applications in ERP.

Program Objectives and Course Outcomes for B.com (Program) in Accounting:-

Program	Program Objectives	Program Specific Objectives
B.com (Program) in Accounting	B.Com (Program) offers a deep dive into various facets of commerce and business. The curriculum of this programme provides a carefully selected subject combination of Accounting, Management, Tax, Finance, Marketing and Law. The programme will be able to make the students blend theoretical concepts with practice, furthering students with a better skillset and a fresh perspective. This programme will be able to give insight to the students of the day to day commercial procedures for becoming good leaders and assets for an organization.	**PSO1:** The curriculum planning of B.Com (Program) envisages the students demonstrating fundamental knowledge of the areas related to finance, accounting, human resource management, international business, corporate and business laws, taxation, marketing etc. The students will be made capable of evaluating diverse perspectives provided by the prism of these areas and a comprehensive picture of business situations, using modern ways and means of dealing with issues arising in the dynamic business world.
		PSO 2: The teaching learning pedagogies used in the programme will make the students capable enough to deliver and communicate information pertaining to business effectively.
		PSO 3: The programme involves acquainting the students with problem solving techniques by providing them with real life situations through case-studies. The students shall be able to develop better sense of problem solving after going through the courses.
		PSO 4: The courses offer opportunity for students to develop analytical reasoning through their active participation and involvement in teaching-learning process as envisioned in the student centric approach.
		PSO 5: The curriculum also inculcates in the young minds the qualities of teamwork, cooperation and solidarity which can be seen as a vision of the current business world. They shall be able to gain insight into the need to balance the aspects of collaboration and competition for healthier delivery to society whose hallmark currently is fierce competition. The courses included in the programme teach the students to

		cultivate such characteristics keeping the larger societal welfare and sustenance in mind
		PSO 6: The courses make them understand the need of the current business world and make them capable to view different aspects and dimensions from global perspective. The courses are designed in such a way that the learners are encouraged to seek deeper understanding of issues and develop research ability.
		PSO 7: The courses also involve training the students to check unethical behaviour, falsification and manipulation of information in order to avoid debacles which can be seen rising persistently over the period of time.
		PSO 8: The programme shall be able to inculcate management skills like teamwork, cooperation, motivation and leadership etc. that help build the character of a future employee and facilitate him/her in inspiring others in an organisation. The courses would be able to make the students capable of handling present complexities and future challenges.

Course Outcome for B.Com (Program) in Accounting

Courses		Course outcome
Semester-1	**Core Course-1** **Course Name**: **Financial Accounting** **Course Code: BCOMPC101**	CO1: understand the theoretical framework of accounting. CO2: learn the accounting system of Consignment Business CO3: learn accounting for hire purchase transactions and installment payment system CO4: understand the concept of Sectional and Self Balancing Ledgers CO5: understand the system of accounting for dissolution of a partnership firm in details
	Core Course-II **Course Name**: **Business Oraganisation and Management** **Course Code: BCOMHP102**	CO1: understand the foundation of Indian Business. CO2: explain and determine different types of Business Enterprises. CO3: learn managing styles of Organization. CO4: understand the concepts of Leadership, Motivation and Control. CO5: learns different functional areas of Management
Semester-II	**Core Course-III** **Course Name**: **Business Law** **Course Code: BCOMPC201**	CO1: understand basic aspects of contracts for making the agreements, contracts and subsequently enter valid business propositions. CO2: recognize and differentiate the special contracts and identify their appropriate usage at varied business scenarios. CO3: understand the legitimate rights and obligations under The Sale of Goods Act CO4: apply their skills to initiate entrepreneurial ventures as LLP CO5: understand the fundamentals of Internet based activities under the Information and Technology Act
	Core Course-IV	CO1: comprehend the concept of systematic processing and interpreting the information in quantitative terms to arrive

	Course Name: **Business Mathematics and Statistics** **Course Code: BCOMPC202**	at an optimum solution to business problems. CO2: develop proficiency in using different mathematical tools (matrices, calculus, linear programming, and mathematics of finance) in solving daily life problems. CO3: acquire competence to use computer for mathematical computations, especially with Big data. CO4: obtain critical thinking and problem-solving aptitude. CO5: evaluate the role played by mathematics in the world of business and economy.
Semester-III	**Core Course-V** **Course Name**: **Company Law** **Course Code: BCOMPC301**	CO1: understand the regulatory aspects and the broader procedural aspects involved in different types of companies covering the Companies Act 2013 and Rules thereunder. CO2: follow the basic legal documents and their usage essential for operations and management of company. CO3: enable the students to synthesis company processes, meetings and decisions. CO4: equip the students with framework of dividend distribution and role of auditors in a company. CO5: comprehend and evaluate working of depositories and their functions in stock markets.
	Core Course-VI **Course Name**: **Income Tax Law and Practice** **Course Code: BCOMPC302**	CO1: understand the basic concepts in the law of income tax and determine the residential status of different persons. CO2: identify the five heads in which income is categorised and compute income under the heads "Salaries" and "Income from House Property" CO3: compute income under the head "Profits and gains of business or profession", Capital gains' and "Income from other sources" CO4: understand clubbing provisions, aggregate income after set-off and carry forward of losses, and deductions allowed

		under the Income Tax Act; and further to compute taxable income and tax liability of individuals and firms. CO5: develop the ability to file online returns of income.
	SE-1 **Course Name: Computer Application in Business** **Course Code: BCOMPSE301**	CO1: understand the various concepts and terminologies used in computer networks and internet and be aware of the recent developments in the fast changing digital business world. CO2: handle document creation for communication. CO3: acquire skills to create and make good presentations CO4: make various computations in the area of accounting and finance and represent the business data using suitable charts. S/He should be able to manipulate and analyze the business data for better understanding of the business environment and decision making. CO5: understand and apply the various database concepts and tools in the related business areas with the help of suggested popular software.
Semester-IV	**Core Course-VII** **Course Name: Corporate Accounting** **Course Code: BCOMPC401**	CO1: develop an understanding of accounting for share capital and debentures. CO2: prepare financial statements of a company. CO3: develop an understanding of valuation of share. CO4: understand the accounting for amalgamation and liquidation of companies. CO5: prepare consolidated balance sheet for Holding company.
	Core Course-VIII **Course Name: Indirect Tax Law and Practice** **Course Code: BCOMPC402**	CO1: connect with the genesis of goods and services tax (GST), interpret the constitutional amendment carried out to install GST in India and comprehend the composition and working of GST council. CO2: understand the meaning of supply under GST law, differentiate between intra-state and inter-state supply, comprehend rules related to the place of supply and compute the value of supply. CO3: comprehend the utilization of input tax credit, and the reverse charge mechanism of paying GST and to know the

		procedure for claiming refund under GST law. CO4: understand the provisions for registration under GST along with special provisions such as those related to anti-profiteering; avoidance of dual control; e-way bills and penalties. CO5: know the basic concepts of Customs Act and to compute the assessable value for charging customs duty
	SE **Course Name: E-Commece** **Course Code: BCOMPSE401**	CO1: understand the basics of E-commerce, current and emerging business models. CO2: familarize with basic business operations such as sales, marketing, HR etc. on the web. CO3: enhance the students' skills for designing and developing website. CO4: identify the emerging modes of e payment. C05: understand the importance of security, privacy, ethical and legal issues of e-commerce
Semester-V-	**DSE** **Course Name: Management Accounting** **Course Code: BCOMPACDSE501**	CO1: understand thoroughly the conceptual framework of Management Accounting; identification of differences between different forms of accounting—Financial, Cost and Managerial; distinction between cost control and cost reduction. CO2: understand the concept of marginal cost and marginal costing; preparation of income statements using absorption and variable costing; learning of cost-volume-profit analysis and break-even analysis using mathematical and graphical approaches; and the application in businesses. CO3: understand the concept of relevant and irrelevant costs and make decisions related to different business situations using marginal costing and differential costing techniques. CO4: understand budgetary control system as a tool of managerial planning and control; ability to prepare various types of budget. Ability to understand standard costing system as a tool of managerial

		control; calculation of variances in respect of each element of cost and sales; control ratios. CO5: understand management accounting issues of Responsibility accounting, Divisional performance measurement and Transfer pricing
	DSE **Course Name: Advanced Financial Accounting** **Course Code: BCOMPACDSE502**	CO1: develop understanding of basic concepts of Branch and departmental accounting and apply the techniques learnt for recording the transactions related to branches and departments of business organizations. CO2: Understand the basic concept and purpose of Investment accounting and Maintain systematic records of Investments made. Students will also learn the process of maintaining accounts for voyages. CO3: understand the concepts and need of having different accounting structure for local bodies and to apply the techniques of accounting in practical field. CO4: understand and analyze the process of ascertaining insurance claims for loss of stock and loss of profit policies. CO5: understand different concepts of accounting for royalties and to apply the accounting process in practical field. Students will also learn the accounting process for sale on approval system.
	DSE **Course Name: Cost Accounting** **Course Code: BCOMPACDSE503**	CO1: understand thoroughly the conceptual framework of Cost Accounting; identification of differences between different financial and cost accounting; cost concepts and elements of cost; preparation of cost sheet. CO2: understand the accounting and control of material and labour cost. CO3: develop ability to understand classification, allocation, apportionment and absorption of overheads in cost determination; under and over absorption of overheads; treatment of various item of overheads CO4: develop ability to calculate the cost of products, jobs, contracts, processes and services after understanding the basic concepts and processes involved in them.

		CO5: understand cost accounting book keeping systems and reconciliation of cost and financial account profits.
	GE **Course Name: Principles of Micro Economics** **Course Code: BCOMPGE501**	CO1: describe the nature and scope of Macro Economics, Income, Expenditure and their components and determinants. CO2: expose fiscal and monetary policy implications through IS-LM framework in short run and long run. CO3: comprehend the different theories of demand for money, supply of money approach and working of money multiplier. CO4: elucidate causes and effects of different types of inflation and trade-off between inflation and unemployment. CO5: describe the role of saving and investment in different size of economies on trade and exchange rate and rate of interest.
	SE **Course Name: Entrepreneurship Development** **Course Code: BCOMPSE501**	CO1: understand the concept of entrepreneurship in the context of Indian economic scenario. CO2: link the individual's capability and strength as a guiding factor towards entrepreneurial orientation. CO3: understand social support system for gaining strength towards entrepreneurial preferences. CO4: understand entrepreneurial process for initiating new venture creation. CO5: understand various dimensions of managing a business enterprise once it is formed
Semester- VI	**DSE** **Course Name: Advanced Cost Accounting** **Course Code: BCOMPACDSE601**	CO1.conceptualize different aspects of marginal costing and its difference with other costing techniques and apply different tools of marginal costing in taking appropriate decisions. CO2: Understand the concepts of standard costing and variance analysis and measure relevant deviations. CO3: understand the concepts and applications of process costing. CO4: understand the concepts of uniform costing, make inter firm comparison with relevant tools and understand the concepts of operating costing and its application in selected areas of operation.

		CO5: understand the concepts and different aspects of cost audit.
	DSE **Course Name: Auditing** **Course Code: BCOMPACDSE602**	CO1: define auditing, find out the objectives, principles, techniques, advantages and limitations of auditing, classifying auditing, differentiate internal control, internal check, internal audit, vouching and verification CO2: understand various aspects of audit of companies CO3: understand the concept of audit report and certificates CO4: identify the audit process of different institutions CO5: understand the special areas of audit
	DSE **Course Name: Computerised Accounting** **Course Code: BCOMPACDSE603**	CO1: know the basics of ERP and its application. CO2: Understand the concepts and applications of computerized inventory management. CO3: understand different aspects of recording day to day transactions in ERP. CO4: understand the process of computerized receivables and payables management. CO5: understand the concepts of management information system and its applications in ERP.
	GE **Course Name: Indian Economy** **Course Code: BCOMPGE601**	CO1: understand the basic features of Indian Economy. CO2: Understand different issues of Indian agricultural sector and food security system prevailing in the country. CO3: Address the issues of Industrial development of the country and to gauge the impact of impact of new industrial policy on industrial sector of the country. CO4: conceptualize Indian Financial sector and address global issues related to economic development of the country. CO5: Know about the Process of economic planning and its reforms in the context of Indian economy.
	SE **Course Name: Personal Selling and Salesmanship** **Course Code: BCOMPSE601**	CO1: understand the basic of personal selling CO2: Understand different issues of buying motives CO3: Address the issues of Selling process CO4: conceptualize about sales report CO5: Know about the Process of economic planning and its reforms in the context of Indian economy.

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

	B. Sc. Computer Science(H)
Programme Outcomes	Students understand the principles and working of the hardware and software aspects of computer systems. ❏ An ability to apply knowledge of computing and mathematics appropriate to the discipline. ❏ An ability to identify, formulate, and develop solutions to computational challenges.
Programme Specific Outcomes	A graduate with a B.Sc.(H) in Computer Science will have the ability to- **PSO1.** Demonstrate skills of Computer Science in the following core knowledge areas o Data Structures and Programming Languages o Databases, Software Engineering and Development o Computer Hardware and Architecture **PSO2**. Apply problem-solving skills and the knowledge of computer science to solve real world problems.
Course	**Outcomes**
Computer System Architecture	1. To make students aware of the basic structure, operation and characteristics of digital computer. 2. To familiarize the students with arithmetic and logic unit as well as the concept of pipelining.

	3. To familiarize the students with hierarchical memory structure including cache memories and virtual memory. 4. To make students know the different ways of communicating with I/O devices and standard I/O interfaces.
Data Structures	1 Ability to analyze algorithms and algorithm correctness. 2 Ability to summarize searching and sorting techniques 3 Ability to describe stack, queue and linked list operation. 4 Ability to have knowledge of recursion, tree and hashing concepts.
Algorithms	The basic goal of this course is **to prepare a wiser consumer of data structures, algorithms.** 1. Analyze the asymptotic performance of algorithms. 2. Demonstrate a familiarity with major algorithms and data structures. 3. Apply important algorithmic design paradigms and methods of analysis. 4. Synthesize efficient algorithms in common engineering design situations.
Computer Networks	1 Recognize the technological trends of Computer Networking.

	2. Understanding key technological components of the Network. 3. Evaluate the challenges in building networks and solutions to those
DBMS	Upon successful completion of this course, students should be able to: • Describe the fundamental elements of relational database management systems • Explain the basic concepts of relational data model, entity-relationship model, relational database design, relational algebra and SQL. • Design ER-models to represent simple database application scenarios • Convert the ER-model to relational tables, populate relational database and formulate SQL queries on data. • Improve the database design by normalization.
OOP WITH C++	Upon completion of this course, the students will be able to: ❏ Describe the object-oriented programming approach in connection with C++. ❏ Apply the concepts of object-oriented programming.
Advance Database Management System	Upon completion of this course, the students will be able to understand:-

	Transaction management; Concurrency Control techniques; query processing and optimization; Introduction to big data, data warehousing and data mining.
Microprocessor	Understanding architecture of 8085 microprocessor. Understanding and developing assembly language programming with 8085 instruction set. Understanding various interrupts. Interfacing with various components.
Optimization Techniques	By the end of the course, students should be able to: Cast engineering minima/maxima problems into optimization framework. Learn efficient computational procedures to solve optimization problems.
Course	**Outcomes**
Programming Methodology	Upon successful completion of this subject, students should be able to: ▪ Learn the fundamental programming concepts and methodologies which are essential to building good C/C++ programs. ▪ Practice the fundamental programming methodologies in the C/C++ programming language via laboratory experiences. ▪ Code, document, test, and implement a well-structured, robust computer program using the C/C++ programming language. ▪ Write reusable modules (collections of functions).

Operating System	On successful completion of this subject, the students will be able to: ▪ Describe the general architecture of computers. ▪ Describe, contrast and compare differing structures for operating systems. ▪ Understand and analyze theory and implementation of: processes, resource control (concurrency etc.), physical and virtual memory, scheduling, I/O and files. ▪ Explain the role of an operating system in managing and interacting with computer system components including main and secondary memory.
Computer Architecture & Organization	After completion of this subject, the students will be able to: ▪ Understand the theory and architecture of central processing unit. ▪ Analyze some of the design issues in terms of speed, technology, cost performance. ▪ Design a simple CPU with applying the theory concepts. ▪ Use appropriate tools to design verify and test the CPU architecture. ▪ Learn the concepts of parallel processing, pipelining and interprocess communication. ▪ Understand the architecture and functionality of central processing unit. ▪ Exemplify in a better way the I/O and memory organization. ▪ Define different number systems, binary addition and subtraction, 2s complement

	representation and operations with this representation.
System Analysis & Design	Upon successful completion of this subject, the students will be able to ▪ Gather data to analyze and specify the requirements of a system. ▪ Design system components and environments build general and detailed models that assist programmers in implementing a system. ▪ Design a database for storing data, a user interface for data input and output, and controls to protect the system and its data.
Software Engineering	On successful completion of this subject, the students will be able to: ▪ Obtain knowledge about principles and practices of software engineering. ▪ Define and develop a software project from requirement gathering to implementation. ▪ Focus on the fundamentals of modeling a software project. ▪ Obtain knowledge about estimation and maintenance of software system. ▪ Provide a professionally guided education in software engineering to transition into a broad range of career options: industry, government, computing graduate program, and professional education. ▪ Capable of diverse team and organizational leadership in computing project settings.

	▪ Demonstrates ethical principles in the application of computing-based solutions to societal and organizational problems.
UNIX & Shell Programming Lab	Upon successful completion of this subject, students should be able to: ▪ To provide introduction to UNIX Operating System and its File System ▪ To gain an understanding of important aspects related to the SHELL and the process ▪ To develop the ability to formulate regular expressions and use them for pattern matching. ▪ To provide a comprehensive introduction to SHELL programming, services and utilities. ▪ To write a shell script for specific problem definition ▪ To employ decision making and looping construct to write a shell script. ▪ To discuss various modes in which Vi editor operates. ▪ To differentiate between internal and external commands of UNIX. ▪ To discuss the importance of filters and their need in UNIX.
Computer Graphics	After completion of this subject, the students will be able to: ▪ Explain the core concepts of computer graphics, including viewing, projection, perspective, modeling and transformation in two and three dimensions. ▪ Apply the concepts of colour models, lighting and shading models, textures, ray tracing,

	hidden surface elimination, anti-aliasing, and rendering. ▪ Interpret the mathematical foundation of the concepts of computer graphics. ▪ Describe the fundamentals of animation, parametric curves and surfaces, and spotlighting. ▪ Identify a typical graphics pipeline and apply graphics programming techniques to design and create computer graphics. ▪ Create effective programs to solve graphics programming issues, including 3D transformation, objects modeling, colour modeling, lighting, textures, and ray tracing.
Artificial Intelligence	Upon completion of this subject, the students will be able to: ▪ Understand the concept of knowledge representation and predicate logic and transform the real life information in different representation. ▪ Understand the state space and its searching strategies. ▪ Understand the machine learning concepts and range of problems that can be handled by machine learning. ▪ Apply the machine learning concepts in real life problems.
Core Java	On completion of the course, the student will be able to: ▪ Use an integrated development environment to write, compile, run, and test simple object-oriented Java programs. ▪ Read and make elementary modifications to Java programs that solve real-world problems.

	▪ Understanding the OOPs concepts, classes and objects, threads, files, applets, swings and act. ▪ Emphasis is placed on event-driven programming methods, including creating and manipulating objects, classes, and using Java for network level programming and middleware development ▪ Build Java Application for distributed environment. ▪ Design and Develop multi-tier applications. ▪ Identify and Analyze Enterprise applications.
Cryptography & Network Security	By the end of the course, the students will be able to: ▪ Learn fundamentals of cryptography and its application to network security. ▪ Understand network security threats, security services. ▪ Acquire background on well known network security protocols. ▪ Understand vulnerability analysis of network security. ▪ Acquire background on hash functions; authentication, firewalls, detection techniques. ▪ Understand various Cryptographic Techniques. ▪ Apply various public key cryptography techniques. ▪ Implement Hashing and Digital Signature techniques. ▪ Understand the various Security Applications. ▪ Implement system level security applications.

Bachelors of Arts, Education Honours

Program Specific Outcomes :

PO1. Professional Capacity Building:
Apply the knowledge of Philosophy,Sociology, Psychology Management, and ICT to set the context of teaching profession and advances the capacities in teaching, research and extension work in the field of education in general and Teacher Education Institutes in particular.

PO2. Academic Integrity and Professional Ethics:
Demonstrate academic integrity and professional ethics by keeping self abiding to rules, regulations, values and high standards in teaching, research, administration at diversified educational setting and Teacher Education Institutes.

PO3. Resilience and cope up with Complex issues:
Demonstrate spirit of work in diversified situations and apply knowledge & skills to cope up educational issues in complex situations with appropriate consideration for the rules, norms and the Social, cultural, and environmental context.

PO4. Academic Administration and Management Capacities:
Apply the knowledge of Educational administration & management and other allied subjects like Philosophy, Sociology, Psychology etc. in academic planning, organization, evaluation, decision making, resource management according to predetermined goals, norms and standards.

PO5. Continuous Academic Development:
Identify own educational needs and requirements, keep academic development and learning in an independent way in the context of change in different aspects of education and teacher education.

PO6. Commitment towards Society and National Goals:
Recognize areas of commitment, accountability, constitutional values, and national goals and perform accordingly.

PO7. Sensitivity for Emerging Issues:
Apply the knowledge & skills to deal with Issues related to population, environment, gender equality, different literacy, Yoga & Health Education etc. and respond to emerging issues by applying critical, constructive and creative thought process.

PO8. Research and Knowledge Creation:
Involve in knowledge dissemination, knowledge creation, research and innovative educational practices related to different stakeholders of education.

PO9. Independent and Team Work Capacities:
Perform Function effectively either in the role of member or leader in diversified educational settings and Institutions of Teacher Education.

PO10: Professional Communication Skills:
Use diversified tools & technologies of communications and communication Skills to serve the professional purpose and standards expected from classroom to broader zone of educational activities.

Course Outcomes :

B.A. 3 Years , 6 Semesters Honours Degree program.

Semester-1

CC-1

Course Name : INTRDUCTION TO EDUCATION . Course Code - BAHEDCC101

Syllabus:

Unit:I	Introduction.
Unit :II	Types of Education.
Unit :III	Agencies of Education.
Unit :IV	Factors of education.
Unit:V	Nature of Knowledge.
Unit :VI	Role of Education

Expected Course Outcome:

After going through this course, the students will be able to-

- understand the meaning of Education
- understand the types of Education
- understand the agencies of Education
- understand the nature of knowledge
- understand the nature of values in society
- understand the role of education in emerging Indian society

Recommended Books:

- Altekar, A. S.- Education in Ancient India
- Basu, A. N.- Education in Modern India
- Banerjee, J.P.- Education in India-Past, Present and Future
- Keay, F.E.- Indian Education in Ancient Times
- Mukherjee, S.N.- Education in India, Today and Tomorrow
- Narulla, S, Naite J.P.- History of Education in India
- Rawat, P.L.- History of Indian Education
- S. P. Chaube & A. Chaube – Education in Ancient and Medieval India
- ভক্তিভুষন ভক্তা- ভারতীয় শিক্ষার রূপরেখা
- সুবিমল মিশ্র- ভারতীয় শিক্ষার ইতিহাস
- ড. নূরুল ইসলাম- ভারতীয় শিক্ষা ইতিহাসের রূপরেখা
- রণজিৎ ঘোষ- যুগে যুগে ভারতের শিক্ষাঃ প্রাচীন, মধ্য ও আধুনিক

- জ্যোতিপ্রসাদ বন্দ্যোপাধ্যায়- শিক্ষার ইতিহাস
- ড. দিলীপ কুমার ঠাকুর ও শেখ হামিদুল হক- শিক্ষার ইতিহাসঃ প্রাচীন, মধ্য ও আধুনিক যুগ

Semester-1

CC-2

Course Name : **History of Education in Ancient & Medieval India**. Course Code - BAHEDCC102

Syllabus:

Unit:I	Education in Vedic Period
Unit :II	Education in Brahmanic Period
Unit :III	Education in Buddhist Period
Unit :IV	Education in Sultanate Period
Unit:V	Education in Mughal Period
Unit :VI	Centres of Learning

Expected Course Outcome:

After going through this course, the students will be able to-

- understand the aims of education in ancient and medieval period in India.
- understand the curriculum in ancient and medieval period in India.
- understand the methods of teaching in ancient and medieval period in India.
- understand the status of women education in ancient and medieval period in India.
- understand the evaluation system in education in ancient and medieval period in India.
- understand different centres of learning in ancient and medieval period in India.

Recommended Books:

- Altekar, A. S.- Education in Ancient India
- Basu, A. N.- Education in Modern India
- Banerjee, J.P.- Education in India-Past, Present and Future
- Keay, F.E.- Indian Education in Ancient Times
- Mukherjee, S.N.- Education in India, Today and Tomorrow
- Narulla, S, Naite J.P.- History of Education in India
- Rawat, P.L.- History of Indian Education
- S. P. Chaube & A. Chaube – Education in Ancient and Medieval India
- ভক্তিভুষন ভক্তা- ভারতীয় শিক্ষার রূপরেখা
- সুবিমল মিশ্র- ভারতীয় শিক্ষার ইতিহাস
- ড. নূরুল ইসলাম- ভারতীয় শিক্ষা ইতিহাসের রূপরেখা
- রণজিৎ ঘোষ- যুগে যুগে ভারতের শিক্ষাঃ প্রাচীন, মধ্য ও আধুনিক
- জ্যোতিপ্রসাদ বন্দ্যোপাধ্যায়- শিক্ষার ইতিহাস
- ড. দিলীপ কুমার ঠাকুর ও শেখ হামিদুল হক- শিক্ষার ইতিহাসঃ প্রাচীন, মধ্য ও আধুনিক যুগ

Semester-2

CC-3

Course Name : HISTORY OF EDUCATIONIN PRE-INDEPENDENCE & POST-INDEPENDENCE INDIA.
Course Code – BAHEDCC201

Syllabus:

Unit:I	Early British Education
Unit:II	Influence of Western Education
Unit:III	Educational Policies of British India
Unit:IV	Impact of Colonial Plan of Education in India
Unit:V	Education in Post-Independent India
Unit:VI	Educational Policies in India

Expected Course Outcome:

After going through this course, the students will be able to-

- understand the education system of early British period in India.
- understand the influence of western education system in Indian context.
- understand different educational policies of India under British rule.
- understand the impact of colonial plan of education in India.
- understand the education system of post-independent India.
- understand different educational policies of post-independent India .

Recommended Books:

- Aggarwal, J. C.- Landmarks in the History of Modern Indian Education
- Basu, A.N.- Education in Modern India
- Banerjee, J.P.- Education in India-Past, Present and Future, Vol. I and II
- Mukherjee, S.N.- Education in India, Today and Tomorrow
- Mukherjee, S.N.- History of Education (Modern Period)
- Narulla, S, Naite J.P.- History of Education in India
- Purkait, B.R.- Milestones of Modern Indian Education
- Report of Commissions-Radha Krishnan, Mudaliar, Kothari.
- ড. দিলীপ কুমার ঠাকুর ও শেখ হামিদুল হক- আধুনিক ভারতে শিক্ষার ধারা
- ভক্তিভুষন ভক্তা- ভারতীয় শিক্ষার রূপরেখা
- রণজিৎ ঘোষ- আধুনিক ভারতে শিক্ষার বিকাশ
- ড. দুলাল মুখোপাধ্যায়, তারিণী হালদার ও বিনায়ক চন্দ্র- সমকালীন ভারতবর্ষ ও শিক্ষা
- ড. নূরুল ইসলাম- ভারতীয় শিক্ষা ইতিহাসের রূপরেখা
- গৌরদাস হালদার ও প্রশান্ত শর্মা- আধুনিক ভারতীয় শিক্ষার বিকাশ
- রণজিৎ ঘোষ- যুগে যুগে ভারতের শিক্ষাঃ প্রাচীন, মধ্য ও আধুনিক
- জ্যোতিপ্রসাদ বন্দ্যোপাধ্যায়- ভারতীয় শিক্ষার ইতিহাস ও সাম্প্রতিক সমস্যা
- ড. দেবাশিষ পাল, ড. দিলীপ কুমার ঠাকুর ও হামিদুল হক- সাম্প্রতিককালীন ভারতীয় শিক্ষার ধারা

- ড. দেবাশিষ পাল, ড. দত্ত, ড. ধর ও ড. মণ্ডল- সমসাময়িক ভারতবর্ষে শিক্ষার বিকাশ

Semester-2

CC-4

Course Name : PHILOSOPHICAL FOUNDATIONS OF EDUCATION
Course Code – BAHEDCC202

Syllabus:

Unit:I	Education and Philosophy
Unit:II	Child Centric Education
Unit:III	Indian Philosophy
Unit:IV	Western Philosophy
Unit:V	Contributions of Great Indian Educators
Unit:VI	Contributions of Great Western Educators

Expected Course Outcome:

After going through this course, the students will be able to-

- understand the meaning and relationship of Education and Philosophy.
- understand the meaning and features of child centric education.
- understand the concept of Indian philosophy.
- understand the concept of western philosophy.
- understand the contributions of great Indian educators.
- understand the contributions of great western educators.

understand the sociological bases of education.

Recommended Books:

- J. C. Aggarwal - Philosophical and Sociological Bases of Education
- K. K. Shrivastava- Philosophical Foundations of Education
- S. S. Chandra & R. K. Sharma- Philosophy of Education
- Chandra S.S- Indian educational development, problems and trends.
- O.P. Dhiman- Philosophical Foundations of Education
- R. R. Sharma- Philosophical and Sociological Foundation of Education
- M. K. Goswami- Educational Thinkers: Oriental and Occidental, Thoughts and Essays
- B. R. Purkait – Great Educators
- Aggarwal J. C and Gupta S- Great Philosophers and Thinkers on Education
- Mukherjee, K.K. -Some great educators of the world.
- V.R. Taneja- Educational Thoughts & Practice. Sterling Publication Pvt. Ltd. New Delhi.
- Gutek, Gerald L.- New Perspectives on Philosophy and Education. NewJersy, USA:pearson.

. তারিনী হালদার, বিনায়ক চন্দ, সুশান্ত কুমার বর্মন, দুলাল মুখোপাধ্যায়- শিক্ষা ও উন্নয়ন
. ড. অভিজিৎ কুমার পাল- শিক্ষা দার্শনের রূপরেখা
. তারিনী হালদার ও ড. প্রনব কুমার চক্রবর্তী- শিক্ষার দার্শনিক ও সমাজতাত্ত্বিক ভিত্তি
. বেবী দত্ত ও দেবীকা গুহ- শিক্ষাদর্শন ও দার্শনিকের অবদান
. ড. উজ্জল পাণ্ডা, ড. মিহির চট্টোপাধ্যায় ও ড. স্বপন সেন- শিক্ষার দার্শনিক ও সামাজিক ভিত্তি
. ড. দেবাশিষ পাল ও ড. মিহির চট্টোপাধ্যায়- শিক্ষার দার্শনিক ভিত্তি

Semester-3

CC-5

Course Name : SOCIOLOGICAL FOUNDATIONS OF EDUCATION
Course Code – BAHEDCC301

Syllabus:

Unit:I	Introduction
Unit:II	Education and Society
Unit:III	School and Society
Unit:IV	Sociological Bases of Education
Unit:V	Constitutional Provisions and Social Development
Unit:VI	Religion and Culture

Expected Course Outcome:

After going through this course, the students will be able to-

- understand the meaning and relationship of Education and Sociology.
- understand the types and agencies of education.
- understand the interrelation of school and society.
  understand the sociological bases of education.
- understand the constitutional provisions for education.
- understand the concept and role of religion and culture.

Recommended Books:

- Aggarwal, J.C.- Theory & Principles of Education, New Delhi, Vikas Publising House.
- Aggarwal, J.C.- Philosophical and Sociological Bases of Education, New Delhi, Vikas Publishing House.
- Bhatia & Bhatia- Theory and Principles of Education, New Delhi; Doaba House.
- Chaube, S.P. and Akhilesh- Philosophical and Sociological Foundations of Education, Vinod Pustak Mandir.
- Havinghurst R.J. & B.L. Newgarben - Society and Education, Allyn & Bacon.
- Mathur, S.S.- A Sociological Approach to Indian Education, Agra; Vinod Pustak Mandir.
- Ottaway, A.K.C.- School and Society, London; Routledge and Keganpal.
- S. P. Chaube & A. Chaube – Foundations of Education
- Sharma, Y. - Sociology of Education
- Brown, F.L. -Educational Sociology
- Chakraborty, J.C. -Educational Sociology
- Banerjee, A - Fundamentals of Educational Sociology, B.B Kundu Grandsons, Kolkata
- Ganguly, R and Mainuddin, S.A.H.- Contemporary Indian Society, PHI Learning Pvt,Ltd, New Delhi.
- Jayaram, N – Sociology of Education in India; Rawat Publication; Jaipur
- **সোনালি চক্রবর্তী- শিক্ষার সমাজবৈজ্ঞানিক ভিত্তি**
- **দিবেন্দ্যু ভট্টাচার্ ্য- শিক্ষা ও সমাজতত্ব**
- **মঞ্জুষা তরফদার- শিক্ষাশ্রয়ী সমাজবিজ্ঞান**
- **বিষ্ণুপদ নন্দ- শিক্ষাশ্রয়ী সমাজতত্ব**
- **শ্যামাপ্রসাদ চট্টরাজ- শিক্ষামুখী সমাজবিজ্ঞান**
- **ড. দেবাশিষ পাল- শিক্ষার সামাজিক ভিত্তি**
- তারিনী হালদার ও ড. প্রনব কুমার চক্রবর্তী- শিক্ষার দার্শনিক ও সমাজতাত্ত্বিক ভিত্তি
- **ড. মিহির চক্রবর্তী ও ড. কবিতা চক্রবর্তী- শিক্ষা সমাজতত্ত্বের রূপরেখা**

CC-6

Course Name : PSYCHOLOGICAL FOUNDATIONS OF EDUCATION
Course Code – BAHEDCC302

Syllabus:

Unit:I	Psychology and Education
Unit:II	Cognition
Unit:III	Growth and Development
Unit:IV	Learning
Unit:V	Intelligence
Unit:VI	Teaching

Expected Course Outcome:

After going through this course, the students will be able to-

- understand the concept of Psychology.
- relate psychology with education.
- be acquaint with the concepts of growth and development, their different stages and aspects.
- understand the nature and theories of learning and how different factors affect it.
- be acquaint with the concepts of Intelligence, Creativity and Personality.
- know basic concept of teaching and its different methods .

Recommended Books:

- Bigge, M.L- Psychological Foundations of Education. Harper and Row, New York.
- S. K. Mangal- Essentials of Educational Psychology
- J. C. Aggarwal- Essentials of Educational Psychology
- Chauhan, S.S. (1998)- Advanced Educational Psychology. Vikash Publishing House, New Delhi.
- Choube, S.P. & Choube.(1996)- Educational Psychology and Experriments. Himalay Publishing House, New Delhi.
- Mangal S.K (1997)- Advance Educational Psychology. Presentice Hall of India, New Delhi.
- Woolfolk, A.E. (2011)- Educational Psychology. Derling Kinderslay (India) Pvt. Ltd.
- Bruner, J.(1977)- The Process of Education, USA: Harvard University Press.
- B. N. Dash & N. Dash –A Test Book of Educational Psychology
- Normann Sprinthall and Richard, C. Sprinthall- Educational psychology: McGraw-Hill Publishing Company.
- সুশীল রায়- শিক্ষা মনোবিদ্যা
- ড. বিজন সরকার- শিখন ও শিক্ষণ
- ড. প্রনব কুমার চক্রবর্তী ও ড. বিজন সরকার- শিখন ও মনোবিদ্যা
- ড. দেবাশিষ পাল- শিখন ও মনোবিদ্যা
- ড. দেবাশিষ পাল, ড. ধর, ড. দাশ ও ড. ব্যানার্জী- পাঠদান ও শিখনের মনস্তত্ত্ব
- ড. প্রনব কুমার চক্রবর্তী- শিক্ষা মনোবিজ্ঞানের রূপরেখা
- ড. প্রনব কুমার চক্রবর্তী- শিক্ষা মনোবিজ্ঞান ও শিখনপ্রক্রিয়া
- অরুন ঘোষ- শিক্ষাশ্রয়ী মনোবিজ্ঞান
- প্রমোদবন্ধু সেনগুপ্ত ও প্রশান্ত শর্মা- শিক্ষা মনোবিজ্ঞান

Semester-3

CC-7

Course Name : SCHOOL ORGANISATION AND EDUCATIONAL MANAGEMENT

Course Code – BAHEDCC303

Syllabus:

Unit:I	Educational Management
Unit:II	Educational Administration and School Organization
Unit:III	Educational Supervision
Unit:IV	Educational Planning
Unit:V	Functions of Administrative Bodies
Unit:VI	Teaching

Expected Course Outcome:

After going through this paper, the students will be able to-

- understand the concept of educational management
- understand the meaning of educational administration and school organization
- understand the concept of educational supervision
- understand the meaning of educational planning
- know the functions of different administrative bodies
- know the structure of different educational bodies

Recommended Books:

- P.D. Shukla – Adminstration of Education in India, Vikash, New Delhi. 1983.
- H. Spears - Improving the supervision of Instrcution. Prentice Hall, New York, 1955.
- Ralph B. Kingbrough and Nunnery – Educational Administration, MacMillan New York – 1983.
- Raymond H. Ostrander – A Value Approach to Educational Administration, 1968.
- K.K. Shukla – Inspection and Supervision in Secondary Schools.
- NIEPA – Some Basic Facts about Educational Administration in India.
- J. C. Aggarwal- Educational Administration, Management and Supervision
- Aggarwal, J.C.(2007); Educational Administration And Management : Principles & Practices, DOABA House, New Delhi.
- Mohanty, J. (2012); Educational Administration, Management, And School Organisation, Deep & Deep Publication Pvt Ltd, New Delhi.
- I. S. Sindhu- Educational Administration and Management
- T.S. Sodhi & Aruna Suri – School Management
- Kochar, S.K - Secondary School Organization
- Aggarwal - School Organization
- Chakraborty, P.K., Sengupta, M. & Nag, S. (2007); Educational Management, Rita Publications, Kolkata.
- ড. তুহিন কুমার কর ও ভীমচন্দ্র মণ্ডল- শিক্ষায় ব্যবস্থাপনা ও প্রযুক্তিবিদ্যা
- ড. দুলাল মুখোপাধ্যায় ও লোপামুদ্রা পাল (চক্রবর্তী)-শিক্ষা ব্যবস্থাপনা ও সংগঠন
- ড. দেবাশিষ পাল- বিদ্যালয় সংগঠন ও ব্যবস্থাপনা
- দিলীপ কুমার চক্রবর্তী- শিক্ষাগত ব্যবস্থাপনা ও পরিকল্পনা
- বিমল চন্দ্র দাশ, সেনগুপ্ত ও রায়- শিক্ষায় ব্যবস্থাপনা
- ড. দেবাশিষ পাল ও ড. দেবব্রত দেবনাথ- শিক্ষা ব্যবস্থাপনা, পরিকল্পনা ও মূল্যায়ন
- ড. দেবাশিষ পাল ও দেবাশিষ ধর- শিক্ষাক্ষেত্রে সংগঠন ও ব্যবস্থাপনা
- ড. প্রদীপ্ত রঞ্জন রায় ও ড. অমলকান্তি সরকার- বিদ্যালয় সংগঠন, ব্যবস্থাপনা ও পরিকল্পনা
- ড. মহম্মদ আফসার আলি- শিক্ষা ব্যবস্থাপনা ও সংগঠন
- ড. হরেকৃষ্ণ মণ্ডল- বিদ্যালয় পরিচালনা ও ব্যবস্থাপনা

Semester-3

SEC-1

Course Name : COMPUTER APPLICATION IN EDUCATION

Course Code – BAHEDCSEC302

Syllabus:

Unit:I	Basics of MS WORD
Unit:II	Basics of MS EXCEL
Unit:III	Serial Preparation
Unit:IV	Table Preparation
Unit:V	Certificate Preparation
Unit:VI	Basics of Power Point

Expected Course Outcome:

After going through this course, the students will be able to-

- Apply various computer applications in the field of education
- Perform fundamental works in MS WORD
- Perform fundamental works in MS EXCEL
- Perform fundamental works in MS POWER POINT
- Make graphical representations

Recommended Books

Atul Jain- Computer in Education

- শম্ভু সোম- শিক্ষাক্ষেত্রে কম্পিউটারের প্রয়োগ
- শম্ভু সোম ও অমল শঙ্কর মুখার্জী- শিক্ষণ শিখনে কম্পিউটার
- অরুনাভ সামন্ত- শিক্ষায় কম্পিউটারের প্রয়োগ

Semester-4

CC-8

Course Name : EDUCATIONAL TECHNOLOGY

Course Code – BAHEDCC401

Syllabus:

Unit:I	Concept of Educational Technology
Unit:II	System Approach to Education
Unit:III	Communication
Unit:IV	Mass Instructional Techniques

Unit:V	Personalized Instructional Techniques
Unit:VI	Models of Teaching

Expected Course Outcome:

After going through this course, the students will be able to-

- understand the concept of Educational Technology.
- acquaint with the concepts of system approach to education.
- know the idea of communication.
- understand the details of instructional techniques.
- develop the concept of different models of teaching.

Recommended Books:

- J.C. Aggarwal – Essentials of Educational Technology.
- K.Sampath – Introduction to Educational Technology.
- R.P. Pathak – New Dimensions of Educational Technology.
- J. Mohanty - Educational Technology.
- Mangal & Mangal – Essential of Educational Technology.
- U. Rao – Educational Technology
- K. L. Kumar- Educational Technology
- মলয় কুমার সেন – শিক্ষা প্রযুক্তি বিজ্ঞান
- তুহিন কুমার কর এবং ভীমচন্দ্র মণ্ডল – শিক্ষায় ব্যবস্থাপনা ও প্রযুক্তিবিদ্যা
  শ্যামাপ্রসাদ চট্টরাজ – শিক্ষা প্রযুক্তি
  ড. দুলাল মুখোপাধ্যায় ও ড. উদয় শঙ্কর কবিরাজ- শিক্ষা ব্যবস্থাপনায় শিক্ষণ সম্পদ

Semester-4

CC-9

Course Name : CURRICULUM STUDIES

Course Code – BAHEDCC402

Syllabus:

Unit:I	Introduction to Curriculum
Unit:II	Bases of Curriculum
Unit:III	Objectives of Curriculum
Unit:IV	Concept of Curriculum Framework
Unit:V	Curriculum Evaluation

Unit:VI	Theories of Curriculum

Expected Course Outcome:

After going through this course, the students will be able to-

- know the concept and objectives of curriculum
- acquaint with different bases of curriculum
- develop concept of curriculum framework
- realize the importance of curriculum evaluation
- be aware of different theories of curriculum .

Recommended Books:

- H. Tabe - Curriculum Development- Theory & Practice
- A.V. Kelly – The Curriculum, Theory and Practice
- N. Bhalla – Curriculum Development
- M. Talla – Curriculum Development: Perspectives, Principles and Issues
- J. C. Aggarwal – Curriculum Development
- দিবেন্দ্যু ভট্টাচার্য – পাঠক্রম চর্চা ও মূল্যায়ন
- মিহির চট্টোপাধ্যায় - পাঠক্রম চর্চা
- প্রনব কুমার চক্রবর্তী - পাঠক্রম নীতি ও নির্মান
- নূরুল ইসলাম- পাঠক্রম চর্চা ও ব্যবহারিক শিক্ষাবিজ্ঞান
- সোনালী চক্রবর্তী- পাঠক্রম চর্চা ও নির্দেশনা দান
- দিবেন্দ্যু ভট্টাচার্য – জ্ঞানের স্বরূপ ও পাঠক্রম

Semester-4

CC-10

Course Name : INCLUSIVE EDUCATION

Course Code – BAHEDCC403

Syllabus:

Unit:I	Introduction to Inclusive Education
Unit:II	Inclusive education and its evolution
Unit:III	Perspectives of inclusive education
Unit:IV	Special Educational Needs (SEN) of Learners in Inclusive School
Unit:V	Inclusive School setting
Unit:VI	Facilitators for Inclusive Education

Expected Course Outcome:

After going through this course, the students will be able to-

- develop an understanding of the concept and philosophy of inclusive
- understand education in the context of education for all
- familiarize with the trends and issues in inclusive education

- develop an attitude to foster inclusive education
- develop an understanding of the role of facilitators in inclusive education
- understand and appreciate the needs of such children in the society

Recommended Books:

- M. Dash – Education of Exceptional children
- James R Patton – Strategies for Teaching Learners with Special Need
- Robert A Gable – Strategies for Teaching Students – With Mild to Severe Mental Retardation
- Eugene B. Edger – Mentally Handicapped Children: Education and Training
- Warren Umansky – Young Children with Special Need
- Giangreco Michel – Ideas of Educating Students with Disabilities
- ড. দেবব্রত দেবনাথ ও আশিষ কুমার দেবনাথ- অন্তর্ভুক্তিমূলক শিক্ষা
- ড. দেবাশিষ পাল, ড. দেবাশিষ ধর ও ড. মধুমিতা দাশ- অন্তর্ভুক্তিমূলক শিক্ষাব্যবস্থা
- ড. উর্মি চক্রবর্তী- অন্তর্ভুক্তিমূলক বিদ্যালয় সংগঠন
- ড. উর্মি চক্রবর্তী- বিশেষ চাহিদা সম্পন্ন শিশু ও অন্তর্ভুক্তিমূলক শিক্ষা
- ড. প্রদীপ্ত রঞ্জন রায় ও অদিতি রায়- অন্তর্ভুক্তিমূলক বিদ্যালয় শিক্ষা
- ড. প্রনব কুমার চক্রবর্তী ও ড. দেবশ্রী ব্যানার্জী- সর্বসমাবিষ্ট বিদ্যালয় শিক্ষা

Semester-4

SEC-2

Course Name : ACTION RESEARCH AND CASE STUDY

Course Code – BAHEDCSEC402

Syllabus:

Unit:I	Introduction to action research
Unit:II	Practicum

Expected Course Outcome:

After completion of the course, the students will be able to-

- develop the concept of action research and its importance in education
- write a report on an action research undertaken by them.

Recommended Books:

Lokesh koul- Methodology of Educational Research.

A.K.Singh_- tests.measurements and Research methods inBehaviourial science.

ডঃদেবাশিস পাল,দেবাশিস ধর- সক্রিয় গবেষণা

ডঃদেবাশিস পাল- গবেষণা পদ্ধতি ও রাশি বিজ্ঞানের কৌশল ।

Semester-5

CC-11

Course Name : CONTEMPORARY ISSUES IN EDUCATION

Course Code – BAHEDCC501

Syllabus:

Unit:I	Indian Constitution and the Right to Education
Unit:II	Elementary Education
Unit:III	Secondary Education
Unit:IV	Higher Education
Unit:V	Present Issues in Education
Unit:VI	Trends in Indian Education

Expected Course Outcome:

After completion of the course, the students will be able to-

To help the student to understand the concept, constitutional provision, role of DPEP, RCFCE,

SSA current status and problems of elementary education in India

- To enable the student to understand the concept of secondary education, role of RMSA and problems of secondary education in India
- To enable the students meaning, aims & objectives of higher education, Knowledge Commission, RUSA
- To enable the student to understand the Indian constitution and the right to education
- To develop appreciation and understanding about the some important trend and issues in education

Recommended Books:

B. R. Purkait- Milestones of Modern Indian Education

- J. C. Aggarwal - Landmarks in the History of Modern Indian Education
- S. S. Ravi – A Comprehensive Study of Education

- J. P. Banerjee – Education in India: Past, Present and Future
- S. P. Chaube & A. Chaube – Education in Ancient and Medieval India
- B. K. Nayak- History Heritage and Development of Indian Education
- B. N. Dash –History of education in India
- S. S. Ravi – A Comprehensive Study of Education
- J. C. Aggarwal- Theory and Principles of education
- R. P. Pathak – Development and Problems of Indian Education
- B. K. Nayak- Modern Trends and Issues in Education of India

Semester-5

CC-12

Course Name : GUIDANCE AND COUNSELLING IN EDUCATION

Course Code – BAHEDCC502

Syllabus:

Unit:I	Concept and Types of Guidance
Unit:II	Agencies of Guidance
Unit:III	Concept and Types of Counselling
Unit:IV	Areas of Counselling
Unit:V	Guidance and Counselling Services
Unit:VI	Personnel in Guidance Programme

Expected Course Outcome:

After completion of the course, the students will be able to-

* To develop appreciation and understanding about the concepts, types and agencies of guidance

*To help the student to understand the concept, technique and implications of counselling

*To enable the students the types and agencies of counselling

*To enable the student to understand the psychometric methods and techniques for guidance and counselling

*To help the student to understand guidance and services programme- Guidance and Counselling

Recommended Books:

- NCERT- Guidance and Counselling
- N. C. Basu- Educational and Vocational Guidance
- S. S. Chauhan- Principles and Techniques of Guidance

Semester-5

DSE-1

Course Name : TEACHER EDUCATION

Course Code – BAHEDCDSE501

Syllabus:

Unit:I	Concept of Teacher Education
Unit:II	History of Teacher Education in India
Unit:III	Teaching as a Profession
Unit:IV	Teacher Education Programme at Different Levels
Unit:V	Academic and Administrative Control on Teacher Education
Unit:VI	Major Issues and Problems of Teacher Education

Expected Course Outcome:

After completion of the course, the students will be able to-

*To help the student to understand the basic concept of teacher education.

*To enable the students the historical perspective and development of teacher education in India.

*To understand the Teaching as a profession

*To help the student to understand teacher education programme at different levels

*To understand the various agencies in teacher education

*To make an idea about some major issues and problems of teacher education

Recommended Books:

- NCTE (2009) Curriculum Frame Work of teacher Education, NCTE, New Delhi.
- Report of the National Commission of Teachers (1983-85).
- National Curriculum Framework for Teacher Education, 2009.
- Report of the Delors Commission, UNESCO, 1996.

- National Curriculum Framework on School Education, 2005.
- UNESCO (2006) : Teachers and Educational Quality : UNESCO Institute for Statistics Montreal.
- NCTE (2009) : National Curriculum Framework of Teacher Education, New Delhi.
- NCERT (2005) : National Curriculum Framework.
- Rao, D. B. (1998). Teacher Education in India. Discovery Publishing House, New Delhi.
- Yadav, M. S. and Lakshmi, T. K. S. (2003) : Conceptual inputs for Secondary Teacher Education : The Instructional Role. India, NCTE.
- Joyce, B. and Weal, M. (2003). Models of Teaching (7^{th} Ed.) Boston : Allyn and Bacon.
- Ram, S. (1999). Current Issues in Teacher Education. Sarup & Sons Publication, New Delhi.
- Schon, D. (1987). Educating the Reflective Practitioner : Towards a New Design for Teaching and Learning in the Profession. New York, Basic Books.
- Mohan, R. (2011). *Teacher Education*. New Delhi: PHI Learning Pvt. Ltd.
- Aggarwal, P. (2010). *Teacher Education*. New Delhi: Saurabh Publishing House.
- Ali, L. (2011). *Teacher Education*. New Delhi: APH Publishing Corporation.
- Aggarwal, J. C. (2010). *Teacher and Education in a Developing Society* (5^{th} ed.). New Delhi: Vikas Publishing House.
- Mishra, L. (2013). *Teacher Education: Issues and Innovation*. New Delhi: Atlantic Publications.
- Pany, S. and Mohanty, S. P. (2013). *Teacher Education in India*. New Delhi: Shipra Publication.
- Sharma, S. R. (2008). *A Handbook of Teacher Education*. New Delhi: Sarup & Sons.

Semester-5

DSE-2

Course Name : PSYCHOLOGY OF MENTAL HEALTH AND HYGIENE

Course Code – BAHEDCDSE502

Syllabus:

Unit:I	Introduction to Mental Health
Unit:II	History& Importance of Mental Health
Unit:III	Adjustment and Maladjustment
Unit:IV	Mental Illnesses
Unit:V	Treatment/Methods for the Preservation and Enhancement of Mental Health
Unit:VI	Education and Mental Health

Expected Course Outcome:

After completion of the course, the students will be able to-

*To develop appreciation and understanding about the Concepts of adjustment and maladjustment

* To enable the student to understand about the concepts, factors, importance and history of mental health

* To be aware about Mental Illnesses

*To understand the treatment/methods for the preservation and enhancement of mental health

*To enable the student to understand about role of home and society in maintaining good mental health.

Recommended Books:

Bhan S. & Dutt, N. K. (1986). Mental Health through Education. New Delhi: Vision Books.

- Brown, J. F. (1940). The Psycho-dynamics of Abnormal Behavior. New York: McGraw Hill Book Co.
- Carol, H. A. (1979). Mental Hygiene. New York: Prentice Hall.
- Chauhan, J. C. (1986). Mental Hygiene. New Delhi: Allied publisher.
- Crow, I.D. & Crow, A. (1970). Mental Hygiene. New York: McGraw Hill Book Co.
- Cyril, M.F. (1969). Behavior Therapy. New York: McGraw Hill Book.
- Dollard, J. & Miller N. E. (1970). Personality and Psychotherapy. Chicago: Aldine.
- Enelow, Allen J. (1978). Elements of Psychotherapy. New York: Oxford University Press.
- Howard, S. Friedman and Mirian, W. Schustach (2004). Personality: Classic theories and Modern
- Research. Delhi: Pearson Education Pvt. Ltd.
- Jahoda, M. (1958). Current Concepts of Positive Mental Health.New Basic Books. Inc.
- Klein, D. B. (1956). Modern Hygiene. New York: Henery Holt Company.
- Korchin, S. J. (1986). Modern Clinical Psychology. New Delhi: Indian Edition CBS Publishers.
- Lorenze, A. Pervin (1990). Handbook of Personality: Theory and Research. New York: Guilford Press.
- Maurus,J. ().Mental Hygiene. Allahabad: Better Yourself Books.
- Page, I. P. (1970). Abnormal Psychology. New Delhi: Tata McGraw Hill Publishers.

Rayan, W. Carson (1970). Mental Health through Education: New Delhi: Commonwealth.

Semester-6

CC-13

Course Name : MEASUREMENT AND EVALUATION IN EDUCATION

Course Code – BAHEDCC601

Syllabus:

Unit:I	Measurement and Evaluation in Education
Unit:II	Tools of Measurement and Evaluation
Unit:III	Techniques of Measurement and Evaluation
Unit:IV	Scales of Measurement and Evaluation
Unit:V	Characteristics of a Good Test
Unit:VI	Evaluation Process

Expected Course Outcome:

After completion of the course, the students will be able to-

* describe the role of measurement and evaluation in education.
*differentiate measurement and evaluation.
* establish the relationship between measurement and evaluation.
* explain different forms of assessment that aid student learning.
*use wide range of tools and techniques and construct these appropriately.
*classify educational objectives in terms of specific behavioural form.

Recommended Books:

*S. K. Mangal- Statistics in Education and Psychology
*A. K. Singh – Test, Measurement and Research Methods in Behavirioul Sciences
*E. Garret- Statistics in Education and Psychology
*R. A. Sharma- Mental Measurement and Evaluation
*Y. P. Aggarwal- Statistics Methods Concepts, Application and Computation.

Semester-6

CC-14

Course Name : FUNDAMENTALS OF EDUCATIONAL RESEARCH

Course Code – BAHEDCC602

Syllabus:

Unit:I	Research-meaning and nature:
Unit:II	Educational Research- meaning, nature and types
Unit:III	Basic Ideas of Research- I
Unit:IV	Basic Ideas of Research- II
Unit:V	Major Approaches of Research
Unit:VI	Methodology of Educational Research

Expected Course Outcome:

After completion of the course, the students will be able to-

*define and explain the meaning and nature of research.
*define and explain the meaning and nature of Educational research.
*identify source of data for Research.
*describe the types of Research.
*describe the meaning of Research problem and Review of Related Literature.
* explain the concept of Hypothesis, Variables, and Research data.
*analyze the Qualitative and Quantitative data.
* acquaint with the process of collecting data.
*apply relevant statistical techniques to analyze data.

Recommended Books:

*A.K. Singh – Test, Measurement and Research Methods in Behavioral Sciences
*Creswell, J.W. (2007). Qualitative Inquiry and Research Design: Choosing Among
*S. K. Mangal- Statistics in Education and Psychology
*Lokesh Koul- Methodology of Educational Research (4th ed.). New Delhi: Vikash Publishing House Pvt Ltd.
*J W Best & J V Khan- Research in Education (10th ed.). New Delhi: PHI Learning Private Limited.
*V.K Shastri,. (2008). Research Methodology in Education.Delhi: Authors Press.
* W. Wiersma (1995)- Research Methodology in Education: An Introduction. USA: Allyan and Bacon.
*S.K. Mangal, & S. Mangal, (2012)- Research Methodology in Behavioural Science. New Delhi: PHI Learning Private Limited.

Semester-6

DSE-3

Course Name : EDUCATION OF CHILDREN WITH SPECIAL NEEDS

Course Code – BAHEDCC601

Syllabus:

Unit:I	Introduction to Special Education
Unit:II	Provisions of Special Education
Unit:III	Children with special needs and their education
Unit:IV	Exceptional Learners
Unit:V	Special Schools:
Unit:VI	Role of different categories of members

Expected Course Outcome:

After completion of the course, the students will be able to-

* explain meaning, nature and causes of exceptionality;
*elaborate Historical Development of special Education in India;
*understand different types of special Education;
*suggest the alternative or remedial educational provisions for special children;
*understand concept of different types of special education.

Recommended Books:

* Bloom, Benjamin, S. (Ed.) (1956): Taxonomy of Educational Objectives: Handbook for Cognitive Domain. New York: John Wiley & Sons Inc.
*Clark, C.M. (1987): The Carroll Model-in M.J. Dunkin (Ed.). The International Encyclopedia of Teaching & Teacher Education. Oxford: Pergamon Press.

*Das, R.C. (1993): Educational Technology: A Basic Text. New Delhi: Sterling Publishers Private Limited.
*De Brisson, A (Ed). (1969): Programmed Learning Research. Paris: Major Trends, Dumod.
*Erikson, B. (1969): A Systems Approach to Education. Educational Technology, Vol.IX. No.6.
*Hill, W.F. (1967): Learning. London: Methuen & Co. Ltd.
*Joyce & Weils (1985): Models of Teaching. New Delhi: Prentice Hall of India.
*Mehra, V. (2004): Educational Technology. New Delhi: SSP.
*Mohanty, J. (1992): Educational Technology. New Delhi: Deep and Deep Publications.
*Robertson, E. (1987): Teaching and Related Activities. International Encyclopaedia of Teaching and Teacher Education.
*Spaulding, S.C. (1972): Technological Devices in Education. AECT International.
Unwin,
*D. & Mc Alease, R. (1978): Encyclopaedia of Educational
*Media Communication and Technology. West Port: Greenwood Press.
*S. M. Sahu, Educatin of Children with Special Needs

Semester-6

DSE-4

Course Name : EDUCATIONAL THOUGHTS AND IDEAS OF GREAT EDUCATORS

Course Code – BAHEDCC602

Syllabus:

Unit:I	Great Educators – Eastern: I
Unit:II	Great Educators – Eastern: II
Unit:III	Great Educators – Eastern: III
Unit:IV	Great Educators – Western: I
Unit:V	Great Educators – Western: II
Unit:VI	Great Educators – Western: III

Expected Course Outcome:

After completion of the course, the students will be able to-

to know, understand and explain the contributions of eminent Indian and Western educators in the field of education in respect to Aims, Curriculum, Methods of Teaching, Discipline and Role of Teachers.

Recommended Books:

Aggarwal, J. C. (2010). Psychological Philosophical and Sociological Foundations of

Education (1st Edition). Shipra Publication, New Delhi.

- Aggarwal.J.C. -Theory and Principles of education Philosophical and Sociological Bases of education
- Banerjee, A -Philosophy and principles of education.
- Chakraborty, J.C. -Modern education
- Kundu and Majumder -Theories of education
- Mukherjee, K.K. -Some great educators of the world
- Mukherjee, K.K. -Principles of education
- Joshi, S. - Educational Thoughts of Rabindranath Tagore. Crescent Pub
- Joshi, S. - Educational Thoughts of Sri Aurobindo. Crescent Pub
- Joshi, S. - Educational Thoughts of Swami Vivekananda. Crescent Pub Pathak, R. P. (2009).
- Philosophical and Sociological Foundations of Education. Kanishka Publishers, New Delhi. Sharma,
- Anita (2011). Philosophical and Sociological Foundation of Education. New Delhi: Global Publication.
- Sharma, S. N. (1995). Philosophical and Sociological Foundations of Education. New Delhi: Kanishka Publishers Distributors.
- Unterhalter, Walker, (2010). Amartya Sen’s Capability Approach and Social Justice in Education. Palgrave Scholarly.Education.

Statement of Program Outcomes, Programme Specific Outcomes and Course Outcomes for Bachelor of Arts (honours) in English

Program Outcomes

Program Name: B. A. Honours in English

Program Objectives: The present syllabus of English honours under CBCS pattern aims to acquaint students with the minute histories of English literary traditions, and the cultural heritage of English society so that they may be equipped to appreciate literary works across the ages. In addition, our S.E.C. courses offered to honours students are designed to provide a thorough knowledge of business communication skills in English; thus lending them a cutting edge in the employment market. We hope, on successful completion of the course, students will gather a genuine interest to explore the vast treasures of literatures in English, 'new' and postcolonial literatures, as well as literatures in vernacular languages; and devote themselves to higher studies in concerned or allied areas of academics. The course also equips students to develop certain essential skills which may enhance their employability in today's job market.

Program Specific Outcomes

PSO1: To make students familiar with the basic principles of studying an honours course in English.

PSO2: To develop analytical ability in students so that they are able to engage critically with a wide variety of literary texts.

PSO3: To help students develop a strong inclination towards reading literatures produced in English, as well as various 'new 'and postcolonial literatures; and even develop a habit of reading their vernacular literatures with enthusiasm and alacrity.

PSO4: To help students assimilate the knowledge of English language and literature that may be relevant to the study of other branches of knowledge in the Humanities, so as to develop their holistic intellect.

PSO5: To provide a systemic understanding of core issues in literary theory and praxis, as well as culture studies, so that students may be equipped to extend their skills to understanding the dynamic society that they are a part of.

PSO6: To develop proficiency in the use of English language as a tool of communication, so that they may develop a cutting edge in the job market.

PSO7: To provide an intellectually stimulating environment that encourages students to develop their inherent skills optimally, as well as improve themselves manifold in tune with the requirements and challenges of modern society.

Course outcomes:

Semester I

Paper 1 (BAHENGC101 – **British Poetry: Anglo-Saxon to Seventeenth Century**): The course is designed to provide the students with foundational knowledge in British poetry, beginning from the Anglo-Saxon period up to the seventeenth century. They are also trained in the basic principles of English rhetoric and prosody.

Paper 2 (BAHENGC102 – **British Prose and Drama: Anglo-Saxon to Seventeenth Century**): The course is designed to provide students with foundational knowledge in British prose and drama, beginning from the Anglo-Saxon period up to the seventeenth century.

Paper GE (BAHENGGE101 – **Contemporary India: Women and Empowerment**): Offered to honours students from other disciplines, this course is designed to introduce students to gender issues, especially those concerning the empowerment of women in modern Indian society.

Semester II

Paper 3 (BAHENGC201 – **Shakespeare**): The course introduces students to the works of William Shakespeare, where they study selected sonnets, the tragedy *Macbeth* and the comedy *Twelfth Night*.

Paper 4 (BAHENGC202 – **British Literature: Eighteenth Century**): The course familiarizes students with Eighteenth-century British Literature, with detailed reading of selected works of Pope, Sheridan, Defoe, Addison and Steele.

Paper GE (BAHENGGE201 – **Indian English Literature**): Offered to honours students from other disciplines, this course teaches students the appreciation of English literary texts authored by Indians, where students read works of Sarojini Naidu, Jayanta Mahapatra, Nissim Ezekiel, R. K. Narayan, among others.

Paper AECC (AECCE201 – **English Communication**): Offered to all honours students as one of the choices for a compulsory course in language skills, this course stresses on imparting basic communication techniques in English. This course is designed keeping in mind the requirements of formal communication in English (viz., interviews, group communication, group discussion, etc.)

Semester III

Paper 5 (BAHENGC301 – **British Romantic Literature**): The students are introduced to British Romantic Literature. They study selected poems of Blake, Wordsworth, Coleridge, Shelley, Keats and Byron; Austen; and selections from the essays of Lamb and Dequincey.

Paper 6 (BAHENGC302 – **British Victorian Literature**): The students are familiarized with British literature from the Victorian period. They specifically study selections from the poetry of Tennyson, Browning, Arnold and Emily Bronte and that from the novels of Dickens and Hardy.

Paper 7 (BAHENGC303 – **Classical Literature: Indian and European**): The students are introduced to Indian and European Classical Literature, with selections from theoretical texts of Bharata and Aristotle; the works of Sudraka, Sophocles and Homer.

Paper SEC-I (BAHENGSE301 / BAHENGSE302 – **Actual Reporting and Content Writing** OR **Translation Skills**): This is a paper offered to honours students aimed to enhance specific skills of language. If they choose to study Actual Reporting and Content Writing, they are taught the basic tenets of newspaper, television and organization reporting. They are also familiarized with content writing for advertisements, leaflets, brochures, web blogs, etc. If they choose to study Translation, they are tutored in the possibilities and basic techniques of translation as a skill.

Paper GE (BAHENGGE301 – **Literature and Gender**): Offered to honours students from other disciplines, this course introduces students to the representation of gender issues in literary texts. They study foundational texts in the discipline by Begum Rokeya, Mahasweta Devi, Virginia Woolf and Sylvia Plath.

Semester IV

Paper 8 (BAHENGC401 – **British Literature: The Early Twentieth Century**): The students are acquainted with British literature from the early twentieth century, with specific focus on the poetry of Yeats, Eliot, Thomas, Larkin, selections from the novels of Woolf, and the short stories of Joyce and Conrad.

Paper 9 (BAHENGC402 – **Indian Writing in English**): This paper is designed to introduce the students to Indian writing in English. They read selections from the poetry of Derozio, Kamala Das, Jayanta Mahapatra and Robin Ngangom; selections from the novels of Khushwant Singh, and R. K. Narayan's non-fiction.

Paper 10 (BAHENGC403 – **Popular Literaure**): This paper acquaints students with popular literature. They study poetry and graphic fiction selected from the works of Sukumar Ray, Edward Lear, Durga and Subhas Vyam; Rowling's Harry Potter series; Christie's and Satyajit Ray's stories.

Paper SEC – II (BAHENGSE401 / BAHENGSE402 – **Communicative English** OR **Creative Writing**): This is another specific skill enhancement course, where students are taught certain basic language skills in English. If they choose Communicative English, they are trained in vocabulary-building, functional grammar, and coached to improve effective writing skills necessary in communication over letters, emails or other such modes. In case they choose Creative Writing, they are trained hands-on in basic writing skills in English.

Paper GE (BAHENGGE401 / BAHENGGE402 – **Indian Literature** OR **Academic Writing and Composition**): This course is offered to honours students from other disciplines. Those who choose Indian Literature are trained to read some of the works by M.K. Gandhi, Sudha Murthy, APJ Abdul Kalam, R.K. Narayan, R.K. Laxman, and others. Those who choose Academic Writing are trained in the development of critical writing skills required in academics.

Semester V

Paper 11(BAHENGC501 – **Modern European Drama**): The students are introduced to modern European drama through selections from Synge, Ibsen, Brecht and Ionesco.

Paper 12 (BAHENGC502 – **American Literature**): The students are introduced to American Literature. They are familiarized with the plays and poetry of Williams, Longfellow, Frost, Whitman and Adrienne Rich, and the prose works of Morrison, Poe and O'Henry.

Paper DSE-I and DSE-II (BAHENGDSE 501 /502 / 503 / 504): These are specialized courses offered to our honours students, where they are to choose two courses out of **Literary Criticism, Indian Literature in Translation, Travel Writing** and **Post World War II Literature**. As the names suggest, they are introduced to advanced texts in the said domains in each of these courses, so that they may design their own specializations for higher academic study and research.

Semester VI

Paper 13 (BAHENGC601 – **Postcolonial Literatures**): This course introduces students to postcolonial literatures. They read the drama of Dattani, selections from poems of Neruda, Walcott, Mamang Dai and David Malouf, and the fictional works of Amitav Ghosh.

Paper 14 (BAHENGC602 – **Women's Writing**): This course is devoted to women's writing. Students are taught selections from the drama and poetry of Manjula Padmanabhan, Emily Dickinson, Wheatley, Plath, Eunice De Souza; the prose works of Alice Walker, Mahasweta Devi and C. P. Gilman.

Paper DSE-III and DSE-IV (BAHENGDSE 601 /602 / 603 / 604): These are specialized courses offered to our honours students, where they are to choose two courses out of **Literary Theory, Partition Literature, Autobiography** and **Science Fiction & Detective Literature** . As the names suggest, these are niche courses in the said domains designed to engineer and develop students' specializations for higher academic study and research.

Program Outcome, Program Specific Outcome & Course Outcomes

B. Sc. Geography (Hindi) 2020-2021

Banwarilal Bhalotia College, Asansol, west Bengal

Program	Program Objective	Program Specific Objective
B.Sc. (Honours) in Geography	Students will understand the concept of space and place and how these are connected to people's sense of belonging to the physical environment, landscape and culture. Students will learn the variety of social and cultural system prevailing on different parts of earth surface. They will have the ability to prepare the maps and interpret various types of information.	PSO1 Students will have knowledge about the development of Geographical thought from ancient period through medieval period to modern and postmodern period.
		PSO2 Students will acquire geographical analytical skill that can be applied to various project and research work.
		PSO3 Students will be able to identify the spatial structure developed in association of various physical, social, cultural and political phenomena.

Course Outcomes		
Semester	**Course Name**	**Course Outcomes**
Semester I	Core Course-I Course Name: Geomorphology Course Code: BSCHCEOC101	➢ Students will be able to analyse the different types of landform produced on different physiographic units on earth and how these are controlled by specific geological structure and environment. ➢ They will learn about the implication of geomorphological studies with reference to ground water.
	Core Course-II Course Name: Cartographic Techniques Course Code: BSCHCEOC102	➢ They will have the ability to prepare the maps using various cartographic techniques and interpret various types of information. It will be very much useful in doing project and research work. ➢ They will learn the different techniques of map projections with their salient features and suitability for different countries. ➢ They will have some idea about the weather phenomena throughout the year.
Semester II	Core Course-III Geography of Human and Cultural Landscape Course Code: BSCHCEOC201	➢ Students will get some knowledge about the different aspects of human geography and its contemporary relevance. ➢ They will have knowledge about the livelihood of major tribes of the world. ➢ Students will acquire knowledge about the population resource relationship and they will know about the important theories of population. Students will be exposed with the different forms and types of settlement system.

	Core Course-IV Statistical Method in Geography Course Code: BSCHGEOC202	➢ Statistical analysis will help in the task of measurement and evaluation. ➢ Students will learn about the different types of sampling and will get the basic concept of probability also. ➢ It will be very much useful in doing project and research work.
Semester III	Core Course-V Climatology and Oceanography Course Code: BSCHGEOC301	➢ Students will have much knowledge about the atmospheric pressure and winds, forces affecting winds, general circulation of air, jet streams, evaporation, humidity, condensation, fog and clouds, precipitation types, stability and instability. ➢ Students will have knowledge about the different processes of climatic phenomena along with the World Climatic Classification. ➢ They will learn about ocean floor topography, coral reef and its different types and formation. They will be exposed to different theories of coral reef formation and tides origin.
	Core Course-VI Geography of India Course Code: BSCHGEOC302	➢ Students will be familiar with different aspects of physical and socio-economic set up of India. ➢ They will have knowledge about the spatial patterns of industrial development and regionalization of India.
	Core Course-VII Fundamentals of Remote Sensing Course Code: BSCHGEOC303	➢ Students will acquire knowledge about the fundamental aspects of remote sensing. ➢ They will learn the use of Satellite data for land use and land cover classification using open source software. ➢ They will have knowledge about the aerial photography and its uses.
	SEC-I Spatial Statistical Techniques Course Code: BSCHGEOSE301	➢ Statistical analysis will help in the task of measurement and evaluation. ➢ Students will learn about the different types of sampling and will get the basic concept of probability also. ➢ They will learn the correlation, regression and time series analysis.
	SEC-I Geographical Techniques Course Code: BSCHGEOSE302	➢ Students will gain some practical knowledge about physical and chemical properties of soil and their suitability for agricultural purposes. ➢ They will be able to identify different types of rocks and minerals. ➢ Students will be able to measure the different weather elements by meteorological instruments.
Semester IV	Core Course-VIII Introduction to Global Economic System Course Code: BSCHGEOC401	➢ Students will be introduced to the economic processes such as globalization, trade and transportation and their impacts on economic, cultural and social activities. ➢ They will learn about the different types of economic activities.
	Core Course-IX Environment and Natural Resource Management Course Code: BSCHGEOC402	➢ Students will have knowledge about the man-environment relationships Students will understand the problems and management of land, water, forests and energy. ➢ They will learn the environmental monitoring, conservation practices for the betterment of mankind

	Core Course-X Digital Remote Sensing Course Code: BSCHGEOC403	➢ They will learn the use of Satellite data for land use and land cover classification using open source software. ➢ Students will learn the use of Satellite data and Geographic Information Systems (GIS), particularly for the purpose of qualitative and quantitative information-analysis.
	SEC-II Introduction to GI Science Course Code: BSCHGEOSE401	➢ Students will learn the use of Satellite data for land use and land cover classification using open source software. ➢ They will be able to use the GPS for mapping or administrative survey. ➢ They will learn the application of GIS in land use mapping, forests monitoring and natural disaster mapping.
	SEC-II Thematic Atlas Course Code: BSCHGEOSE402	➢ Students will have the ability to prepare the maps using various cartographic techniques and interpret various types of information. ➢ It will be very much useful in doing project and research work.
Semester V	Core Course-XI Regional Planning and Sustainable Development Course Code: BSCHGEOC501	➢ Students will have knowledge about the different types of region, their evolution and the importance of regional planning. ➢ They will be exposed with different regional development theories. ➢ They will feel the need of sustainable development and will learn about the different indicators of development.
	Core Course-XII Field Techniques, Surveying and Research Methods Course Code: BSCHGEOC502	➢ Students will have preliminary knowledge about the types and approaches of geographical research. ➢ Students will get some knowledge about the angular and linear measurements for the civil engineering works and they have ability to prepare map of a particular area. ➢ Land use survey and Household survey can reveal the various facts which may be helpful for decision making as per requirements.
	DSE-I Geography of West Bengal Course Code: BSCHGEODSE501	➢ Students will get knowledge about the broad physiographic division, geology, drainage, climate and vegetative characteristics of West Bengal. ➢ They will have information about the growth and distribution of population. ➢ They will aware about the developmental problems and potentials of West Bengal.
	DSE-I Population Geography Course Code: BSCHGEODSE502	➢ Students will be familiar with the natural change of population through fertility and mortality. ➢ They will learn about the population composition. ➢ They will have knowledge about different population theories.
	DSE-II Agriculture and Food Security Course Code: BSCHGEODSE503	➢ The concept of land use and land cover classification will grow among students. ➢ They will know about the physical, technological and institutional determinants of agriculture and world agricultural system.

	DSE-II Hydrology Course Code: BSCHGEODSE504	➢ They will have knowledge about the components and distribution of Hydrosphere and factors controlling the ground water along with its sources, types and significance. ➢ They will know about the Kaveri and Teesta river water dispute and about the River linkages in India with its merits and demerits.
Semester VI	Core Course-XIII Evolution of Geographical Thought Course Code: BSCHGEOC601	➢ Students will acquire knowledge about the development of Geographical Thought from ancient period to post modern period. ➢ They will also have knowledge about the contribution of eminent scholars in various fields of Geography. ➢ They will be aware about the recent trends of geography such as Systems Approach, Radicalism, Feminism, concept of Space in Geography.
	Core Course-XIV Disaster Management Project Work Course Code: BSCHGEOC602	➢ Students will learn how to prepare a project report on case study base. ➢ They will have knowledge about the different types of disaster and their preparedness.
	DSE-III Political Geography Course Code: BSCHGEODSE601	➢ Students will have concept about nation, state, nature and scope of politics and geo politics. ➢ They will know the geopolitics related to water, forest dam construction minerals and mining.
	DSE-III Biogeography Course Code: BSCHGEODSE602	➢ Students will know about nature, scope, and contents of Biogeography. ➢ They will be familiar with the different components of biosphere and learn the importance of wild life conservation.
	DSE-III Geography of Social Wellbeing Course Code: BSCHGEODSE603	➢ Students will have knowledge about the well being and its nature and scope. ➢ They will be aware about the Caste, Religion, Race and Gender and their spatial distribution.
	DSE-IV Urbanization and Urban System Course Code: BSCHGEODSE604	➢ Students will be exposed with the different models and theories of settlement system, types and patterns of settlement. ➢ They will know how the settlement system varies in developed and developing countries in the world. ➢ They will be aware about the various urban issues, such as problems of housing, slums, basic amenities water and transport of Delhi, Kolkata and Asansol.
	DSE-IV Soil Geography Course Code: BSCHGEODSE605	➢ Students will have much knowledge about the different processes of soil formation, soil conservation and management practices. ➢ They will know about the Soil erosion, soil degradation, need and strategies of soil conservation, distribution and characteristics of Indian soils. ➢ Students will be familiar with USDA classification of Soils and different types of soil survey.

BANWARILAL BHALOTIA COLLEGE, ASANSOL

DEPARTMENT OF GEOGRAPHY

(DAY SHIFT)

PROGRAM OUTCOMES, PROGRAM SPECIFIC OUTCOMES, COURSE OUTCOMES

Program	Program Objectives	Program Specific Objectives
B.Sc. (Honours) in Geography	Geography in true sense has emerged as a trans-disciplinary subject integrating the study of nature and society, the regional diversity with the concepts of the space and time. It has been able to provide the overview of transformation of rural ecology to globalized cultural landscape at several spatial level. Geography is therefore a study of ✦ Village Ecology to Urban Regional Studies ✦ Qualitative Techniques and Spatial Information Technology	**PSO1:**To demonstrate the understanding of basic concepts in geography.
		PSO2: To make students familiar with the understanding of Cultivate ability to evaluate critically the wider chain of network of spatial aspects from global to local level on various time scales as well.
		PSO3: To help students to assimilate the knowledge of theory and practical papers and to match their observation along with this knowledge
		PSO4: Demonstrating the coherent and systematic knowledge in the discipline of geography to deal with current issues and their solution.
		PSO5: To display an ability to read and understand maps and topographic sheets to look at the various aspects on the space.
		PSO6: To develop proficiency in the analysis of different kinds of real life problems as students would learn different kinds of surveys by which

	✦ Global to Micro-level Community Perception Approach It is essential to focus on the current socio-spatial problems, issues and challenges to aware students' application of geography in addressing the environmental problems and developmental issues. It is also essential to deliver ancient geographical knowledge to address the current local and global problems.	they would meet people from different strata in the society. **PSO7:** To grow the ability to use software as map making tools and many other digital representations of different items. **PSO8:**Recognize the skill development in Geographical studies programme as part of career avenues in various fields like teaching, research and administration.

Course Outcomes:

Course		**Course Outcomes**
Semester-I	**Core Course-I** **Course Name: Geomorphology** **Course Code: BSCHGEOC101**	• To understand the concepts of physical geography • To encourage students about real life examples of different shapes of the earth. • To gain knowledge about erosional and depositional features of different endogenetic and exogenetic processes.
	Core Course-II **Course Name: Cartographic techniques** **Course Code: BSCHGEOC102**	• To understand the basic concepts of scales in Geography. • To gain knowledge about Topographical Maps, their specialty regarding interpretation and newer techniques to demonstrate. • To learn about different Projections and their applicability. • To understand Weather Maps and how to read them both Monsoon and Post- Monsoon Seasons.

Semester-II	**Core Course-III** **Course Name: Geography of Human and cultural Landscape** **Course Code: BSCHGEOC201**	• To understand the Human Geography as a branch of the discipline. • To get familiar about Space and Society, their culture, tribes, their own social norms and their own interrelationships. • To know about population and their determinants in different strata. • To gain knowledge about Population-resource Relationships.
	Core Course-IV **Course Name: Statistical Methods in Geography** **Course Code: BSCHGEOC202**	• To understand about the sources of data and scales of measurement. • To know about Tabulation and Descriptive Statistics. • Different sampling types and their examples • Fundamental concept of Probability • Association and Correlation. • Data Matrix.
Semester-III	**Core Course-V** **Course Name: Climatology and Oceanography** **Course Code: BSCHGEOC301**	• Atmospheric Composition and Structure • Atmospheric Pressure and Winds • Cyclones • Monsoon • Ocean Floor Topography • Ocean Salinity and Temperature • Coral Reefs
	Core Course-VI **Course Name: Geography of India** **Course Code: BSCHGEOC302**	• Physical Geography of India: Location • Physiographic Divisions • Population of India and their differentiation • Economic Geography of India • Regionalization of India • Spatial Patterns of Industrial Development of India
	Core Course-VII **Course Name: Fundamentals of Remote Sensing** **Course Code: BSCHGEOC303**	• Basic concepts of Remote Sensing • Concept of Aerial Photography and Satellite Remote Sensing • Introduction to Image Processing and Data Analysis • Land use/ Land Cover Mapping • Application of Remote Sensing
	SEC-I **Course Name: (any one)** • **Geographic Information System** • **Spatial Statistical Techniques** • **Geographical Techniques**	• Geographical Information System (GIS)/ Global Positioning System (GPS)/ GIS Data Structures/GIS Data Analysis/ application. • Probability theory, probability density functions with respect to Normal, Binomial and Poisson distributions and their geographical applications Sampling plans for spatial and non-spatial data/Introduction to multi-variate regression and correlation analysis (partial and multiple/Time Series Analysis.

	Course Code: • **BSCHGEOSE301** • **BSCHGEOSE302** • **BSCHGEOSE303**	• Analysis of geological maps /Identification of rocks and minerals/Measurement of weather elements by Meteorological Instruments/Preparation of Climatic Graphs and Charts.
Semester-IV	**Core Course-VIII** **Course Name: Introduction to Global Economic System** **Course Code: BSCHGEOC401**	• Introduction to Global Economic System • Concept and Classification of Economic Activities • Theories • Primary Activities • Secondary Activities • Tertiary Activities • Assignment on Eco-farming
	Core Course-IX **Course Name: Environment and Natural Resource Management** **Course Code: BSCHGEOC402**	• Concept of Environment and Natural Resource Management • Human-Environment Relationships • Ecosystem • Problems and Management of Natural Resources • Conservation of Environment and Natural Resources • Environmental Monitoring Program
	Core Course-X **Course Name: Digital Remote Sensing** **Course Code: BSCHGEOC403**	• EMR Interaction with Atmosphere and Earth Surface • Digital Image Processing and Interpretation • Application of Digital Remote Sensing • Application of Digital Remote Sensing in Urban Studies • Application of Remote Sensing in weather studies and natural hazards

	SEC-II **Course Name:** • **Introduction to GIScience** • **Thematic Atlas** **Course Code:** • **BCSHGEOSE401** • **BSCHGEOSE402**	• Evolution of GIScience/Global Positioning System (GPS) /GIS Data Structures/Types/Raster and Vector Data Structure/Overlays /Data Analysis/Application of GIS. • Principles of Map Design/Diagrammatic Data Presentation /Thematic Mapping Techniques /Properties/Uses and Limitations/Areal Data /Cartographic Overlays /Rainfall dispersion diagram/β index map.
Semester-V	**Core Course-XI** **Course Name: Regional Planning and Sustainable Development** **Course Code: BSCHGEOC501**	• Concept of Region • Choice of a Region for Planning • Theories and Models for Regional Planning • Concept of Development and Underdevelopment • Components and Sustainability for Development. Indicators • Sustainable Development Policies and Programmes.
	Core Course-XII **Course Name: Field Techniques, Surveying and Research Methods** **Course Code: BSCHGEOC502**	• Approaches to Research in Geography • Field Work in Geographical Studies • Research Design/Research questions/Methods of Collection • Data Analysis/Data Representation Techniques • Field Techniques/ Questionnaires • Surveying Use of Field Tools • Designing the Field Report

	DSEC-I **Course Name: (any one)** • **Geography of West Bengal** • **Agriculture and Food Security** • **Course Code:** • **BSCHGEODSE501** • **BSCHGEODSE502**	• Physiography/Demography/Economy /Developmental Perspective of Special Regions in West Bengal/Developmental Problems and Potentials of West Bengal. • Concept of land and soil/Land use/ land cover definition and classification (Stamp and FAO)/Physical, Technological and Institutional Determinants of Agriculture /Agricultural Regions of India/Whittlesey's classification/Von Thunen, modification and relevance/Indian revolutions in agriculture and government policies related to food security.
	DSEC-2 **Course Name:** • **Population Geography** • **Hydrology** • **Course Code:** • **BSCHGEODSE503** • **BSCHGEODSE504**	• Demography and Population Studies/Sources of Data/Population Size, Distribution and Growth/Malthusian Theory and Demographic Transition Theory; Mobility Transition Theory /Population Dynamics/Population Composition and Characteristics /Contemporary Issues. • Systems approach in hydrology/Global hydrological cycle/human impact on the hydrological cycle /Precipitation, interception, evaporation, evapotranspiration, infiltration, ground-water, runoff and runoff cycle/Water Balance/River Basin/Watershed management /River Water Dispute.
Semester-VI	**Core Course-XIII** **Course Name: Evolution of Geographical Thought** **Course Code: BSCHGEOC601**	• Early Origins of Geographical Thinking • Modern Geography • Evolution of Geographical Thinking and Disciplinary Trends • Dualism • Paradigms and Paradigm shift in Geography • Recent Trends

Core Course-XIV **Course Name: Disaster Management Project Work** **Course Code: BSCHGEOC602**	The Project Report based on any two field-based case studies among following disasters and one disaster preparedness plan of respective college/locality and district: 1. Flood 2. Drought 3. Cyclone and Hailstorms 4. Earthquake and Volcanoes 5. Landslides 6. Human Induced Disasters: Fire Hazards, Chemical, Industrial accidents

	DSEC-3 **Course Name:** • Geography of Health • Political Geography • Biogeography **Course Code:** • BSCHGEODSE601 • BSCHGEODSE602 • BSCHGEODSE603 **BSCHMTMDSE601**	• Perspectives on Health/Pressure on Environmental Quality and Health/Health and Disease Pattern in Environmental Context/Climate Change and Human Health. • Concepts, Nature and Scope of political geography/State, Nation and Nation State /Geopolitics/Theories (Heartland and Rimland/Electoral Geography/Political Geography of Resource Conflicts /Politics of Displacement. • Introduction to Bio-geography/Biogeographical regions /biosphere/ecology, Eco-tone, Communities, habitats, ecological niche, Biomes, ecological pyramids /Ecological successions/Biodiversity/Tiger and elephant conservation in India.
	DSE-4 **Course Name:** • Geography of Social Well being • Urbanization and Urban System • Soil Geography **Code:** • BSCHGEODSE604 • BSCHGEODSE605 • BSCHGEODSE606	• Geography of Social Wellbeing/Caste, Religion, Race and Gender and their spatial distribution /Social Wellbeing and Inclusive Development/Communal Conflicts and Crime Social welfare program and policies. • Introduction, Nature and Scope and Approaches /Patterns of Urbanization in India/Functional classification of cities/Cities and Central Place Theory/Urban Issues. • Pedology/pedogenicprocesses/Physical and chemical properties of soil/Factors of soil development/Concept of soil fertility/Soil erosion, soil degradation/USDA classification of Soils.

Banwarilal Bhalotia College, Asansol

Department of History (Day Shift)

CRITERIA 2.6.1

Program Objectives and Course Outcomes for B.A (Honours) in History

Program	Program Objectives	Program Specific Objectives
B.A (Honours) in HISTORY	By enrolling into this program, the students become educated in core History, including Greeco-Roman history, Ancient Indian history, Archeology & museum, They are provided with a high-quality education within an environment committed to excellence in both teaching and research. The programme is oriented in such a way that it helps students to prepare himself as good researcher in history.	**PSO1:** To make students familiar with the understandings of the basic idea of history.
		PSO2: To develop the ability among students to solve the different controversial issues in history.
		PSO3: To help students to understand the different data like primary & secondary data and justify the real issue of history.
		PSO4: To help students to assimilate the knowledge of history & also they share the own point of view of different historical issues.
		PSO5: To provide a systemic understanding the core historical problems about the research.
		PSO6: To develop proficiency in the analysis of different historical data.
		PSO7: To grow the ability to use a variety of various books, journal, news paper to develop the historical issues more authentic.
		PSO8: To think about different way of history.

Course Outcomes:

Course		Course Outcomes
Semester-I	**Core Course-I** **Course Name: Greek and Roman Historians.** **Course Code: UGHISH 101**	• In this paper students understand the glorious history of ancient Greece & Rome and the nature of Greek-Roman history & confined the different data of between Greece and Roman history.
	Core Course-II **Course Name: Early History of India** **Course Code: UGHISH 102**	• Understand the importance of ancient Indian history, historical data, glorious history of various regional king of ancient India. Students known about ancient inscription, coin as a source of ancient Indian history.
Semester-II	**Core Course-III** **Course Name: Mauryan and Gupta Empire** **Course Code: UGHISH 201**	• In this paper students understand the sixteen Mahajanapada in all over India, and also the rise and growth history of Mauryan Empire, and also the glorious history of Gupta empire. Students know about various state policy of Ashoka, and also various architecture are build in the time of Mauryan and Gupta period.
	Core Course-IV **Course Name: Political History of Early Medieval India.** **Course Code: UGHISH 202.**	• Learn about the political history of early medieval India, history of central Asia, and also the invention of central Asian ruler, and what are the impact of Indian economic and social factor for those invention.
Semester-III	**Core Course-V** **Course Name: Delhi Sultanate** **Course Code: UGHISH 301**	• Students understand establishment history of Delhi sultanate and the various sultan in this time. This period is regarded as the beginning of medieval Indian history.
	Core Course-VI **Course Name: The Feudal Society** **Course Code: UGHISH 302**	• From this paper, students can understand the socio-economic and political history of medieval Europe. A comparative historical studies may explore in this paper.

	Core Course-VII **Course Name: Akbar and the Making of Mughal India** **Course Code: UGHISH 303**	In this paper students know about the establishment history of Mughal India specially in the time period of Akbar. Students also know various Religious, Rajput, North-East, &land Revenue policy of Akbar in this paper.
	SEC-I **Course Name: Archaeology and Museum Making in Colonial India** **Course Code: UGHISH 307**	Students can get first hand experience of historical knowledge in this paper. This a practical based paper. Students can get the concept of architecture heritage of India. They will know about the museum movement in colonial India.
Semester-IV	**Core Course-VIII** **Renaissance and Reformation** **Course Code: UGHISH 401.**	• Students can understand the paradigm shift of early modern European history. New knowledge system, scientific Enovation, Religious reforms during renaissance & reformation period influenced the European society.
	Core Course-IX **Course Name** :- **The French Revolution & Napoleon Bonaparte** **Course Code: UGHISH 402**	Students get idea about the glorious French revolution which was a remarkable incidents in modern European history & get know about the Internal reforms and foreign policy of Napoleon Bonaparte .
	Core Course-X **Course Name: 19th Century Revolutions in Europe.** **Course Code: UGHISH 403**	Students can get the modern revolutionary ideas in 19^{th} century Europe. Social & Economic revolutions altered the European society at that time.
	SEC-II **Course Name: The Making of Indian Foreign Policy.** **COURSE CODE:- UGHISH 407**	In this paper students can get about foreign policy of India after the independence & also the Nehru's initiative in the Indian foreign policy and Indian Economic.

Semester-V	**Core Course-XI** **Course Name: Select Themes in the Colonial Impact on Indian Economy and Society.** **Course Code: UGHISH 501**	• Socio-economic impact on colonial India is very essential for the understanding of modern Indian history.
	Core Course-XII **Course Name: Peasant and Tribal Uprisings in Colonial India in the 19th century.** **Course Code: UGHISH 502**	• Students can easily understand the discontentment of the marginal class through these peasant and tribal uprising.
	DSE-I **Course Name: Modern Transformation of Japan** **Course Code: UGHISH 504**	Japan is a fastest emerging country in Modern Asia. So Students can get a clear picture how Japan emerged as a industrialist capital based economic and politically unified country.
	DSE-II **Course Name: Modern Transformation of China (1839-1949)** **Course Code: UGHISH 505**	China is one of the oldest human civilization in the world & also our neighbor country. In this paper students will know how the foreigners occupied the Chinese territory & what was its reaction.

Semester-VI	**Core Course-XIII** **Course Name: International Relations after the Second World War** **Course Code: UGHISH 601**	Students can understand about the world politics after the 2nd world war specially cold war, gulf war, Bipolar & unipolar politics etc.
	Core Course-XIV **Course Name: Modern** **Nationalism in India** **Course Code: UGHISH 602.**	Emergence of Indian nationalism is a historical process. In this paper students can know different views & measures for the growth of nationalism in colonial India.
	DSE-III **Course Name: The Russian Revolution** **Course Code: UGHISH 603**	The Russian Revolution was the first example of implementing the Marxian theory in reality. So as a students of history, one should know about this socialist revolution.

	DSE-IV **Course Name:-** **War and Diplomacy,**	Modern international relations began since 1919. After the two world wars, the world politics went through many dynamic changes in 20th century. Students must know about that international political scenario.

Banwarilal Bhalotia College, Asansol

Department of History (Hindi Shift)

CRITERIA 2.6.1

Program Objectives and Course Outcomes for B.A (Honours) in History

Program	Program Objectives	Program Specific Objectives
B.A (Honours) in HISTORY	By enrolling into this program, the students become educated in core History, including Greeco-Roman history, Ancient Indian history, Archeology & museum, They are provided with a high-quality education within an environment committed to excellence in both teaching and research. The programme is oriented in such a way that it helps students to prepare himself as good researcher in history.	**PSO1:** To make students familiar with the understandings of the basic idea of history.
		PSO2: To develop the ability among students to solve the different controversial issues in history.
		PSO3: To help students to understand the different data like primary & secondary data and justify the real issue of history.
		PSO4: To help students to assimilate the knowledge of history & also they share the own point of view of different historical issues.
		PSO5: To provide a systemic understanding the core historical problems about the research.
		PSO6: To develop proficiency in the analysis of different historical data.
		PSO7: To grow the ability to use a variety of various books, journal, news paper to develop the historical issues more authentic.
		PSO8: To think about different way of history.

Course Outcomes:

Course		Course Outcomes
Semester-I	**Core Course-I** **Course Name: Greek and Roman Historians.** **Course Code: UGHISH 101**	• In this paper students understand the glorious history of ancient Greece & Rome and the nature of Greek-Roman history & confined the different data of between Greece and Roman history.
	Core Course-II **Course Name: Early History of India** **Course Code: UGHISH 102**	• Understand the importance of ancient Indian history, historical data, glorious history of various regional king of ancient India. Students known about ancient inscription, coin as a source of ancient Indian history.
Semester-II	**Core Course-III** **Course Name: Mauryan and Gupta Empire** **Course Code: UGHISH 201**	• In this paper students understand the sixteen Mahajanapada in all over India, and also the rise and growth history of Mauryan Empire, and also the glorious history of Gupta empire. Students know about various state policy of Ashoka, and also various architecture are build in the time of Mauryan and Gupta period.
	Core Course-IV **Course Name: Political History of Early Medieval India.** **Course Code: UGHISH 202.**	• Learn about the political history of early medieval India, history of central Asia, and also the invention of central Asian ruler, and what are the impact of Indian economic and social factor for those invention.
Semester-III	**Core Course-V** **Course Name: Delhi Sultanate** **Course Code: UGHISH 301**	• Students understand establishment history of Delhi sultanate and the various sultan in this time. This period is regarded as the beginning of medieval Indian history.
	Core Course-VI **Course Name: The Feudal Society** **Course Code: UGHISH 302**	• From this paper, students can understand the socio-economic and political history of medieval Europe. A comparative historical studies may explore in this paper.

	Core Course-VII **Course Name: Akbar and the Making of Mughal India** **Course Code: UGHISH 303**	In this paper students know about the establishment history of Mughal India specially in the time period of Akbar. Students also know various Religious, Rajput, North-East, &land Revenue policy of Akbar in this paper.
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	Core Course-IX **Course Name :- The French Revolution & Napoleon Bonaparte** **Course Code: UGHISH 402**	Students get idea about the glorious French revolution which was a remarkable incidents in modern European history & get know about the Internal reforms and foreign policy of Napoleon Bonaparte .
	Core Course-X **Course Name: 19th Century Revolutions in Europe.** **Course Code: UGHISH 403**	Students can get the modern revolutionary ideas in 19th century Europe. Social & Economic revolutions altered the European society at that time.
	SEC-II **Course Name: The Making of Indian Foreign Policy.** **COURSE CODE:- UGHISH 407**	In this paper students can get about foreign policy of India after the independence & also the Nehru's initiative in the Indian foreign policy and Indian Economic.

Semester-V	**Core Course-XI** **Course Name: Select Themes in the Colonial Impact on Indian Economy and Society.** **Course Code: UGHISH 501**	• Socio-economic impact on colonial India is very essential for the understanding of modern Indian history.
	Core Course-XII **Course Name: Peasant and Tribal Uprisings in Colonial India in the 19th century.** **Course Code: UGHISH 502**	• Students can easily understand the discontentment of the marginal class through these peasant and tribal uprising.
	DSE-I **Course Name: Modern Transformation of Japan** **Course Code: UGHISH 504**	Japan is a fastest emerging country in Modern Asia. So Students can get a clear picture how Japan emerged as a industrialist capital based economic and politically unified country.
	DSE-II **Course Name: Modern Transformation of China (1839-1949)** **Course Code: UGHISH 505**	China is one of the oldest human civilization in the world & also our neighbor country. In this paper students will know how the foreigners occupied the Chinese territory & what was its reaction.

Semester-VI	**Core Course-XIII** **Course Name: International Relations after the Second World War** **Course Code: UGHISH 601**	Students can understand about the world politics after the 2nd world war specially cold war, gulf war, Bipolar & unipolar politics etc.
	Core Course-XIV **Course Name: Modern** **Nationalism in India** **Course Code: UGHISH 602.**	Emergence of Indian nationalism is a historical process. In this paper students can know different views & measures for the growth of nationalism in colonial India.
	DSE-III **Course Name: The Russian Revolution** **Course Code: UGHISH 603**	The Russian Revolution was the first example of implementing the Marxian theory in reality. So as a students of history, one should know about this socialist revolution.

	DSE-IV **Course Name: -** **War and Diplomacy,**	Modern international relations began since 1919. After the two world wars, the world politics went through many dynamic changes in 20th century. Students must know about that international political scenario.

BANWARILAL BHALOTIA COLLEGE ASANSOL

DEPARTMENT OF MATHEMATICS

PROGRAM OUTCOMES, PROGRAM SPECIFIC OUTCOMES, COURSE OUTCOMES

Of

B.Sc. (Honours & Program Courses) in Mathematics

Under the CBCS System Syllabus w.e.f. 2020-21

Program Objectives and Course Outcomes for B.Sc. (Honours) in Mathematics

Program	Program Objectives	Program Specific Objectives
B.Sc. (Honours) in Mathematics	By enrolling into this program, the students become educated in core mathematics, including numerical and computing techniques, thus, enabling them to master both the abstract theoretical aspects as well as problem solving methods under practical situations. They are provided with a high-quality education within an environment committed to excellence in both teaching and research. The programme is oriented in such a way that it helps students to prepare themselves for tackling different problems and to visualize and correlate them with underlying fundamental mathematical principles.	**PSO1:** To make students familiar with the understandings of the basic principles of mathematics.
		PSO2: To develop the ability among students to solve complex problems by critical understanding, analysis and synthesis.
		PSO3: To help students to understand and model real life problems through mathematical equations and learn the requisite tools to solve and analyse them.
		PSO4: To help students to assimilate the knowledge of mathematics that is applied to any other branch of science in everyday use.
		PSO5: To provide a systemic understanding of core physical concepts, principles and theories along with their applications.
		PSO6: To develop proficiency in the analysis of complex analytical as well as numerical problems and to use of appropriate mathematical techniques to solve them.
		PSO7: To grow the ability to use a variety of software packages and techniques to solve analytic and numerical problems and present data in a wide variety of formats.
		PSO8: To provide an intellectually stimulating environment to develop skills and enthusiasms of students to the best of their potential.

Course Outcomes:

Course		Course Outcomes
Semester-I	**Core Course-I** **Course Name: Calculus, Geometry & Differential Equations** **Course Code: BSCHMTMC101**	• Understand various kinds of standard functions and graphs, techniques of integrations and limits. • Learn about real numbers and its basic properties. • Understand the concepts on three-dimensional geometry. • Understand the genesis of ordinary differential equations. • Understand the various techniques of getting exact solutions of solvable first order differential equations and linear differential equations of higher order.
	Core Course-II **Course Name: Algebra** **Course Code: BSCHMTMC102**	• Understand the importance of roots of real and complex polynomials and learn various methods of obtaining roots. • Employ De Moivre's theorem in a number of applications to solve numerical problems. • Recognize consistent and inconsistent systems of linear equations by the row echelon form of the augmented matrix, using rank. • Find eigen-values and corresponding eigenvectors for a square matrix.
Semester-II	**Core Course-III** **Course Name: Real Analysis** **Course Code: BSCHMTMC201**	• Understand many properties of the real line R and learn to define sequence in terms of functions from R to a subset of R. • Recognize bounded, convergent, divergent, Cauchy and monotonic sequences and to calculate their limit superior, limit inferior, and the limit of a bounded sequence. • Apply the ratio, root, alternating series and limit comparison tests for convergence and absolute convergence of an infinite series of real numbers. • Understand the epsilon delta definition of limit, continuity and differentiability of a real valued function. • Understand the theory and concepts of Riemann integration. • Understand the applications of the fundamental theorems of integration.
	Core Course-IV **Course Name: Differential Equations and Vector Calculus** **Course Code: BSCHMTMC202**	• Learn the Picard's method of obtaining successive approximations of solutions of first order ordinary differential equations. • Know how to solve linear homogeneous and non-homogeneous equations of higher order with constant coefficients. • Understand the system of linear differential equations and the solution techniques. • Learn conceptual differences between usual solution and power series solution of some second order ODEs

		• Understand the theory and applications of vector analysis.
Semester-III	**Core Course-V** **Course Name: Multivariable Calculus** **Course Code: BSCHMTMC301**	• Learn conceptual differences while advancing from one variable to several variables in calculus. • Apply multivariable calculus in various optimization problems. • Understand inter-relationship amongst the line integral, double and triple integral formulations. • Visualise the structure of curves and surfaces in plane and space etc. • Learn the applications of multivariable calculus in different fields like Physics, Economics, Medical Sciences, Animation & Computer Graphics etc. • Realize importance of Green, Gauss and Stokes' theorems in other branches of Mathematics.
	Core Course-VI **Course Name: Group Theory** **Course Code: BSCHMTMC302**	• Recognize the mathematical objects called groups. • Link the fundamental concepts of groups and symmetries of geometrical objects. • Explain the significance of the notions of cosets, normal subgroups, and factor groups. • Analyse consequences of Lagrange's theorem. • Learn about structure preserving maps between groups and their consequences.
	Core Course-VII **Course Name: Probability and Statistics** **Course Code: BSCHMTMC303**	• Understand distributions in the study of the joint behaviour of two random variables. • Establish a formulation helping to predict one variable in terms of the other that is correlation and linear regression. • Understand central limit theorem, which establish the remarkable fact that the empirical frequencies of so many natural populations, exhibit a bell shaped curve.
	SEC-I **(Choose any ONE from the following)** **Course Name: Logic and Sets** **Course Code: BSCHMTMSE301** **Course Name: Programming Language in C** **Course Code: BSCHMTMSE302**	**Logic and Sets:** • Understand the syntax of first-order logic and semantics of first-order languages. • Understand about truth table, different propositions, predicates and quantifiers, basic Theorems like the Compactness Theorem, Meta Theorem and Post Tautology Theorem. • Grasp the concept of completeness interpretations and their applications with special stress on applications in Algebra. **Programming Language in C:** • Acquire knowledge of different computer languages. • Understand basic structures, characters, identifier etc. in C language. • Write flow chart and corresponding C-program for solving problems requiring decision making, branching, looping and other control statements. • Learn to implement arrays and functions in C programming.

		• Familiarise with the concepts of structure, union and pointers.
Semester-IV	**Core Course-VIII** **Course Name: Mechanics** **Course Code: BSCHMTMC401**	• Familiarize with subject matter, which has been the single centre, to which were drawn mathematicians, physicists, astronomers, and engineers together. • Understand necessary conditions for the equilibrium of particles acted upon by various forces and learn the principle of virtual work for a system of coplanar forces acting on a rigid body. • Determine the centre of gravity of some materialistic systems and discuss the equilibrium of a uniform cable hanging freely under its own weight. • Deal with the kinematics and kinetics of the rectilinear and planar motions of a particle including the constrained oscillatory motions of particles. • Learn that a particle moving under a central force describes a plane curve and know the Kepler's laws of the planetary motions, which were deduced by him long before the mathematical theory given by Newton.
	Core Course-IX **Course Name: Linear Algebra** **Course Code: BSCHMTMC402**	• Understand the concepts of vector spaces, subspaces, bases, dimension and their properties. • Relate matrices and linear transformations, compute eigen values and eigen vectors of linear transformations. • Learn properties of inner product spaces and determine orthogonality in inner product spaces. • Realise the importance of adjoint of a linear transformation and its canonical form.
	Core Course-X **Course Name: Partial** **Differential Equations and** **Calculus of Variations** **Course Code: BSCHMTMC403**	• Understand the geometric and physical nature of Partial Differential Equations and classify them accordingly. • Apply a range of techniques to solve first & second order partial differential equations. • Model physical phenomena using partial differential equations such as the heat and wave equations. • Understand problems, methods and techniques of calculus of variations.
	SEC-II **(Choose any One from the following)** **Course Name: Graph Theory** **Course Code:** **BSCHMTMSE401** **Course Name:** **Object Oriented Programming in C++**	**Graph Theory:** • Appreciate the definition and basics of graphs along with types and their examples. • Understand the Eulerian circuits, Eulerian graphs, Hamiltonian cycles, representation of a graph by matrix. • Relate the graph theory to the real-world problems. **Object Oriented Programming in C++ :** • Understand the basic characteristics of object oriented programming languages, different components and structures in C++ programming language.

	Course Code: **BSCHMTMSE402**	• Understand and apply the programming concepts of C++ which is important for mathematical investigation and problem solving. • Use mathematical libraries for computational objectives. • Represent the outputs of programs visually in terms of well formatted text and plots.
Semester-V	**Core Course-XI** **Course Name: Set Theory and Metric Spaces** **Course Code: BSCHMTMC501**	• Learn basic facts about the cardinality of a set. • Learn abstract formulation of the notion "distance" on an arbitrary set and learn how known concepts like continuity, convergence of sequences etc behave in such abstract setting. • Understand several standard concepts of metric spaces and their properties like openness, closeness, completeness, compactness, Bolzano-Weierstrass property, and connectedness. • Identify the continuity of a function defined on metric spaces and homeomorphisms.
	Core Course-XII **Course Name: Advanced Algebra** **Course Code: BSCHMTMC502**	• Understand the automorphism, inner automorphism and the fundamental concepts of Group Actions and their applications. • Understand the application of Sylow theorems to characterize certain Finite Groups. • Be acquainted with the basic concepts of Ring Theory such as the concepts of ideals, quotient rings, Integral domains and Fields. • Know in detail about Polynomial Rings, Fundamental properties of Finite Field extensions and classification of Finite Fields.
	DSE-I & II **(Choose any TWO from the following)** **Course Name:** **Tensors & Differential Geometry** **Course Code:** **BSCHMTMDSE501** **Course Name:** **Integral Transforms and Fourier Analysis** **Course Code:** **BSCHMTMDSE502**	**Tensors & Differential Geometry:** • Explain the basic concepts of tensors. • Understand role of tensors in differential geometry. • Learn various properties of curves including Frenet-Serret formulae and their applications. • Know the Interpretation of the curvature tensor, Geodesic curvature, Gauss and Weingarten formulae. • Understand the role of Gauss's Theorem Egregium and its consequences. • Apply problem-solving with differential geometry to diverse situations in physics, engineering and in other mathematical contexts. **Integral Transforms and Fourier Analysis:** • Learn Fourier series, Bessel's inequality, term by term differentiation and integration of Fourier series. • Know about Fourier Transform and its relation with Fourier Series, Laplace Transform and its relation with Fourier Transform and the sufficient conditions for their existence.

		• Familiarise with the properties of Fourier and Laplace Transforms. • Learn to apply Fourier and Laplace Transforms to well-known functions. • Learn to find inverse Laplace Transform and inverse Fourier Transform. • To be able to solve real world initial value, boundary value and initial-boundary problems using Integral Transforms or Fourier Series.
	Course Name: Linear Programming and Game Theory **Course Code: BSCHMTMDSE503**	**Linear Programming and Game Theory:** • Analyze and solve linear programming models of real life situations. • Provide graphical solution of linear programming problems with two variables, and illustrate the concept of convex set and extreme points. • Solve linear programming problems using simplex method. • Learn techniques to solve transportation and assignment problems. • Solve two-person zero sum game problems.
	Course Name: Special Theory of Relativity **Course Code: BSCHMTMDSE504**	**Special Theory of Relativity:** • Understand the basic concepts of Special Relativity including Michelson-Morley experiment and geometrical interpretations of Lorentz transformation equations. • Learn about length contraction, time dilation and relativity of simultaneity. • Study 4-dimensional Minkowskian space-time and its properties. • Understand the concepts of 4-vectors, mass-energy equivalence and equations of motion as a part of relativistic mechanics. • Imbibe connections between relativistic mechanics and electromagnetism.
Semester-VI	**Core Course-XIII** **Course Name: Complex Analysis** **Course Code: BSCHMTMC601**	• Visualize complex numbers as points of $\mathbb{R}2$ and stereographic projection of complex plane on the Riemann sphere. • Understand the significance of differentiability and analyticity of complex functions leading to the Cauchy-Riemann equations. • Learn the role of Cauchy-Goursat theorem and Cauchy integral formula in evaluation of contour integrals. • Apply Liouville's theorem in fundamental theorem of algebra. • Understand the convergence, term by term integration and differentiation of a power series. • Learn Taylor and Laurent series expansions of analytic functions, classify the nature of singularity, poles and residues and application of Cauchy Residue theorem.

	Core Course-XIV **Course Name: Numerical Methods & Numerical Lab** **Course Code: BSCHMTMC602**	• Understand the problem solving skills using numerical methods. • Handle large system of equations, non-linearity and and that are often impossible to solve analytically. • Solve differential equations by numerical methods. • Develop problem solving skills using computer programming. • Acquire knowledge of C programming language. • Solve different numerical problems using algorithm, flowchart, C language programming.
	DSE-III & IV **(Choose any TWO from the following)** **Course Name: Discrete Mathematics** **Course Code: BSCHMTMDSE601** **Course Name: Number Theory** **Course Code: BSCHMTMDSE602** **Course Name: Advanced Mechanics** **Course Code: BSCHMTMDSE603**	**Discrete Mathematics:** • Learn about partially ordered sets, lattices and their types. • Understand Boolean algebra and Boolean functions, logic gates, switching circuits and their applications. • Solve real-life problems using finite-state and Turing machines. • Assimilate various graph theoretic concepts and familiarize with their applications. **Number Theory:** • Learn about some important results in the theory of numbers including the prime number theorem, Chinese remainder theorem, Euler's theorem, Wilson's theorem and their consequences. • Learn about number theoretic functions, modular arithmetic and their applications. • Familiarise with modular arithmetic and find primitive roots of prime and composite numbers. • Know about open problems in number theory, namely, the Goldbach conjecture and Twin-prime conjecture. • Apply public crypto systems, in particular, RSA. **Advanced Mechanics:** • Understand the reduction of force system in three dimensions to a resultant force acting at a base point and a resultant couple. • Learn about a null point, a null line, and a null plane with respect to a system of forces acting on a rigid body together with the idea of central axis. • Know the inertia constants for a rigid body and the equation of momental ellipsoid together with the idea of principal axes and principal moments of inertia to derive Euler's dynamical equations. • Study the kinematics and kinetics of fluid motions to understand the equation of continuity in Cartesian, cylindrical polar and spherical polar coordinates which

		are used to derive Euler's equations and Bernoulli's equation. • Deal with two-dimensional fluid motion using the complex potential and also to understand the concepts of sources, sinks, doublets and the image systems of these with regard to a line and a circle.
	Course Name: Bio Mathematics **Course Code: BSCHMTMDSE604**	**Bio Mathematics:** • Grasp the idea of various bio-mathematical models and techniques which will help them to tackle physical world problems.

Program Objectives and Course Outcomes for B.Sc. (Program) in Mathematics

Program	Program Objectives	Program Specific Objectives
B.Sc. (Program) in Mathematics	By enrolling into this program, the students become educated in mathematical basics, including numerical and computing techniques, thus, enabling them to be capable modelling real world problems in mathematics and solving them. The programme is oriented in such a way that it helps students to explore mathematical concepts, and enrich their knowledge in mathematics for application in other subjects.	**PSO1:** To make students familiar with the understandings of the basic principles of mathematics.
		PSO2: To help students to understand and model real life problems through mathematical equations and learn the requisite tools to solve and analyse them.
		PSO4: To help students to assimilate the knowledge of mathematics that is applied to any other branch of science in everyday use.
		PSO5: To provide an intellectually stimulating environment to develop skills and enthusiasms of students to the best of their potential.

Course Outcomes:

Course		Course Outcomes
Semester-I	**Core Course-I (1)** **Course Name: Differential Calculus** **Course Code: BSCPMTMC101**	• Understand limit, continuity, differentiability and partial differentiation. • Learn Rolle 's Theorem, mean value theorems, maxima and minima, indeterminate forms and different applications of calculus.
Semester-II	**Core Course-I (2)** **Course Name: Differential Equations and Vector Calculus** **Course Code: BSCPMTMC201**	• Learn various methods to find the solutions of ordinary differential equations. • Understand the central concepts in vector calculus; vector-valued functions; gradient, divergence and curl.

Semester-III	**Core Course-I (3)** **Course Name: Algebra Course Code: BSCPMTMC301**	• Understand the concepts of different types of groups, rings and field. • Solve a system of non-homogeneous linear equations. • Understand the concepts of real vector space, sub-space and linear dependence and independence of a finite set of vectors.
	SEC-1 **Course Name: Mathematical Logic and Sets** **Course Code: BSCPMTMSE301**	• Understand about different propositions of logic, truth table, logical operators, various operations and relations related to sets
Semester-IV	**Core Course-I (4)** **Course Name: Real Analysis** **Course Code: BSCPMTMC401**	• Understand the basic concepts of mechanics with examples and applications of real world problems
	SEC-2 **Course Name: Boolean Algebra** **Course Code: BSCPMTMSE401**	• Understand Boolean algebra and Boolean functions, logic gates, switching circuits and their applications. • Apply a number of proof techniques to theorems in language design.
Semester-V	**DSE-I (1)** **Course Name: Mechanics** **Course Code: BSCPMTMDSE501** **Course Name: Numerical Analysis** **Course Code: BSCPMTMDSE502**	**Mechanics:** Apply a range of techniques to solve first & second order partial differential equations. • Model physical phenomena using partial differential equations such as the heat and wave equations **Numerical Analysis:** Understand the problem-solving skills using numerical methods, • Handle large system of equations, non-linearity and that are often impossible to solve analytically, • Solve differential equations by numerical methods.
	SEC-3 **Course Name: Number Theory Course Code: BSCPMTMSE501**	• Learn Lame's theorem, linear Diophantine equation, congruences, Goldbach conjecture, Euler's phi-function.
Semester-VI	**DSE-I (2)** **Course Name: Linear Programming Problems** **Course Code: BSCPMTMDSE601** **Course Name: Probability & Statistics** **Course Code: BSCPMTMDSE602**	**Linear Programming Problems:** Analyze and solve linear programming models of real-life situations. • Provide graphical solution of linear programming problems with two variables, and illustrate the concept of convex set and extreme points. • Solve linear programming problems using simplex method. • Learn techniques to solve transportation and assignment problems. **Probability & Statistics:** Understand the basic concepts on probability and statistics. • Understand the various probability distributions and their applications, mathematical expectation, moments.
	SEC-4 **Course Name: Graph Theory** **Course Code: BSCPMTMSE601**	• Appreciate the definition and basics of graphs along with types and their examples. • Understand the Eulerian circuits, Eulerian graphs, Hamiltonian cycles, representation of a graph by matrix. • Relate the graph theory to the real-world problems.

B.B. College, Asansol
Department of Microbiology
(Program Outcomes, Program Specific Outcomes and Course Outcomes)

Program Outcome	Microbiology is the subject dedicated to the study of microorganisms including bacteria, virus, algae, fungi, protozoa present on the earth is in staggering proportion.. It is a broadly termed subject which includes virology, mycology, parasitology, bacteriology, immunology and various other branches. The aim of undergraduate degree in microbiology is to make students knowledgeable about the various basic concepts in wide ranging contexts which involves the use of various theoretical and practical knowledge and skills of microbiology. Students will learn about the basic concepts of prokaryotes, their taxonomy, cell structure, parameters affecting as well as hindering their growth, importance and their differentiation from eukaryotes. They will also acquire significant knowledge about routine and specialized microbiological skills applicable to clinical research with accurate observations and analysis. Students will further be knowledgeable about the hands-on applications of various skills related to the environment like biodegradation, bioremediation etc. Students will gather significant concepts about fermentation of food and beverages, production processing of various antibiotics, steroids, enzymes which they can apply in various industrial work fields. Students get equipped with significant knowledge about various techniques regarding molecular biology like RDT, DNA extraction and purification, tools and methods employed in genetic engineering etc.

	The course is reasoning and application based, making students eligible for higher studies, jobs in various sectors and entrepreneurship abilities. The science of microbiology has proven to have momentous effects on various aspects like health, agriculture, environment and industry and in the past two to three decades several valuable discoveries on these aspects have put microbiology on centre stage of teaching, research and development.	
ProgrammeSpecific Outcome	1. Students become acquainted with microorganisms and their distributions, morphology, metabolism, beneficial roles and as well as harmful aspects. 2. Students learn all aseptic techniques to isolate and culture microbes in pure form, and also observe them under microscope. 3. Students acquire knowledge about various hands on techniques useful in Environmental and Industrial Biotechnology. 4. Students also gain knowledge regarding Human genetics, Immunology, Human diseases and their treatments, Genetic Engineering which is useful in clinical and agricultural research. 5. Except these this program impart knowledge about virology, epidemiology, mycology and also some applied sciences like Food Technology.	
Semester	**Course**	**Outcome**
I	**Microbial World and Principles of Microbiology**	This course aims to develop knowledge about the contributions of different scientists, essential inventions and discoveries that ultimately form the building blocks of this branch of bioscience.Students will be able to understand the characteristics of different types of microorganisms and methods to organise these microorganisms into specific classes.They will be able to perform basic experiments to grow and study the different characteristics of microorganisms in the laboratory.

	Bacteriology and Systematics	On successful completion of this course the students will be able to describe characteristics of bacterial cells, differentiate a large number of common bacteria by their salient characteristics; classify bacteria into groups. They will be able to describe the nutritional requirements of bacteria for growth, develop knowledge and understanding that besides common bacteria there are several other microbes which grow under extreme environments. They will be able to perform basic laboratory experiments to study microorganisms and methods to preserve bacteria in the laboratory.
II	**Basic Biochemistry**	This course deals with various biomolecules which are required for development and functioning of a bacterial cell; Students will acquire knowledge how the carbohydrates make the structural and functional components such as energy generation and as storage food molecules for the bacterialcells. This paper deals with multifarious function of proteins. The students will be able to make buffers, study enzyme kinetics and calculate Vmax,Km, Kcat values.
	Microbial Techniques and Instruments	This course aims to develop an understanding of several microbiological techniques and instruments which are commonly used in a microbiology laboratory. The students will acquire knowledge about sterilization of culture media, glassware and plastic ware to be used for microbiological work.By the end of this course the students have learnt handling and use of microscopes for the study of microorganisms which are among the basics kills expected from a practicing microbiologist. They also get introduced a variety of modifications in the microscopes for specialized viewing.

III	**Virology**	On successful completion of this course the students will be able to acquire a sound knowledge of viral transmission, salient features of viralnucleic acids and replication, carcinogenic viruses. They will be familiar with the processes of how a virus can be used in research for future research applications.
	Microbial Physiology and Metabolism	By the conclusion of this course, the students will be capable of describing the growth characteristics of the microorganisms. This course aims to enlighten the students about Differentiating concepts of aerobic and anaerobic respiration and how these are manifested in the form of different metabolic pathways in microorganisms.
	Cell and Molecular Biology	On successful completion of this course the students will be able to understand the structure and function of different components of cell and how to differentiate the cellular and molecular processes between prokaryotes and eukaryotes. This course aims to enlighten the students about basic structures ,evolution,diversity and replication of microorganisms.Students will be able to make comprehensive assessment of transcription,post transcriptional modification and describe the gene expression in prokaryotes and eukaryotes.
IV	**Environmental Microbiology**	On successful completion of this course the students will be able to understand the fundamental concepts concerning the interactions between microorganisms and their environment.They will be able to acquire the knowledge about the different biogeochemical cycles and waste water treatment and bioremediation.
	Food and Dairy Microbiology	On successful completion of this course the student will be able to get sufficient knowledge in relationship between food and microbes,techniques used in food processing and describe the characteristics of different spoilage microorganisms.
	Industrial Microbiology	This course aims to enlighten the students about the theoretical and practical skills in industrial microbiology.The students will be able to discuss the role of microorganisms in industry.
V	**Immunology**	This course aims to enlighten the students about the protective role of the immune system of the host and helps to develop an understanding of the basic components as well as the mechanisms underlying the immune

		system and its response to pathogenic microorganisms. This course will enable the students to conduct experiments using different immunological techniques.
	Medical Microbiology	On successful completion of this course the students will be able to understand the basic and general concepts of causation of disease by the pathogenic microorganisms and the various parameters of assessment of their severity including the broad categorization of the methods of diagnosis.
	Biostatistics and Bioinformatics	On successful completion of this course the students will be able to develop basic concepts of statistics and their importance to analyse biological data. They will be able to acquire skills to use computers for analysis of biological data, use important biological databases, use tools to retrieve data, and compare the data of the biological macromolecules. They will be able to develop basic skills for data retrieval, representation, analysis and interpretation
	Advances in Virology	On successful completion of this course the students will be able to acquire a sound knowledge of viral transmission, salient features of viralnucleic acids and replication, carcinogenic viruses. They will be familiar with the processes of how a virus can be used in research for future research applications.
VI	**Microbial Genetics**	This course aims to develop an understanding of genome organization, mutation and plasmid. They will be familiar with different mechanisms of genetic exchanges and transposable elements or 'jumping genes. They will be able to develop an initial understanding of recent developments of phage genetics.

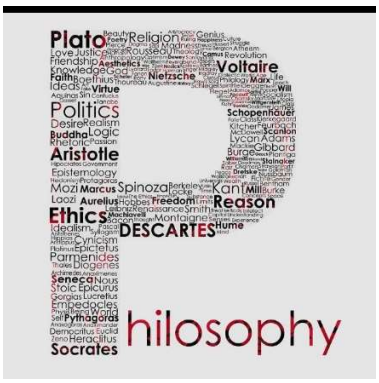
	Recombinant DNA Technology	This course aims to develop an understanding of the tools and the methods of genetic engineering. The students will be able to acquire a fairly good understanding of how these tools and methods are employed in the laboratory for manipulation of DNA so as to make it relevant for biotechnological uses. It will make the students familiar with different processes of DNA amplification and DNA sequencing. This knowledge is indispensable for various biological researches.
	Inheritance Biology	This course aims to develop an understanding of evolution taking examples from well-studied model organisms of bacteria, fungi and other organisms. It will provide good understanding of concepts of Mendelian genetics and structural organizations of chromosomes. They will be familiar with non-Mendelian pattern of inheritance or cytoplasmic inheritance also.
	Microbial Biotechnology	On successful completion of this course the students will be able to develop an understanding of how microbiology is relevant to technological developments for agriculture and environment. They willdevelop a sound knowledge about how developments in recombinant DNA technology is juxtaposed with microbially-based technological developments for agriculture, industry and environment.

BANWARILAL BHALOTIA COLLEGE ASANSOL

DEPARTMENT OF PHILOSOPHY

CRITERIA

PROGRAM OUTCOMES, PROGRAM SPECIFIC OUTCOMES, COURSE OUTCOMES



Program Objectives and Course Outcomes for BA (Hons) in Philosophy

Program	Program Objectives	Program Specific Objectives
B.A(Hons) in Philosophy	By enrolling into this program, the students become educated in the foundation course of Philosophy. They study of Philosophy enhances their ability to evaluate and resolve problems, helps them to analyse concepts, definitions and arguments. They are provided with a high quality education within an environment committed to excellences in both teaching and research. The program is oriented in such a way that it contributes to their capacity to organize ideas and issues to deal with questions of value and to extract that is essential from masses of information.	**PS01.** To make the students acquainted with the basic principles of philosophy and its main branches viz, Meta Physics, Logic, **PS02.** To develop the ability among students to solve complex problems by initial understanding, analysis and synthesis. **PS03.** To guide students to develop philosophical insight for tackling real life problems. **PS04.** It serves to sharpen basic instinct and skills in problem solving research, interpretation and writing. **PS05.** To enhance, in a way no other activity does to contribute uniquely to the development of expressive and commutative powers

		along with problem solving capacity. **PS06.** To grow the power of critical thinking, close reading, clear writing and logical analysis. It makes students understand better the language describing the world and their position within it. **PS07.** To develop proficiency in re-thinking, adapting, organizing and dialogue skills, in a fast changing business and technological environment, these are abilities of great practical value. **PS08.** To prepare students for success in a wide variety of careers and outscoring other majors on standardized exams being taught to write with a focused and well – thought out style.

Course Outcomes:

Course		Course Outcomes
Semester-I	**Core Course-I** **Course Name: Outlines of Indian Philosophy I** **Course Code: BAHPHIC101**	To understand spiritualism, the essence of Indian culture along with the basic concepts of Dharma Karma, Renunciation, Reincarnation and Meditation all of them focusing on the ultimate goal of liberation of the individual through diverse range of spiritual practices(Moksa, Nirvana)
	Core Course-II **Course Name: History of Western Philosophical thoughts.** **Course Code: BAHPHIC101**	It will introduce students with the basic tenets of early Greek philosophy with Plato, Aristotle and the chief exponents of Rationation inspiring them for further studies. Western Philosophy are responsible for intellectual development of Mathematics, Science and everants students will learn a wide spectrum of issues, such as the universe, human social responsibilities, conscious or even religion, Scientific method whccih have then roots in ancient western philosophy.

Semester-II	**Core Course-III** **Course Name: Outlines of Indian Philosophy II** **Course Code: BAHPHIC201**	To make students familiar with the System of Samthya, Mimamsa, Yoga and Vidant. importance of Yoga for a stress free life Exemplifying rituals and transcending this mundane world through proper knowledge of the reality. To make students familiar with the systems of Mimamsa, Yoga and Vedanta ; importance of Yoga for a stress free life. Exemplifying rituals and transcending this mundane world through proper knowledge of the reality.
	Core Course-IV **Course Name: Outlines of Indian Philosophy II** **Course Code: BAHPHIC202**	To enlighten students with the traditional empiricism of Locke, Berkeley and Nume, revolutionary thinking of Kant and Hegel changing orthodox religion into initical apprehension; preaching thereby secularism, humanism; students also gain the outlines of skepticism, individualism and progress in Scientific temperament.

Semester-III	**Core Course-V** **Course Name: Indian Ethics** **Course Code: BAHPHIC301**	This subject will help the students to realize the spiritual values of life through good moral conduct. It teaches them that without following the path of righteousness no one can attach supreme goal of life; one must perform right actions and avoid wrong doing.
	Core Course-VI **Course Name: Western Ethics** **Course Code: BAHPHIC302**	Institutions access the globe are emphasizing ethics through the various learning goals involving ethical decision making and social responsibility. This exposure aims students with the skills and knowledge needed for them to make ethical decisions in their own careers. Naturally it will enlighten students regarding the moral and social values.
	Core Course-VII **Course Name: Indian Logic** **Course Code: BAHPHIC303**	Students will learn detailed analysis of Nayaya epistemology which will enhance their intelligence. They understand all the means through which true and accented knowledge about the world can be obtained. What are the procedures for

		discriminating valid knowledge from erroneous perception and why dogmatic attitude should be discarded.
	SEC - I **Course Name: Logical rules and Fallacies (INDIAN)** **Course Code: BAHPHISE301**	To understand knowledge from perception, inference comparison and verbal testimony; to know the rule of invariable concomitance in inferential knowledge, to distinguish between fallacious and valid hiatus; to know how Apta Vakya and Agan anre valid sources of knowledge. Also a deep understanding of inferential knowledge will develop their power of argumentation in academic as well as personal sphere.
Semester-IV	**Core Course - VIII** **Course Name: Western Logic** **Course Code: BAHPHIC401**	To make them familiar with basic logical concepts deductive and inductive, language and definition symbolic……. Quantification theory and casual reasoning. This brilliant presentation of Western logic will certainly help the students towards a proper logical way of thinking.

	Core Course - IX **Course Name: Psychology** **Course Code: BAHPHIC402**	To develop the ability to study people's behavior, performance and mental operation. Psychology is the science of mind and its method are applied to treat mental health. This subject help the students to resolve mind related problems.
	Core Course - X **Course Name: Philosophy of Religion** **Course Code: BAHPHIC403**	Students are acquainted with the …… and concepts involved in religious traditions. Philosophy of religion helps them to understand other peoples beliefs, what their beliefs and values are and why do them have faith in them? Also it helps them to think about their own beliefs as well as looking at alternative belief systems in future.
	SEC - II **Course Name: Logical rules and Fallacies (INDIAN)** **Course Code: BAHPHISE401**	To increase the power of thinking in a proper logical way, to distinguish between fallacious arguments and correct ones. They are acquainted

		with both deductive and inductive logic as well as modern theories with symbolic logic Science and Hypotheses explanations and with theories of probability. The subject will immensely help students skill for good reasoning.
Semester-V	**Core Course - XI** **Course Name: Political Philosophy** **Course Code: BAHPHIC501**	Being acquainted with social political philosophy the thoughtful consideration of human society , students try to find out the basic laws which operate in the society and influence human relations and to discover the meaning of actual mode of existence. The central task of this paper is to provide students with a justifications for coercive institutions.
	Core Course - XII **Course Name: Western Logic II** **Course Code: BAHPHIC502**	To familiarize students with elementary intuitive set theory along with relational and functions on set. Translating everyday language into set – theoretic notation, Venn diagram techniques for testing

		syasgesms in set theory help the students acquire mathematical efficiency essential for all competitive examination.
	Core DSE - I **Course Name: Bertnand Russell - The problems of Philosophy** **Course Code: BAHPHIDSE - I**	Students become familiar with the analytic method of Bertrand Result to make distinctions concerning over judgments about reality and also with his advanced epistemological theory and a discussion on truth.
	Core DSE - II **Course Name: Bertnand Russell - Saptapadarthi By Shibaditya Misra** **Course Code: BAHPHIDSE - II**	To have a glipse of Indian or orthodox Vaisisika system of kanada this text by Shibaditya Mishra is ideal. Being faithful to the name Saptapadarthi has introduced characterized and identified each category (padartha) in a brilliant way. His references to Nyaya system is also beneficial for the students.
Semester-VI	**Core Course - XIII** **Course Name: Philosophy in the Twentith Century (Indian)** **Course Code: BAHPHIC601**	To make students acquainted with the philosophical thoughts of Rabindranath Tagore, Swami Vivekananda, Mahatma Gandhi, Sri Aurobindo, Md. Iqbal and Dr.

		Sarbapalli RadhaKrishnan. The essence of their philosophy surely enlightens the students with humanism and universal religion.
	Core Course - XIV **Course Name: Philosophy in the Twentith Century (Western)** **Course Code: BAHPHIC602**	An unparalleled collection of essays of eminent modern thinkers will increase open mindedness and receptivity in student's ideas. They are made familiar with for , revolutionary ideas of and more and the analytic approach by A.J.Ayer.
	Core DSE - III **Course Name: An enquiry concerning Human Understanding : Hume** **Course Code: BAHPHIDSE - III**	This classic book will help the students to be free from all dogmatism which is important for higher studies in Philosophy and to understand idumis argument that inductive reasoning and belief in cases of causation cannot be justified rationally instead they result from custom and habit idumis views on metaphysis, his theory of knowledge become valuable bachengs for students.

	Core DSE - IV **Course Name: Sadhana : Rabindranath Tagore** **Course Code: BAHPHIDSE - IV**	To make students understands Tagores emphasis on oneness being which causes the progress of soul to words the union with Brahman. Tagores opinion on individuals relation to the universe, soul consciousness and finally the nature of union with the infinite. The infinite can be attained through endless means of activities found in joy and love. Undoubley SADHANA will help the students to understand the meaning of spiritualism.

DEPARTMENT OF PHYSICS (UG & PG)

CRITERIA 2.6.1 PROGRAM OUTCOMES, PROGRAM SPECIFIC OUTCOMES, COURSE OUTCOMES

DEPARTMENT OF PHYSICS (UG & PG)	
B. Sc. PHYSICS PROGRAMME	
PROGRAMME OUTCOME (PO)	In BSc Physics program the students are able to learn the cause of different natural phenomena through understanding the core of physics, including substantial experimental physics, enabling them to train in both the theoretical and practical aspects. They are provided with a high quality education in physics within an environment committed to excellence in both teaching and research. The programme is oriented in such a way that it helps students to prepare themselves tackling problems of day to day life by correlating them with appropriate physical principles. The students will also be able to demonstrate their skills in scientific enquiry, problem solving and techniques adopted in the laboratory using experimental, computational, and/or theoretical method based on basic laws of physics.
PROGRAMME SPECIFIC OUTCOME (PSO)	PSO1: To make students familiar with the understandings of the basic laws of nature.
	PSO2: To develop the ability among students to solve complex problems by critical understanding, analysis and synthesis.
	PSO3: To help students to understand and grasp things quickly.
	PSO4: To help students to assimilate the knowledge of physics that is used to produce technologies in everyday use.
	PSO5: To provide a systemic understanding of core physical concepts, principles and theories along with their applications.
	PSO6: To develop proficiency in the analysis of complex physical problems and the use of mathematical or other appropriate techniques to solve them.
	PSO7: To grow the ability to use a variety of software packages and techniques to solve analytic and numerical problems and present data in a wide variety of formats.
	PSO8: To provide an intellectually stimulating environment to develop skills and enthusiasms of students to the best of their potential.
COURSE OUTCOMES	
COURSE	Outcome
MATHEMATICAL METHODS OF PHYSICS-I	Mathematical Methods of Physics-I: It forms an intial mathematical foundation based on which further studies can be made.
MECHANICS	Exposes students to become familiar with the Newtonian Mechanics and general properties of matter. Students will have a basic understanding of the concepts and underlying principles of classical physics.
MATHEMATICAL METHODS OF PHYSICS-II	It enhances the concept of some special functions and complex mathematical integrals. Advanced mathematical physics helps students
ELECTRICITY AND MAGNETISM	Students understand electric and magnetic fields in matter. They apply Maxwell's equations and EM wave propagation to various physical
CLASSICAL MECHANICS AND SPECIAL THEORY OF RELATIVITY	Students introduce themselves to a new horizon of thinking and have a working knowledge of special relativity in a hypothetical four dimensional spacetime continuum.

THERMAL PHYSICS-I	Students will demonstrate knowledge-based competencies in the fields of Thermodynamcis.
ANALOG SYSTEMS AND APPLICATIONS	Students will understand the electronic systems with a continuously variable signal and learn the function of basic component's use in linear circuits.
ELECTRICAL CIRCUIT NETWORK SKILLS	It develops problem solving skills and understanding of circuit theory through the application of techniques and principles of electrical circuit analysis to common circuit problems.
ELECTROMAGNETIC THEORY	Students will have an ability to determine and describe static and dynamic electric and magnetic fields for technologically important structure. they understand how electric field and magnetic fields are produced and their behavior also. They also learn what is an electromagnetic wave and how it propagates and their application in modern day communication systtem.
WAVES AND OPTICS	Students will apply knowledge of sound waves, and light waves to explain natural physical processes and related technological advances.
DIGITAL SYSTEMS AND APPLICATIONS	After completing the course students develop knowkedge of working of binary logic, and how different kinds of logic gates work. Students develop a digital logic and apply it to solve real life problems. They understand the difference between combinational and sequential logic circuits. They can analyze, design and implement combinational and sequential logic circuits. By this way they can get an opportunity to gain knowledge how modern day computer works.
COMPUTATIONAL PHYSICS	Computational Physics helps to developing computer programming and other numerical computations.
QUANTUM MECHANICS	Quantum Mechanics helps the students to have a deeper understanding of the mathematical foundations of quantum mechanics.
THERMAL PHYSICS-II	Students will demonstrate a mastery of the core knowledge in the areas of Thermal Physics and Statistical Mechanics.
NUCLEAR AND PARICLE PHYSICS	After completing of this course, the students gain knowledge of structure and properties of nuclie, the mechanism of different radioactive decays and their applications in peaceful use of nuclear energy. In particle physics they learn what are the elementary particles constitute this known universe. Stuents will gather capability of elementary problem solving in nuclear and particle physics.
ATOMIC PHYSICS AND SPECTROSCOPY	The concepts of Quantum Mechanics will enable the students to explain and describe the fundamental mathematical and scientific framework that underpins Quantum Mechanics.
STATISTICAL MECHANICS	The course gives an introduction to statistical mechanics which discusses how probability theory can be used to derive relations between the microscopic and macroscopic properties of matter. Both classical and quantum statistics and their application in different systems enable students to develop knowledge about how Bosonic and Fermionic systems behave. How electrons behave in metals and semiconductors and photons in blackbody radiations or phonons in solids.
CONDENSED MATTER PHYSICS	Students learn about fundamental topics in solid-state physics, and learn to work with quantum mechanics, statistical physics and electromagnetism.
APPLIED OOTICS	Students know about basic optical phenomena and understand the fundamentals and the basic tools which explain these phenomena.
NANO-MATERIALS AND APPLICATIONS	Students will gain experience in applying unique properties of nanomaterials to solve problems and challenges in our life. They will demonstrate the ability to develop case studies of nanomaterials with a focus on fundamentals, fabrication, characterization, and applications. The course also ensures knowledge about synthesys, characterizattion and applications of nanomatterials. Knowlege about optical, electtrical and mechanical properties of the nanomaterials are also outcome of this particular cours.

M. Sc. PHYSICS PROGRAMME

PROGRAM OUTCOMES	Bring up students as educated individuals imbued with Indian values and to prepare them to serve as good educators or scientists. Exposure to proper laboratory infrastructures will create opportunity to enhance their technological skill. Exposure to sophisticated instruments will also widen their knowledge. Seminars will give an opportunity to the students to develop their scientific temper, to improve their communication skills. Computational skills acquired would be of immense use in future while working with theoretical and as well as experimental physics. Will motivate students to pursue research careers especially in the field of Applied Optics, Photonics, Spintronics, Quantum computing and information processing. Will equip students to appear different competitive examinations like NET/GATE/SET/JEST/WBCS/UPSC etc for future research or professional career.
PROGRAM SPECIFIC OUTCOMES	The laws of physics in the Macroscopic and Microscopic world are significantly different. It is extremely important and absolute necessary to have a clear concept of classical mechanics before or simultaneous introduction of quantum mechanics. Alternate and generalized formulation of classical mechanics will help in to create a bridge with quantum mechanics. Non linear aspects of classical motions will help in understanding complex dynamical systems.
COURSE OUTCOMES	
COURSE	OUTCOMES
CLASSICAL MECHANICS AND SPECIAL THEORY OF RELATIVITY	The Lagrangian and Hamiltonian approach will be useful in microscopic systems and field theoretic description of continuous systems. The concept of Hamilton-Jacobi theory will raise the idea of transition of a system from classical to quantum mechanics. The description of rigid body dynamics in terms of Euler angles will have direct implication in rotation in quantum mechanics. Relativistic formulation will be useful in understanding relativistic electrodynamics and relativistic quantum mechanics. Non linear aspects will be helpful in understanding chaotic behaviour of dynamical systems e.g. turbulence in fluid mechanics, weather systems etc.
QUANTUM MECHANICS-I	Students will learn to solve Schrodinger's equation for different potentials. Familarisation with mathematical tool of quantum mechanics such as linear spaces, operator algebra, matrix mechanics and eigen value problems. A good understanding of the mathematical tools used in the subject will help the students in solving problems in nuclear physics, electrodynamics, high energy physics etc. The advanced topics will help the students in understanding several atomic and nuclear phenomena.
MATHEMATICAL METHODS OF PHYSICS	Students are expected to be well acquainted with technique to solve different problems related to complex analysis, differential equations, integral transform, linear algebra. Students would be capable to apply their knowledge to read/understand other branches of physics, especially in Quantum Mechanics, Electrodynamics, Solid State Physics, Quantum Optics.

	The understanding of Group Theory will be useful in studying various symmetry properties in high energy physics, quantum mechanics as well as condensed matter physics.
COMPUTER PROGRAMMING AND COMPUTATIONAL PHYSICS	Experiments will enhance knowledge, and assist in learning and clarification and consolidation of theory. Students will learn to operate and handle various instruments. Seminars will give an opportunity to the students to develop their scientific temper, to improve their communication skills and scientific documentation skills.
THERMAL AND STATISTICAL PHYSICS	This course can help to understand properties of different systems in condensed matter physics, atomic physics, Astrophysics and many more. It helps reader to realize distinguishable features of quantum and classical systems of particles Cluster expansion technique can be useful to initiate research work on the theoretical advancement in the field of quantum Monte Carlo simulations.
ELECTRODYNAMICS AND PLASMA PHYSICS	The students will understand origin of electric and magnetic field and their unification. Students will gain solid knowledge on generation and propagation of electromagnetic radiation. The mathematical formulation in multipole expansion will be helpful in understanding nuclear models. Understanding of scattering of electromagnetic waves will be helpful in understanding scattering in quantum mechanics. Basic concepts in plasma physics will be stepping stone to research in the new and active area of research. Introduction to antenna will be helpful in Communication Electronics.
CONDENSED MATTER PHYSICS	A thorough knowledge of basic condensed matter physics will be helpful in understanding magnetic, electronic and transport properties of materials and their response to externally applied fields. This will be stepping stone in developing concepts of new technology and materials. This vibrant branch of physics will open up new arenas of professional and academic career of the students.
NUCLEAR AND INTRODUCTION TO PARTICLE PHYSICS	This course helps develop a physical feeling on the complexity of nuclear potential and spectrum. It extends the idea about nuclear reactions, reactors and radioactive properties of material and grows interest in the studies of Radio Therapy. It may motivate to learn about the mystery of mass generation and to study astro-particle physics.
PHYSICS LAB - II & SEMINAR	Experiments will enhance knowledge, and assist in learning and clarification and consolidation of theory. Students will learn to operate and handle various instruments in electronics and photonics laboratory. Seminars will give an opportunity to the students to develop their scientific temper, to improve their communication skills and scientific documentation skills.
QUANTUM MECHANICS II	Students will learn about discrete symmetries, scattering theory, quantum Hall effect and their applications. Relativistic cases, Dirac equation, concept of particles and anti-particles etc. would motivate post graduate students to further study in field theory and particle physics. Students will get introduction to active research topics like topological superconductor, Weyl semi-metals etc. and this can lead to further career in academics and research.
ATOMIC AND MOLECULAR SPECTROSCOPY	Basic concept of atomic and molecular spectrum is indispensible for advance studies in pure and applied physical science. This course can motivate students to pursue research careers especially

	in material sciences and associated fields.
ADVANCED OPTICS	Students will be familiar with different types of light source and detector needed in present day optical communication. Students will gather knowledge about propagation of light through optical fiber. Different types of losses incurred during propagation. This course can motivate students to pursue research careers especially in the field of applied optics and photonics
PHYSICS LAB - III & SEMINAR	Experiments will enhance knowledge, and assist in learning and clarification and consolidation of theory. Students will learn to operate and handle various instruments in electronics and photonics laboratory. Seminars will give an opportunity to the students to develop their scientific temper, to improve their communication skills and scientific documentation skills.
ELECTRONICS (ANALOG AND DIGITAL)	Students will develop in-depth knowledge both in analog and digital electronics. Course will give a thorough knowledge about semiconductor and its properties and will help the students to design several electronic devices Will help the students to get knowledge in Electronics circuits that are widely being used in industrial applications.
OPTOELECTRONICS AND LASER PHYSICS	Students will be familiar with different types of advanced light sources and their modulating mechanism widely used in present day information processing. Students will also learn about Nonlinear optics (NLO), which is the branch of optics that describes the behaviour of light in nonlinear media,. This course can motivate students to pursue research careers especially in the field of applied optics and photonics
COMMUNICATION ELECTRONICS	After taking the course the students will be familiar with different types of communication systems used in electronics. They will also be familiar with information theory and coding techniques. They will get knowledge about principle of Radar, satellite and mobile communication system. The students will also acquire knowledge about Television
NON-LINEAR OPTICS & OPTICAL SWITCHING	Students will also learn about Nonlinear Optics (NLO) which is the branch of optics that describes the behaviour of light in nonlinear media. Students will be familiar with different types nonlinear phenomena, different frequency mixing, parametric oscillation, self focusing etc. and their applications in present day industry. Students will be acquainted with working and application of optical switch which is a device for opening or closing an optical circuit in a communication application that selectively switches the signal in an optical fiber or integrated optical circuit (IOC) from one circuit to another. This course can motivate students to pursue research careers especially in the field of Optical computing and information processing.
MICROWAVE AND QUANTUM DEVICES	After taking this course, students will be familiar with different techniques of microwave sources and waveguides. They also get knowledge about measuring power, frequency, and impedance in microwave region. They will learn about the working of quantum devices also.

Banwarilal Bhalotia College
Constituent College of the KAZI NAZRUL UNIVERSITY, Asansol
(GOVT. SPONSORED U. G. & P. G. College)

Department of Political Science (Hindi Shift)

PROGRAM OUTCOMES, PROGRAM SPECIFIC OUTCOMES AND COURSE OUTCOMES

Program Outcomes

Political science's program focuses on conceptual, theoretical and philosophical approaches to the study of politics. The program seeks to engage with (and expose students to) a broad range of current scholarship in political theory and political philosophy, political thought (both western and Indian), international relations, Indian government and politics, comparative politics including works in the history of political thought; theoretical investigations of contemporary political phenomena; philosophical analyses of key political concepts; conceptual issues in global politics, domestic politics, ethics, law, and public policy; and contributions to politics in West Bengal. At the end of the course students will be able to critically engage themselves in political discourse. This program inculcate the ability to draw logical conclusions about social and political issues and problems and it also inculcate the ability to observe and analyze patterns in political developments, ideas and behavior. This program instills awareness among students about the role of citizens in governing processes.

Moreover, this program will pave the way for higher studies, research (both discipline specific and interdisciplinary research) and preparation of competitive examinations like UPSC & PSCs.

Program Specific Outcomes

- Develop knowledge of core concepts of Political Science.
- Expose students to various fields and sub-fields of Political Science.
- Develop the ability to define important field-specific theories and concepts.
- Students will learn about key political instuitions, corporation, commission; constitutions of India; how to compare cross border governments and their politics and global politics in a complex system of inter-dependency.

B.A. Honours in Political Science

Semester – I

Course Type	Course Title	Course Outcomes
C-1	Political Theory (Liberal Tradition)	The goal of this course is to understand the fundamental alternative political theories that have shaped our world, and to consider which political theories may shape our world in the future. In the process of exploring the theories at the foundation of liberalism, democracy, capitalism, Republicanism, we do consider how each of them addresses the most fundamental human questions: What is the just form of political society and government? What is better way of life for human beings? Moreover, in order to have a critical understanding and evaluation of these political theories fairly, we will attempt to identify and to examine the most powerful arguments for and against each of these theories. To gather in-depth knowledge on different approach of Political theory. To understand the nature of the state through theories.
C-2	Comparative Politics	The goal of this course is to useful knowledge about the comparative theories, processes, policies and constitutions of various countries in a comparative context. To understand the difference between the Comparative Politics and Comparative Government. To understand relevant theories of Comparative Politics.

GE-1	Political Theory I	The goal of this course is to understand the fundamental alternative political theories that have shaped our world, and to consider which political theories may shape our world in the future. In the process of exploring the theories at the foundation of liberalism, democracy, capitalism, equality, liberty, Marxism, Revolution, Feminism, we do consider how each of them addresses the most fundamental human questions: What is the just form of political society and government? What is better way of life for human beings? Moreover, in order to have a critical understanding and evaluation of these political theories fairly, we will attempt to identify and to examine the most powerful arguments for and against each of these theories. To understand the theoretical base of Marxism. To understand some important debates of Marxism.

Semester – II		

C-3	Political Theory II	This course offers a broad outline of the ideas of socialist tradition in political theory and aims to familiarize students with some key philosophical themes and issues in socialist theory like freedom, democracy, revolution, autonomy of the state and Marxism. This course is also based on a prior understanding of the socialist nature and value of theoretical inquiry in politics. The task of political theory is not only to understand and explain political phenomena but also to deal with a few fundamental questions that have an impact on the good life, and the ways in which we strive to collectively attain it. The objective of this course is to investigate and understand some of the major debates in contemporary political theory and to enrich our skills of analysis and judgment through constant engagement. Moreover, critical social theory is a form of self-reflective knowledge that entails both understanding and theoretical explanation to diminish entrapment in systems of domination or dependence, and exploring the possible emancipatory interest by expanding the scope of autonomy and minimizing the scope of domination. To comprehend one of the major developments of the nineteenth and twentieth century period, when the Socialist tradition, known to the wider world as Marxism, appeared as one of the prominent alternative discourses opposed to the Liberal school of thought.
C-4	Comparative Constitutional Systems	The goal of this course is to provide useful knowledge about the comparative theories, processes, policies and constitutions of various countries in a comparative context. To understand the development of Comparative Politics. To understand scope and purposes of Comparative Politics.

GE-2	Comparative Government and Politics	The goal of this course is to provide useful knowledge about the comparative theories, processes, policies and constitutions of various countries in a comparative context.

Semester – III		
C-5	Western Political Thought (Ancient and Medieval)	Students will get aware from different major western political thoughts. By this course student will understand the views of Aristotle, Plato, Machiavelli, and Jean Bodin.
C-6	Indian Political Thought	Students will get aware from different major Indian political thoughts. By this course student will understand the views of Kautilya, Raja Rammohan Roy, Bankim Chandra, Rabindranath Tagore, Swami Vivekanand, MK Gandhi and BR Ambedkar.
C-7	Political Sociology	This course aims to understand the major tools of analysis and methods of political sociology to work in the society. It aims to understand the process of socialization and how it operates in our society. This course will help students to understand how political process impacts sociological process and institutions and vice versa.
GE-3	Nationalism in India	Students will aware about nationalism in the colonial world. Students will be able to differentiate between Indian notion of nationalism and western notion of nationalism. Students will know about resistance against British colonial regime during indian national movement.
SEC-1	Public Opinion and Survey Research	Students will learn about meaning, nature, importance and problems of research in social sciences. They will also know how to take a scientific approach to questions about political phenomena and how to ask empirical questions about the political world. They will learn how to formulate research problem, prepare research design, formulate research questions and predict in polling research.

Semester – IV		
C-8	Modern Western Political Thought	Students will get aware from different major western political thoughts. By this course student will understand the political
		enquiry of Hobbes, Locke, Rousseau, Hegel, Marx, Bentham and J.S. Mill.
C-9	Indian Government and Politics	Students will learn about the basic frame work of Indian Constitution. Students will be able to describe and think critically about the institutional features of Indian politics. Students will learn about Indian Constitution with a focus on the role of the Constituent Assembly and examining the essence of the Preamble. Students will Critically analyze the important institutions of the Indian Union: the Executive: President; Prime Minister, Council of Ministers; Governor, Chief Minister and Council of Ministers; The legislature: Rajya Sabha, Lok Sabha, Speaker, Committee System, State Legislature, The Judiciary: Supreme Court and the High Court's: composition and functions-Judicial Activism.
C-10	Basic Theories of International Relations	This course underlines a wide range of issues involved in the study of international relations including the liberal and realist theory of international relations, workings of the state system, and techniques of implementation of Foreign Policy. This course focuses on to explain global politics using an historical approach which allows students to understand continuity as well as change.
GE-4	Politics of Globalization	The purpose of this course is to understand the impact of globalization on global politics. This course will examine the impact of globalization on Indian economy, terrorism, new international order and the cultural changes that took place across the borders.

SEC-2	Legislative Practices and Procedures	Students will know about the powers and functions of members of parliament, state legislative assemblies and urban and rural governing bodies. Students will also learn about the rule making process in Indian parliament, budget processes and different types of legislative committees.

Semester – V

C-11	World Politics: Organizations and Issues	This course aspires to bring better understanding about the meaning, nature and origin of International Organisations. It will discuss various theories of international governance and regional integration. Discuss the United Nations' effectiveness with respect to addressing global issues such as terrorism, armed conflict, human rights, development and environmental crises.
C-12	Basic Theories of Public Administration	Students will understand and demonstrate the basic understanding of theories, concepts and practices relevant to administrative theory. The students will acquire critical thinking about the theories propounded by classical and behavioural thinkers. They will know about bureaucracy, development administration and decision making process of Herbert Simon.
DSE-1	Social Movements in Contemporary India	The purpose of this course is to provide understanding about social and new social movements like peasant movement of Telangana and Singur, tribal movement of Niyamgiri and POSCO, environmental movement of Chipko, Narmada Bachao Andolan and silent valley. Students may critically analyse the policies framed in this regard.

DSE-2	India's Foreign Policy in a Globalizing World	This course identifies and critically assesses the processes involved in foreign policy decision making in general. Apply theories of international relations to explain and understand the Indian foreign policy making process and its outcomes. Develop practical knowledge of several issues related to bilateral relations between India-Pakistan, India-China and India-USA. This course underlines the role of Indian foreign policy on the front of trade, environment and terrorism in present scenario.
Semester – VI		
C-13	Local Government in West Bengal	The purpose of this course is to provide conceptual and theoretical evolution of rural and urban local government in West Bengal since independence. This will bring the ideas of processes of democratic
		decentralization in India in general and West Bengal in particular. Students will know about the constitutional provisions of Panchayati Raj Institutions in India.
C-14	Project	Students will get hand on experience from their projects from within the discipline of Political Science and its allied subjects.
DSE-3	Understanding Global Politics	The purpose of this course is to understand the impact of globalization on global politics. This course will underline the evolution of the state system and the concept of sovereignty, global economy, and transnational economic actors.
DSE-4	Environmental Politics	The purpose of this course is to provide awareness regarding environmental issues that is political in nature like Chipko, Narmada Bachao Andolan. Students will also know about issues of climate change and green governance. Students may critically analyse the policies framed in this regard.

BA Programme in Political Science

Semester I

Course Type	Course Name	Course Outcomes
C-1	Introduction to Political Theory	The objective of this course is to understand the fundamental alternative political theories that have shaped our world, and to consider which political theories may shape our world in the future. In the process of exploring the theories at the foundation of liberalism, democracy, capitalism, Marxism we do consider how each of them addresses the most fundamental human questions: What is the just form of political society and government? What is better way of life for human beings? Moreover, in order to have a critical understanding and evaluation of these political theories fairly, we will attempt to identify and to examine the most powerful arguments for and against each of these theories. Since the state occupies a central position in the discourses on politics, the understanding of different theories on the state will allow the students to understand the role of the state in the society and how it governs and regulate the power structure. Ultimately student will learn about the basic concepts and theories of Political Science.
SEMESTER - II		
C-3	Comparative Government and Politics	The goal of this course is to provide useful knowledge about the comparative theories,

		processes, policies and constitutions of various countries in a comparative context. This course exposes the students to concepts and approaches which can apply to understand different political regimes in terms of the origin of governmental structures and their functioning. We have different political regimes even within the broader category of democratic regimes. However, they differ from each other in many respects. This course will allow the students to understand their functioning in a comparative perspective.
SEMESTER - III		
C-5	Indian Government and Politics	Students will learn about the basic frame work of Indian Constitution Students will be able to describe and think critically about the institutional features of Indian politics. Students will learn about Indian Constitution with a focus on the role of the Constituent Assembly and examining the essence of the Preamble. Students will Critically analyze the important institutions of the Indian Union: the Executive: President; Prime Minister, Council of Ministers; Governor, Chief Minister and Council of Ministers; The legislature: Rajya Sabha, Lok Sabha, Speaker, Committee System, State Legislature, The Judiciary: Supreme Court and the High Court's: composition and functions-Judicial Activism.

SEC-1	Legislative Support	Students will know about the powers and functions of members of parliament, state legislative assemblies and urban and rural governing bodies. Students will also learn about the rule making process in Indian parliament, budget processes and different types of legislative committees.
SEMESTER - IV		
C-7	Introduction to International Relations	This course underlines a wide range of issues involved in the study of international relations including the liberal and realist theory of international relations. Student will learn about workings of the state system, and techniques of implementation of Foreign Policy. This course focuses on to explain global politics using an historical approach which allows students to understand continuity as well as change.
SEC-2	Public Opinion and Survey Research	Students will learn about meaning, nature, importance and problems of research in social sciences. They will also know how to take a scientific approach to questions about political phenomena and how to ask empirical questions about the political world. They will learn how to formulate research problem, prepare research design, formulate research questions and predict in polling research.
SEMESTER - V		
DSE	Themes in Comparative Political Theory	Students will get aware from different major western political thoughts. By this course student will understand the political enquiry of Aristotle, Locke, Rousseau and J.S. Mill.

		Further, students will also get aware from different major Indian political thoughts. By this course student will understand the views of Kautilya, Tilak, BR Ambedkar, Nehru and Jayprakash Narayan.
DSE	Administration and Pubband Policy: Concepts Theories	Students will understand and demonstrate the basic understanding of theories, concepts and practices relevant to administrative theory. Students will acquire critical thinking about the theories propounded by classical, scientific management and behavioural thinkers. Objective of this course is to make students aware about bureaucracy, development administration and decision making process of Herbert Simon. Objective of this course is to make students aware about the concept of public policy and its relevance in public administration.
GE	Reading Gandhi	Objective of this course is to make students aware about the political, social and moral ideas of MK Gandhi. Students will learn the commentaries on Hind Swaraj and Gandhian thought. Objective of this course is to make students aware about the relevance of Gandhian thought in modern times.
GE	Gender Politics	Objective of this course is to provide basic knowledge of Gender Politics. Student will able to differentiate between gender and sex. Student will also learn how patriarchy operates as a power structure in our society.

		This course offers knowledge about effective participations of women in decision-making structure and security concern for women.
SEC	Democratic Awareness	Student will learn about fundamental rights, fundamental duties and other constitutional rights. This course brings the forefront of violence against women and legal provisions to tackle with them. This course offers information about anti-terrorist laws. This course offers about criminal procedure in India.
SEC	Globalization: Theories and Concepts	The purpose of this course is to understand the impact of globalization on global politics. This course will underline the evolution of the state system and the concept of sovereignty, global economy, and transnational economic actors. Objective of this course is to make students aware about what are the repercussions of global economic integration on socio-cultural change at local level.
SEMESTER - VI		

DSE	Democracy and Governance	This course offers basic understanding of process of globalization. This course offers understanding of evolution of the state system since treaty of Westphalia. To demonstrate that globalization has had diverse impacts on societies and places. To study the intuitions of global economy.

DSE	Understanding South Asia	Students will learn about geo-political realities and historical background of South Asia. Students will learn about constitutional and political development since Second World War. The objective of this course is to provide better understanding of post-colonial states in South Asia.
GE	Human Rights: Th and Concepts	The student will be able to explain the meaning of human rights and examine human rights issues in different social, political and cultural contexts. The Students will be able to examine and explain issues of human rights when state and its agencies apply the methods and techniques of surveillance, interrogation and counter-terrorism operations. Students will know about human rights movements in India.

GE	Global Politics	This course offers basic understanding of process of globalization. This course offers the impact of globalization on Indian economy since 1990. This course offers how globalization has changed the new international order in post-cold war era. To demonstrate that globalization has had diverse impacts on societies and places. Objective of this course is to make student aware about what are the repercussions of global economic integration on socio-cultural change at local level.
SEC	Conflict and Peace Building	1 This course emphasizes on the study of conflict at local, sub-national and international level.
		2 Student will learn to pursue ways to reduce violent conflict and promote justice by means of negotiations and non-violent action. 3 Students are expected to become theoretically adept and analytically sophisticated on the issues of conflict and peace building.
SEC	Environment Politics	1 The purpose of this course is to provide awareness regarding environmental issues that is political in nature like Chipko, Narmada Bachao Andolan. 2 Students will also know about issues of climate change and green governance. 3 Students may critically analyse the policies framed in this regard.

BANWARILAL BHALOTIA COLLEGE ASANSOL

DEPARTMENT OF POLITICAL SCIENCE

CRITERIA 2.6.1
PROGRAM OUTCOMES, PROGRAM SPECIFIC OUTCOMES, COURSE OUTCOMES

PROGRAM OBJECTIVES AND COURSE OUTCOMES FOR B.A. (HONOURS) IN POLITICAL SCIENCE

Program	Program Objectives	Program Specific Objectives
B.A. (Honours) in Political Science	Students getting enrollment in this Program will enrich itself with the basic philosophies of politics (Comprising from Local, National and International Level). This Program will bring awareness among the youth by getting deep understanding of democratic values as it is enshrined in our Constitution. Method used for teaching in this program is mainly based on theoretical lecture method but project based work is also included within the program for the final year students. This helps the students to have an empirical understanding of political phenomena which is changing at every moment in our society. This programe will help the students in understanding the global world order and how India is responding to the changing world.	**PSO1:** To inculcate the basic understanding of Politics and Political Science as subject of teaching and learning.
		PSO2: To make student understand and analyze different political philosophies and ideologies.
		PSO3: To develop among student democratic temper in their behavior.
		PSO4: To make student familiar with the practical politics of the day.
		PSO5: To generate exposure among students about the global world order.
		PSO6: To give understanding of the administration and governance of the country.
		PSO7: To make student understand rationality of public policy in the country.

Course Outcomes:

Course		Course Outcomes
Semester I	**Core Course:CC-1** **Course Name:** **Political Theory (Liberal Tradition)** **Course Code:** **BAHPLSC101**	It helps in understanding different basic concepts of Political science. Concepts like democracy, equality, liberty and many more helps in basic understanding of modern day politics.
	Core Course CC-2 **Course Name:** **Comparative Politics:** **Course Code:** **BAHPLSC102**	This course will enable the students to understand the basic concept of comparative politics and comparative Government. This course exposes the students to concepts and approach which can apply to understand different political regime in term of the origin of governmental structures and their functioning.
Semester II	**Core Course CC -3** **Course Name:** **Political theory (Socialist Tradition)** **Course Code:** **BAHPLSC201**	It helps the students in having a comprehensive understanding of socialism and its facets. Socialism which is a part of Indian Constitution and this course is of immense importance as far as our constitution is concerned.
	Core Course CC -4 **Course Name:** **Comparative Constitutional Systems:** **Course Code:** **BAHPLSC202**	For having a deep knowledge of different political system existing in different countries in the world, this paper is extremely importance.
Semester III	**Core Course CC -5** **Course Name:** **Western Political Thought (Ancient and Medieval)** **Course Code:** **BAHPLSC301**	Thought and theory is a basic of any subject and this paper will help the student regarding different Political Thought existing and being practiced in different part of the world. As the world is dominated by western world order it extremely important to have deep understanding of the Political Thought of the West.
	Core Course CC -6 **Course Name:** **Indian Political Thought:** **Course Code:** **BAHPLSC302**	Modern India has its own idea of India Shaped by the Political Thought of our founding father, this course will help in discovering the ideas of Indian Political thinker in its practicality.

	Core Course CC -7 **Course Name:** **Political Sociology:** **Course Code:** **BAHPLSC303**	Sociology of politics is a course which is being taught in 3rd semester with an objective of bringing the awareness among the students how institutions and environment in the society interacts with each other and in turn helps the people in their Political Socialization.
	Sec-I **Course Name:** **Democratic Awareness with Legal Literacy** **Course Code:** **BAHPLSSE301**	Skill enhancement course has been designed with the purpose of creating awareness regarding legal sensitivity of democratic institution and its functioning in the country.
Semester IV	**Core Course CC -8** **Course Name:** **Modern Western Political Thought:** **Course Code:** **BAHPLSC401**	Modern Political Thought, particularly Western Political Thought is the mother of Political Science. Its usefulness for the students can be evaluated by inculcating in them different thought of different thinkers who are ruling the Political dispensation in respective countries.
	Core Course CC -9 **Course Name:** **Indian Government and Politics:** **Course Code:** **BAHPLSC402**	Politics in India is very complex and unpredictable; therefore, providing students with the nature of government and its institutions in their functioning is something very motivating for the students. This course helps the student in understanding the dynamics of Indian Politics.
	Core Course CC -10 **Course Name:** **Basic Theories of International Relations:** **Course Code:** **BAHPLSC403**	Ever since the new world order came into existence, since second world war, having a theoretical understanding of International Politics is an integral part of Political science subject. Theories of international Politics with certain concepts make students familiar with the everyday behavior of world powers who are determining the order of international order.
	Sec-II-Course Name: **Legislative Practices and Procedures:** **Course Code:** **BAHPLSSE402**	This course helps the students in understanding the technicalities of legislative practices and its procedures.
Semester V	**Core Course CC –11** **Course Name:** **World Politics: Organizations and Issues:** **Course Code:** **BAHPLSC501**	International Politics has its own dynamic hence students well versed with this dynamism will be able to understand the global politics well. This course provides students with the understanding of international institutions and their power and functions.

	Core Course CC -12 **Course Name:** **Basic Theories of Public Administration** **Course Code:** **BAHPLSC502**	Public administration is a backbone of any country and providing basics knowledge of Public administration is something useful for the students. Administration is applied part of politics, therefore, students having understanding of Public Administration will motivate them to look forward towards administration.
	DSE-1 **Course Name:** **Human Rights: Theory and Practice** **Course Code:BAHPLSDSE501**	After the declaration of Universal Human Rights in 1948 by UN it has become an international issue as well as an integral part of political Science teaching in academic institutions. Students having updated understanding of Human Rights can certainly help them in asserting their rights.
	DSE-II **Course Name:** **Social Movements in Contemporary India** **Course Code:** **BAHPLSDSE502**	This course covers social movements in India in terms of farmer movement, Environmental Movement and many more. These movements have direct relation with the politics of the country, therefore students will understand of socio-politico phenomena of India.
Semester VI	**Core Course CC -13** **Course Name:** **Local Government in West Bengal:** **Course Code:** **BAHPLSC601**	To know about the importance of local governments and its relevance. To understand the power and factions in the development of State.
	Core-14 **Course Name:** **Project: Course Code:** **BAHPLSC602**	It helps the student to have a deep understanding of a particular topic from entire subjects.
	DSE-III **Course Name:** **Understanding Global Politics** **Course Code:** **BAHPLSDSE601**	This course will cover topics related to international politics which will help the students to understand deferent aspects of international politics. Through this course students will be aware of various activities in the international field of the world Bank and the International Monetary Fund. The students will understand the evolution of State and the concept of Sovereignty of the state in the global perspective.
	DSE-IV **Course Name:** **Environmental Politics** **Course Code:** **BAHPLSDSE602**	The outcome of this course will benefit the students, how global powers mainly the develop countries are manipulating the environmental issues of global concern in their favor and developing countries responding to this.

BA Sanskrit Programme Outcome: Programme Specific Outcomes: Course outcome:

BA Sanskrit

Programme Outcome:

Students are able to frame correct sentences both in spoken and written forms.
Students receive advanced knowledge of ancient Indian religion, literature, and history through the study of Sanskrit texts.

Programme Specific Outcomes:

Students will gain knowledge of the major traditions of literatures written in Sanskrit.
Translation of Sanskrit literature into Bengali and vice-versa.
Students acquire ability to apply relevant theoretical perspectives to topics within the field of ancient Indian religion, literature and history.
So it may be summed up the entire course of Sanskrit honours gives the learners ample opportunity to communicate, translate, corelate with other languages in one way and to enjoy the the splendor of the language and literature through systematic reading of poetry, drama, grammar, methodologies etc.

Course outcome:

Semester 1

In the first semester two core papers are taught. Core paper 1 deals with Bhattikavyam by Bhartrihari and Kalidas's Raghuvamsham. It may be e said that the learners are expected to learn how to read and enjoy poetry or more specifically Epic poetry. The second paper contains reading of kiratarjuniyam by Bharavi and rhetorical devices of this language called metre.

Semester 2

2nd semester aims at teaching of the richest treasure of Sanskrit literature — Abhijñāna Sakuntalam by Mahakavi Kalidasa. Another paper teaches the art of writing i.e. what and how an author should write.

Semester 3

In sem 3 students are taught the history of Sanskrit literature, general grammar and Siddhanta Kaumudi that aims at teaching Karaka, an important component of Sanskrit grammar. SEC-1 paper is very important in the sense that it teaches tradition or communication which is normally considered as basic knowledge of a learners language acquisition.

Semester 4

In sem 4 also one paper is devoted to teach Samasa prakarana and another for linguistic competence which equips learners with ins and outs of a language. Everyone knows the Veda, the earliest text of the world is very important, so Vedic literature is incorporated with a view to making the learners aware of the life style, rituals, social system of the the Aryan or Vedic people. In SEC-2 gives the students glimpses of the Karmayoga — the lesson incorporated in the Bhagavad Gita. Needless to say it is one of the most comprehensive tests of all literature that gives mankind the knowledge of high moral lesson and helps them find out the right path as Arjuna got it.

Semester 5

In sem 5 two papers named Kavya-prakasha by Mammata and Sahitya-darpan by Viswanatha offer to teach Rhetoric. Other two DSE papers deal with Puranic literature and Patanjala Yoga-darshanam which has recently become part and parcel of many peoples day to day life.

Semester 6

The final semester is almost general one for all categories of avoid readers irrespective of any discipline — History, Philosophy, Economics etc. In this paper Arthashastra by Kautilya and Indian philosophy are taken up. Again in two other DSE papers general discussion follows on Indian Drama and Manusamhita.

Program Outcome, Program Specific Outcome and Course specific Outcome of Department of Statistics, Banwarilal Bhalotia College, Asansol

Program Outcome:

- Introduction of various kind of data and their different types of representation.
- Understanding quantitative and qualitative data analysis techniques
- Introduction to the probability and randomness
- Decision making through statistical inference
- Application of statistics in different fields like bioscience, business, medical science etc.

Program specific outcome:

In the year 2021, department of statistics of Banwarilal Bhalotia College offered generic course of statistics only. The program specific outcome of the above mentioned course as follows;

- Introduction of quantitative and qualitative data.
- Tabular and graphical representations of different types of data.
- Understanding data through exploratory data analysis techniques
- Introduction to Probability and Randomness.
- Making decision using parametric and non-parametric inferences.
- Application of statistics in industry and economy.

Course specific outcome:

Courses	Outcome
Introduction to statistics(**BSCHSTSGE101**)	• Introduction to various type of data • Data presentation and summarization • Understanding the data using some techniques of exploratory data analysis
Introduction to probability theory and distributions(**BSCHSTSGE201**)	• Introduction to probability and randomness • Introduction to some standard probability distributions
Introduction to statistical inference(**BSCHSTSGE301**)	• Making decision using parametric inference • Introduction to non-parametric inference • Introduction to ANOVA
Introduction to applied statistics(**BSCHSTSGE401**)	• Introduction to time series analysis • Introduction to official statistics and economical statistics • Application of statistics in Industry

BANWRILAL BHALOTIA COLLEGE

DEPARTMENT OF URDU

Course	Course Outcomes
Semester-I **Core Course-1** **Core Course-2**	**Lesaniyat Aur Urdu Zaban ka Irteqa**: Urdu Zaban Ke wazood me aane ka sabab, jaye Paidaish aur iske Adabi darja kaise mila. **Urdu Adab ki Tarikh**: Iske tehat Students Urdu Zaban ko kis tarah Adabi darja hasil hua motaarif hote hain. Iske sath hi Urdu ke ibtedai adabi Noqoosh se bhi waqif hote hain jo aaj hamari zaban ke claasikal adab ka hissa hain.
Semester-II **Core Course-3** **Core Course-4**	**Classiki Urdu Ghazal**: Iske tehat Urdu ki Classiki Shairi ka motala kiya jata hai jis me zaban ki sakhtiyat se bhi waqfiyat hoti hai. **Classiki Urdu Nasr:** Ibteda me Urdu Nasr per Shairi aur Fariyat ka Gahra asar tha lehaza Ursu Nasr ke osloob per iska rang dekha jata ha. Qadeem Lesani khususiyat se bhi waqfiyat hoti ha
Semester-III **Core Course-5** **Core Course-6** **Core Course-7** **SEC-1**	**Jadeed Urdu Ghazal:** Is me Lesani aur Fikri satah per Ghazal me kis tarah tabdili hui. Ghazal ki Zaban aur andaz e Bayan me farq ko wazeh kiya jata ha. **Nazm Ibteda se Aligarh Tahreek tak**: Is me Classiki Nazm ka Motala kiya jata ha jis me Bilkhasus Qasida, Masnavi aur Marsiya ki Khususiyat se waqif hote hain. **Jadeed Urdu Nazm:** Is me Nazm ki badalti Haiyat, fikr aur Mozooaat ka motala kiya jata ha. **Awami zaraye Tarsil aur Urdu Sahafat:** Urdu Sahafat ki Tarikh uski adabi aur samaji ahmiyat aur Mojooda ahad me iske wasayel ko roshan kiya gaya ha.
Semester-IV **Core Course-8** **Core Course-9** **Core Course-10** **SEC-2**	**Urdu Tanqeed:** Adab me Tanqeed ki ahmiyat aur afadiyat ko ujagar kiya gaya ha. **Urdu Dastan:** Is ke Tehat Dastan ki ahmiyat o Afadiyat aur uske Zawal ke asbab per Guftagu ki jati ha. **Urdu Masnavi Aur Nazm:** Is me Urdu ki classiki Manzoom Dastano ka motala kiya jata ha. **Ilmul Arooz Aur Ilmul Bayan:** Is ke tehat Shaiyri ki Funni khubiyon se waqfiyat hoti ha.
Semester-V **Core Course-11** **Core Course-12**	**Urdu Afsana:** Is me Urdu ki nai Afsana se motaarif hote hain. **Urdu Drama:** Is me Drama ke fun se waqfiyat hoti ha.

DSE-1 **DSE-2**	**Premchand Ka Khususi Motala:** Is ke tehat Premchand ki adabi khidmat ka jayeza liya jata ha. **Sir Syed Aur Unke Rofqa e Kaar:** Is me Sir Syed Ahmad Khan ki Adabi Khidmat aur Aligarh Tahreek aur unki ilmi o fikri Asrat ka tafsili jayeza liya jata ha.
Semester-VI **Core Course-13** **Core Course-14** **DSE-3** **DSE-4**	**Urdu Qasida aur Marsiya: Qasida aur Marsiya me Shakhsiyat ki tareef ki jati ha**. Is me ye wazeh kiya jata ha ki qasida me Zinda shakhsiyat ka zikr hota ha zabki Marsiya me Marne wale ki . **Urdu Sawaneh, Khudnawisht Sawaneh aur Khaka:** Ye Asnaf Urdu ki Ghair Afsanvi Nasr hain ye Shakhsi hote hue bhi inme adabi rang paya jata ha. **Tanz o Mezah:** Ghair sanjeeda Tahreer me Sanjeedagi aur Adabi Pahlu ko Ujagar kiya jata ha. **Adabi Tahreekat:** Is ke tehat Sher o Adab me Badalte hue Rujhaanat ka jayeza liya jata ha.

BANWARILAL BHALOTIA COLLEGE ASANSOL

DEPARTMENT OF ZOOLOGY
CRITERIA 2.6.1
PROGRAM OUTCOMES, PROGRAM SPECIFIC OUTCOMES, COURSE OUTCOMES

B.Sc. PROGRAM IN ZOOLOGY

Program Objectives and Course Outcomes for B.Sc. (Program) in Zoology

The objective of BSc Zoology - an undergraduate programme, is to create Zoologists with sound knowledge of fundamental and applied Zoology and empower them with employability skills for placement in wildlife or fishery sector or pursue career as pathological and genetic technician or establish oneself as a researcher or teacher. B.Sc. Zoology course will help to understand the behaviour, structure and evolution of animals. Zoologists use a wide range of approaches to do this, from genetics to molecular and cellular biology, as well as physiological processes and anatomy, whole animals, populations, and their ecology. B.Sc. degree programme in Zoology also deals with skill enhancement courses such as apiculture, aquarium fish keeping, medical diagnostics, sericulture etc.

The programme offers elective courses which are focused on making graduates employable considering the needs of the employment sectors. The teaching methodologies are student centric and focused on making the students independent learners. Information and Knowledge dissemination is through ICT supplemented lectures and practicals and active learning methods through group activities, cooperative learning strategies, research-based learning, research assignments, research projects, group discussions, case studies, project-based learning, class quiz, problem-based learning, field-based studies and student presentations.

The scope of Zoology as a subject is very broad. The intention is to understand the subject of Zoology in the evolving biological paradigm in modern times; where, living beings need to be understood at the level of atomic interactions; and comparative systems of organisms need to be studied through the prism of integrated chemical, physical, mathematical and molecular entities to appreciate the inner working of different organisms at morphological, cellular, molecular, interactive and evolutionary levels.

Course Outcomes:

COURSE	COURSE CODE	COURSE NAME	COURSE OUTCOMES
SEMESTER-I	BSCPZOOC101	CC Zoology-I (Systematics and Diversity of Life Protists to Chordates)	➢ Develop understanding on the diversity of life with regard to protists, non-chordates and chordates. ➢ Group animals on the basis of their morphological characteristics/ structures.

			➢ Develop critical understanding how animals changed from a primitive cell to a collection of simple cells to form a complex body plan. ➢ Examine the diversity and evolutionary history of a taxon through the construction of a basic phylogenetic/ cladistics tree. ➢ Understand how morphological change due to change in environment helps drive evolution over a long period of time.
SEMESTER II	BSCPZOOC201	CC Zoology-II (Comparative Anatomy & Physiology of Nonchordates)	➢ Develop an understanding of the characters used to classify besides being able to differentiate the organisms belonging to different taxa. ➢ Acquire knowledge of the coordinated functioning of complex human body machine. Have hands on experience of materials demonstrating the diversity of protists and non-chordates. ➢ Understand the relative position of individual organs and associated structures through dissection of the invertebrate representatives. ➢ Realize that very similar physiological mechanisms are used in very diverse organisms. ➢ Undertake research in any aspect of animal physiology in future
SEMESTER III	BSCPZOOC301	CC Zoology-III (Comparative Anatomy & Physiology of Chordates)	➢ Develop an understanding of the evolution of vertebrates thus integrating structure, function and development. ➢ Have an overview of the evolutionary concepts including homology and homoplasy, and detailed discussions of major organ systems. ➢ Understand how cells, tissues, and organisms function at different levels. The course content also

			provides the basis of understanding their abnormal function in animal and human diseases and new methods for treating those diseases. ➢ Develop an understanding of the related disciplines, such as cell biology, neurophysiology, pharmacology, biochemistry etc. ➢ Undertake research in any aspect of animal physiology in future.
	BSCPZOOSE301	SEC-I Bee keeping	➢ Explain what are the prerequisite to get started in beekeeping. ➢ Discuss the responsibilities of urban beekeepers. ➢ Identify where to purchase equipment and demonstrate how to assemble it. ➢ Name and identify major parts of the honeybee such as the stinger or mandibular parts. ➢ Describe bee biology and anatomy from the perspective of managing bees. ➢ Describe the importance of wax and identify what to look for in comb during hive inspections.
SEMESTER IV	BSCPZOOC401	CC Zoology-IV (Cyto-genetics, Biochemistry, Immunology, Evolutionary Biology)	➢ know about various components of a cell, ➢ know about cell physiology and sub-cellular metabolic processes ➢ know about components of immune system and their role in host defence system ➢ Undertake research in relevant field in future.
	BSCPZOOSE401	SEC-II Sericulture	➢ Generation of skilled man power in the field of sericulture, ➢ To impart training in extension management and transfer of technology, ➢ To impart training in Post Cocoon Technology, and ➢ To provide field exposure

SEMESTER V	BSCPZOOSE501	SEC-III Public Health and Hygiene	➢ Identify current national and global public health problems. ➢ Aware about the issues of food safety, water safety, vaccination, exercise and obesity, exposure to toxins. ➢ Frame a public health plan during any epidemic or spread of infectious disease etc. ➢ Analyze case studies of infant mortality and obesity. ➢ Assess the health inequalities with regard to gender, race, ethnicity, income etc.
	BSCPZOODSE501	DSEC-1(1) Genetic Engineering and Biotechnology	➢ Develop an understanding of the fundamental molecular tools and their applications of DNA modification and cloning. ➢ Appreciate shifting their orientation of learning from a descriptive explanation of biology to a unique style of learning through graphic designs and quantitative parameters to realize how such research and innovations have made science interdisciplinary and applied. ➢ Develop future course of their career development in higher education and research with a sound base. ➢ Apply their knowledge with problem solving approach to recommend strategies of genetic engineering for possible applications in Biotechnology and allied industry.
	BSCPZOODSE502	DSEC-1(1) Livestock Management and Animal Husbandry	➢ Understand skills and requirements necessary to find and maintain a job. ➢ Select and develop a breeding system for a livestock enterprise. ➢ Understand the importance of genetic improvement in animal production.

			➢ Formulate feed rations for different classes of livestock. ➢ Identify common problems associated with livestock and horse herd health and solutions. ➢ Identify current and future issues relating to animal husbandry. ➢ Understand different marketing opportunities available for livestock production.
SEMESTER VI	BSCPZOOSE601	SEC-IV Insect Pest, Vector Biology and Management	➢ Identify the types of insect pests particularly the most common one. ➢ Know the methods of sampling of the pests. ➢ Understand the mode of action of nematicides and the consequences of their use. ➢ Understand the effective way of insect pest management strategy.
	BSCPZOODSE601	DSEC-1(2) Wild Life Conservation and Management	➢ Develop an understanding of how animals interact with each other and their natural environment. ➢ Develop the ability to use the fundamental principles of wildlife ecology to solve local, regional and national conservation and management issues. ➢ Develop the ability to work collaboratively on team-based projects. ➢ Demonstrate proficiency in the writing, speaking, and critical thinking skills needed to become a wildlife technician. ➢ Gain an appreciation for the modern scope of scientific inquiry in the field of wildlife conservation management. ➢ Develop an ability to analyze, present and interpret wildlife conservation management information.

	BSCPZOODSE602	DSEC-1(2) Human Reproductive Biology	➢ Explain and contrast the processes of spermatogenesis, oogenesis. ➢ Demonstrate an understanding of the hormonal control of reproduction in males and how this is regulated; ➢ Distinguish between the main stages of embryonic, foetal and neonatal development and causes of foetal disorders. ➢ Understand the origin and characteristics of common congenital malformations; Know how sexually transmitted diseases may contribute to altered neonatal or reproductive function. ➢ Critically assess relevant scientific literature in Human Reproductive Biology and present their argument in oral and written work.

B.Sc. GENERIC IN ZOOLOGY

Course Outcomes:

COURSE	COURSE CODE	COURSE NAME	COURSE OUTCOMES
SEMESTER-I	BSCHZOOGE101	BASICS OF SYSTEMATICS & CLASSIFICATION	➢ Comprehend the basic concepts of animal taxonomy and zoological nomenclature ➢ Evaluate the significance of museum specimens ➢ Analyze the implications of biometrics, numerical taxonomy and cladistics. ➢ Understand the historical development of systematic biology from the 18th century to the present. ➢ Gain a basic grasp on the rules and philosophy of nomenclature. ➢ Question what you know, and need to know, to do systematic. ➢ Develop the capacity to critically evaluate the primary literature.
SEMESTER II	BSCHZOOGE201	VECTORS, DISEASES AND CONTROL	➢ Develop awareness about the causative agents and control measures of many commonly occurring diseases. ➢ Develop understanding about the favourable breeding conditions for the vectors. ➢ Devise strategies to manage the vectors population below threshold levels, public health importance. ➢ Undertake measures or start awareness programmes for maintenance of hygienic conditions, avoidance of contact from vector, destruction of breeding spots in the vicinity of houses and cattle shed by public health education campaign.
SEMESTER III	BSCHZOOGE301	BIODIVERSITY CONSERVATION AND SUSTAINABLE DEVELOPMENT	➢ Develop understanding for the environment which is largely degraded in the current scenario.

			➢ Understand the importance of bio diversity and the consequences of bio diversity loss ➢ Learn about the judicious utilisation of natural resources ➢ Follow the concept of green technology and the eco-friendly practises and other prospects of environment protection. ➢ Understand and practice appropriate legal/regulatory and ethical issues in the context of the work environment. ➢ Design research projects to collect information to assess the effectiveness of current practices, and interpret the results of a statistical analysis of data, and use this to make informed decisions.
SEMESTER IV	BSCHZOOGE401	HUMAN PHYSIOLOGY	➢ Understand the process of digestion and its control ➢ Develop understanding in muscle structure and contraction mechanism ➢ Learn the process of respiration and transport of gases ➢ Understand kidney structure and regulation of urine formation ➢ Understand heart structure and functioning ➢ Understand functioning of nervous system. ➢ Understand function of endocrine glands and formation of gametes.

Program	Program Objectives	Program Specific Objectives
M. Sc. In Zoology	The primary objective of the program is to impart quality education in the subject of Zoology as a basic science and its applied branches to the students. The Department is having the following objectives: To provide quality education in a branch of Biological sciences i. e., Zoology with specializations. To facilitate Higher education & research in zoology. To provide quality education offering skill based programs and motivate the students for self employment in applied branches of Zoology. To Inculcate the spirit of resource conservation and love for nature. To conduct field studies and different projects of local and global interests. To provides opportunities for professional and personal development through curricular and cocurricular activities. Provide consultancy and organize extension activities.	PSO1: Developing deeper understanding of key concepts of biology at biochemical, molecular and cellular level, physiology and reproduction at organismal level, and ecological impact on animal behavior. PSO2: Elucidation of animal-animal, animal-plant, animal-microbe interactions and their consequences to animals, humans and the environment. PSO3: Strengthening of genetics and cytogenetics principle in light of advancements in understanding human genome and genomes of other model organisms. PSO4: Description of expression of genome revealing multiple levels of regulation and strategies to manipulate the same in the benefit of the mankind. PSO5: Learning handling DNA sequence data and its analysis which equip students to get employed in R&D in the industry involved in DNA sequencing services, diagnostics, and microbiome analysis. PSO5: Understanding relationships of variations in phenotypic expression of genomes and their genome wide interaction with other organisms. PSO6: Development of an understanding of zoological science for its application in medical entomology, apiculture, aquaculture, agriculture and modern medicine. PSO7: Development of theoretical and practical

		knowledge in handling the animals and using them as model organism. PSO8: Maintenance of high standards of learning in Zoology.

Course Outcomes:

Course		Course Outcomes
Semester-I	Course Name: Unit I- Biosystematics and Taxonomy Unit II - Evolution and Population Genetics Course Code: MZGT- 101	At the end of this course the students will be able to • Understand the Outline classification of Animals: Classification of animals. • Understand the Levels of structural organization. • Understand the principles and methods of taxonomy. • Understand the basic principles and theories of evolution. • Analyse the evolutionary relationship of different animal taxa. • An insight to the overview of evolutionary biology, concept of organic evolution during pre- and post- Darwin era evolution and molecular biology- a new synthesis. • Conceptualization of mode of speciation, evolution, systematics, biological classification, origination, extinction, and causes of differential rates of diversification.
	Course Name: Unit – I: Comparative Anatomy Unit II - Histology and Histochemistry Course Code: MZGT- 102	• An integrated Understanding of Comparative study of invertebrates Digestive system, Nervous system, Reproduction and Larval forms. • An integrated Understanding of Comparative study of vertebrates Stomach, Respiratory system, Brain and sense organs, Thyroid and Adrenal glands, integument and its derivatives. • At the end of this course the students will be able to understand Fixation and related procedures. • An overview of Embedding, Biological dyes and stains.

		• An understanding of Structure and function of Tongue, Intestine and Thymus.
	Course Name: Unit I- Fundamentals of Biochemistry Unit II - Metabolism Course Code: MZGT- 103	• An understanding of the chemical nature of life and life process. • Develop an idea on structure and functioning of biologically important molecules. • Generate an interest in the subject and help students explore the new developments in Biochemistry. • Inculcate an interest for further research. • An overview of organism's metabolism process. • To understand the Metabolic strategies & integration of metabolic pathways.
	Course Name: Unit I- Cell Biology Unit II – Genetics Course Code: MZGT- 104	• Understanding of transepithelial transport, maintenance of cellular pH, cell excitation, bulk transport, receptor mediated endocytosis, protein sorting and targeting to organelles, molecular mechanism of the secretory pathway, secretion of neurotransmitters. • A study of intercellular communication, extracellular matrix, cell- cell and cell-matrix adhesion, gap junctions, cellular energetics, oxidation of glucose and fatty acids, the proton motive force, mechanism and regulation of ATP synthesis. • To understand Cell and its environment, Cell cycle deregulation and cancer. • An overview of Techniques in moleculer genetics, Mutation, DNA repair and recombination. • Understanding of Mitochondrial genome, Genomic imprinting, Human genome project.
Semester-II	Course Name: Unit I- Ecology Unit II – Behavioural Biology Course Code: MZGT- 201	• To understand various components of environment and their charecteristics in detail and the various phenomena in

		biosphere. • To enable the students to understand, think and evolve strategies for management and conservation of environment for sustaining life on earth. • Understanding the characteristics of population and population dynamics. • Make them aware about different laws and oraganisations related to biodiversity and conservation. • Understand the complexity of animal behaviour and its relation to other biological sciences.
	Course Name: Unit I- Physiology Unit II – Endocrinology Course Code -MZGT- 202	• Understand the comparative functioning of different systems in animals. • To acquire deeper knowledge about the fundamental processes and mechanisms that serve and control the various functions of the body. • To enhance knowledge and appreciation of mammalian physiology. • Perception of Osmoregulation, Kidney functions and diversity, Extra-renal osmoregulatory organs, Patterns of nitrogen excretion. • Developing a concept of endocrine system, its function . • Understanding the nature of hormonal action. • Knowledge of signal transduction, Neuroendocrine integration and signal amplification in hormone regulated physiological processes.
	Course Name: Unit I- Molecular Biology Unit II – Immunology Course Code: MZGT- 203	• An overview of structural and functional details of the basic unit of life at the molecular level. • Knowledge of Regulation of Gene Expression, DNA damage and repair mechanisms, Aging and senescence. • To enable the students to understand the new developments in molecular biology and its implications in human welfare. • To enable the students to an in depth

		knowledge and new developments in immunology. • Understating of organisation and functioning of the immune system. • Develop an idea on Antigen–antibody interaction, different types of vaccines and their role in human health and well being.
Semester-III	Course Name: Unit I- General Entomology Unit II – Applied Entomology Course Code: MZGT- 301	• An understanding of general characters of Class Insecta, diversity and adaptive features of insect. • Develop an idea on structure of insect. • An overview of organism's metabolism process and internal organs of insects. • To understand the metamorphosis and Insect behavior. • Understand the sound production, bioluminescence, chemical communication, insect-plants interactions. • To enhance knowledge of Insect control, Integrated Pest Management, Biotechnological control of pests, Forensic entomology. • Developing a concept of Medical and Veterinary Entomology and Insect molecular Biology. • Understanding of the Insect genome projects and its applications and transgenic insects.
	Course Name: Unit I- General Parasitology Unit II – Medical Parasitology Course Code: MZGT- 302	• To enable the students to understand the symbionts, parasites, vectors and hosts. • To enhance knowledge Host-Parasite interaction. • To enable the students to an in depth knowledge about Haemoflagellates, Haemosporina and Intestinal Sarcodina and Flagellates. • An integrated understanding of Classification of parasitic helminthes, General morphology (including ultrastructure) of parasitic Platyhelminthes. • To enable the students to understand Biology, importance and control Sand fly, Black fly, Tabanid flies, *Anopheles*,

		Ticks and Mites.
	Course Name: Unit I- Fish Biology Unit II – Aquaculture Course Code: MZGT- 303	• An insight to the overview of Classification of fishes, Structure, development, comparative account and functions of Bioluminescent organ, Poison gland Acoustico-lateralis system. • Conceptualization of Structure and functions digestive systems, olfactory organ and chemoreception, Osmoregulatory and circulatory systems. • To enhance the knowledge about electric organs of fish, endocrine glands (pituitary and thyroid), caudal neurosecretory organ, reproduction of fish and fish migration. • An integrated understanding of fisheries and aquaculture, inland fisheries, shell fisheries, ornamental fish culture and aquarium management, fish biotechnology, production of transgenic fish, marine fisheries.
	Course Name: Unit I- Toxicology Unit II – Microbiology Course Code: MZGT- 304	• To enhance knowledge of about toxicology and scope of toxicology, types of toxic substances an deffects of toxic substances. • Perception of Toxicity tests, dose, dosage, dose response, acute toxicity tests, bioassay, LC50 and LD50, probit analysis and chronic toxicity tests. • To acquire deeper knowledge about pesticides, metal toxicity and applied toxicology. • Conceptualization of history and development of Microbiology. • Develop an idea on structure of bacteria, Bacterial endospore, and structure of virus. • To enable the students to understand Control of microorganisms, Microbial virulence, and Medical Microbiology.
Semester-IV	Course Name: Unit I- Developmental Biology Unit II – Biostatistics and Computational Biology	• An integrated understanding of developmental biology and scope of developmental biology. • Conceptualization of gametogenesis,

	Course Code: MZGT- 401	fertilization in mammals and cleavage. • To understand the developmental process that lead to establishment of body plan of vertebrates and the corresponding cellular and genetic mechanisms. • Attain a basic conceptual knowledge about the principal cellular mechanisms of development. • To explain the clinical implications of development and the mechanisms to intervene in the developmental alterations. • To expose the learner to the new developments in embryology and its relevance to man. • To enable learners to effectively apply suitable statistical tests in research and equip them to prepare research papers and project proposals. • To get acquainted with the field of bioinformatics and able to take up bioinformatics studies.
	Course Name: Major Elective: Entomology- Insect Anatomy Course Code: MZGT- 402	• To enable the students to understand the Insect Anatomy with special reference to morphology, integument, moulting, cuticular modifications, head segmentation and evolution, Structure and morphological variation of wing • To expose the learner to insect abdomen segmentation, skeletal composition. • To enhance knowledge of about vision in insect, structure of compound eye, formation of image. • An integrated understanding of Chemoreception, Mechanoreception in insect. • Conceptualization of exocrine glands, their origin, structure and functions.
	Course Name: Major Elective: Entomology:- Insect Physiology MZJT- 403	• To enhance knowledge of about digestive system in insects, Mechanism of digestion, micro-organisms and their role in digestion. • Attain a basic conceptual knowledge about respiratory system in insects, Excretory system in insects and

		nervous system in insects. • To expose the learner to insect reproduction, male and female reproductive system, egg maturation, embryonic development and dynamics, post-embryonic development and metamorphosis. • An integrated understanding of Endocrine system of insects, anatomical organization, structure and hormones, Endocrine control of metamorphosis, diapauses.

DEPARTMENT OF ZOOLOGY

CRITERIA 2.6.1

PROGRAM OUTCOMES, PROGRAM SPECIFIC OUTCOMES, COURSE OUTCOME

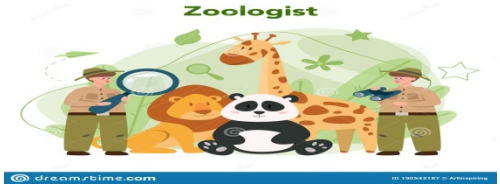
Program Objectives and Course Outcomes for B.Sc. (Honours) in ZOOLOGY

PROGRAM	PROGRAM OBJECTIVES	PROGRAM SPECIFIC OBJECTIVES(PSO).
B.Sc. (Honours) in Zoology 	✓ Zoology makes a huge impact on our world through the scientific study of the evolution, anatomy, physiology, behavior, habitats, and health of animals and humans. ✓ It includes diverse approaches such as electron microscopy, molecular genetics, and field ecology. By studying animals we develop a better understanding of how we, ourselves, function and interact with the world around us. ✓ The search for answers to our questions puts us in the incredible position of being able to affect change, empower better choices, and develop	PSO1: To make students familiar with the understandings of the basic concepts of Zoology. PSO2: To develop the ability among students to solve complex problems by critical understanding, analysis and synthesis. PSO3: To help students to understand and real life problems through zoological knowledge and learn the requisite ways to solve and analyse them. PSO4: To help students to assimilate the knowledge of biology that is applied to any other branch of science in everyday use. PSO5: To provide a systemic understanding of core physical concepts, principles and theories along with their applications. PSO6: To develop proficiency in the analysis of complex analytical

	solutions for a stronger, healthier world. ✓ The course explains the sequence of events starting with a single cell to the production of a very complex organism. ✓ It is the study of the mannerisms, habitats, structure and classification of animals. ✓ It is referred to as the proverbial "Noah's Ark", protecting the declining global ecosystem by programs such as rehabilitation, breeding, awareness campaigns, etc. ✓ It is an immensely important stream of biology that makes life a lot better for humans in a way.	as well as statistical problems and to use of appropriate biological techniques to solve them. PSO7: To grow the ability to use a variety of software packages and techniques to solve analytic and numerical problems and present data in a wide variety of formats. PSO8: To provide an intellectually stimulating environment to develop skills and enthusiasms of students to the best of their potential. PSO9: The major objective of this course is to provide students with a sound coverage of human reproductive biology within the framework of Human Biology. It also envisages the detailed structure and function of the male and female reproductive tracts, gametogenesis, fertilization, early embryogenesis, foetal development and preparation for birth, and maternal adaptations to pregnancy PSO10: The course is an introduction to wildlife management and gives an account of the tools used by wildlife managers. Topics covered are to equip students with adequate knowledge of various biodiversity monitoring methodologies, conservation and management issues of vertebrate pests, wildlife conflict and over abundant species, wildlife health and

		diseases. PSO11:The programme is oriented in such a way that it helps students to prepare themselves for tackling different problems and to visualize and correlate them with underlying fundamental biological principles. PSO12: The course is unique in highlighting the commercial and industrial significance/value of animals. It discusses the techniques/ methods of rearing of animals for commercial usage and the prerequisites for their successful maintenance and sustenance.

COURSE OUTCOMES:



COURSE NAME		COURSE OUTCOME
SEMESTER I	Core Course- I BSCHZOOC101 SYSTEMATICS & DIVERSITY OF LIFE : PROTISTS TO CHORDATES	• Develope understanding on the diversity of life with regard to protists, non chordates and chordates. Group animals on the basis of their morphological characteristics/ structures. • Develop critical understanding how animals changed from a primitive cell to a collection of simple cells to form a complex body plan. • Examine the diversity and evolutionary history of a taxon through the construction of a basic phylogenetic/ cladistics tree.

		• Understand how morphological change due to change in environment helps drive evolution over a long period of time. • The project assignment will also give them a flavour of research to find the process involved in studying biodiversity and taxonomy besides improving their writing skills. • It will further enable the students to think and interpret individually due to different animal species chosen.
	Core Course- II BSCHZOOC102 ECOLOGY	• Know the evolutionary and functional basis of animal ecology. • Understand what makes the scientific study of animal ecology a crucial and exciting endeavour. Engage in field-based research activities to understand well the theoretical aspects taught besides learning techniques for gathering data in the field. • Analyse a biological problem, derive testable hypotheses and then design experiments and put the tests into practice. • Solve the environmental problems involving interaction of humans and natural systems at local or global level
SEMESTER II	Core Course – III BSCHZOOC201 COMPARATIVE ANATOMY & PHYSIOLOGY OF NON-CHORDATES	• Develop an understanding of the characters used to classify besides being able to differentiate the organisms belonging to different taxa. • Acquire knowledge of the coordinated functioning of complex human body machine. • Have hands on experience of materials demonstrating the diversity of protists and non-chordates. • Understand the relative position of individual organs and associated structures through dissection of the invertebrate representatives. Realize that very similar physiological

		mechanisms are used in very diverse organisms. • Get a flavor of research by working on project besides improving their writing skills. • It will further enable the students to think and interpret individually. • Undertake research in any aspect of animal physiology in future.
	Core Course - IV BSCHZOOC202 CELL BIOLOGY & HISTOLOGY	• Understand the functioning of nucleus and extra nuclear organelles and understand the intricate cellular mechanisms involved. • Acquire the detailed knowledge of different pathways related to cell signaling and apoptosis thus enabling them to understand the anomalies in cancer. • Develop an understanding how cells work in healthy and diseased states and to give a 'health forecast' by analyzing the genetic database and cell information. • Get new avenues of joining research in areas such as genetic engineering of cells, cloning, vaccines development, human fertility programme, organ transplant, etc. • Understand how tissues are produced from cells in a normal course and about any malfunctioning which may lead to benign or malignant tumor.
SEMESTER III	Core Course- V BSCHZOOC301 COMPARATIVE ANATOMY & PHYSIOLOGY OF CHORDATES	• Develop an understanding of the evolution of vertebrates thus integrating structure, function and development. • Have an overview of the evolutionary concepts including homology and homoplasy, and detailed discussions of major organ systems. • Understand how cells, tissues, and organisms function at different levels. The course content also provides the

		basis of understanding their abnormal function in animal and human diseases and new methods for treating those diseases. • Develop an understanding of the related disciplines, such as cell biology, neurophysiology, pharmacology, biochemistry etc. • Get a flavor of research besides improving their writing skills and making them well versed with the current trends. It will further enable the students to think and interpret individually due to different aspects chosen. • Undertake research in any aspect of animal physiology in future.
	Core Course- VI BSCHZOOC302 GENETICS	• Understand how DNA encodes genetic information and the function of mRNA and tRNA. • Apply the principles of Mendelian inheritance. • Understand the cause and effect of alterations in chromosome number and structure. • Relate the conventional and molecular methods for gene manipulation in other biological systems. Discuss and analyse the epigenetic modifications and imprinting and its role in diseases. • Get new avenues of joining research in related areas such as genetic engineering of cells, cloning, genetic disorders, human fertility programme, genotoxicity, etc
	Core Course- VII BSCHZOOC303 BIO-CHEMISTRY	• Understand about the importance and scope of biochemistry. • Understand the structure and biological significance of carbohydrates, amino acids, proteins, lipids and nucleic acids. • Understand the structure and function of immunoglobulins.

		• Understand the concept of enzyme, its mechanism of action and regulation. • Understand the process of DNA replication, transcription and translation. • Learn the preparation of models of peptides and nucleotides. • Learn biochemical tests for amino acids, carbohydrates, proteins and nucleic acids. • Learn measurement of enzyme activity and its kinetics.
	SEC-1 BSCHZOOSE301 BEE-KEEPING	• Explain what are the prerequisite to get started in beekeeping. • Describe the laws around beekeeping in Vancouver. • Discuss the responsibilities of urban beekeepers. • Identify where to purchase equipment and demonstrate how to assemble it. • Name and identify major parts of the honeybee such as the stinger or mandibular parts. • Describe bee biology and anatomy from the perspective of managing bees. • Describe the importance of wax and identify what to look for in comb during hive inspections.
SEMESTER IV	Core Course- VIII BSCHZOOC401 BEHAVIOUR & CHRONO-BIOLOGY	• Learn a wide range of theoretical and practical techniques used to study animal behaviour. • Develop skills, concepts and experience to understand all aspects of animal behaviour. Objectively understand and evaluate information about animal behaviour and ecology encountered in our daily lives. • Understand and be able to objectively evaluate the role of behaviour in the protection and conservation of animals in the wild. • Consider and evaluate behaviour of all

		animals, including humans, in the complex ecological world, including the urban environment. THEO
	Core Course- IX BSCHZOOC402 DEVELOPMENTAL BIOLOGY & EVOLUTION	• Develop critical understanding how a single-celled fertilized egg becomes an embryo and then a fully formed adult by going through three important processes of cell division, cell differentiation and morphogenesis. • Understand how developmental processes and gene functions within a particular tissue or organism can provide insight into functions of other tissues and organisms. • Realize that very similar mechanisms are used in very diverse organisms; and development is controlled through molecular changes resulting in variation in the expression and function of gene networks. • Understand how the field of developmental biology has changed since the beginning of the 19th century with different phases of developmental research predominating at different times. • Examine the evolutionary history of the taxa based on developmental affinities. • Understand the relevance of developmental biology in medicine or its role in development of diseases.
	Core Course- X BSCHZOOC403 MOLECULAR BIOLOGY	• Develop an understanding of concepts, mechanisms and evolutionary significance and relevance of molecular biology in the current scenario. • Get well versed in recombinant DNA technology which holds application in biomedical & genomic science, agriculture, environment management, etc. Therefore, a fundamental understanding of Molecular Biology will help in career building in all these

		fields. • Apply their knowledge in problem solving and future course of their career development in higher education and research. • Get new avenues of joining research in related areas such as therapeutic strategies or related opportunities in industry.
	SEC-2 BSCHZOOSE401 SERICULTURE	• Generation of skilled man power in the field of sericulture, • To impart training in extension management and transfer of technology, • To impart training in Post Cocoon Technology, • To provide field exposure.
SEMESTER V	Core Course-XI BSCHZOOC501 BIOTECHNIQUES	• Understand the purpose of the technique, its proper use and possible modifications/ improvement. • Learn the theoretical basis of technique, its principle of working and its correct application. • Learn the construction repair and adjustment of any equipment required for a technique. • Learn the accuracy of technique. • Learn the maintenance laboratory equipments / tools, safety hazards and precautions. • Understand the technique of cell and tissue culture. Learn the preparation of solution of given percentage and molarity. • Understand the process of preparation of buffer. Learn the techniques of separation of amino acids, proteins and nucleic acids.
	Core Course – XII BSCHZOOC502 MICROBIOLOGY, PARASITOLOGY & IMMUNOLOGY	• Carry out common procedures for culturing, purifying and diagnostics of micro-organisms understand the disease-causing potential of bacteria and viruses, and the responses of the

		immune system. • Summarise and orally present current microbiological problem areas. • Describe the mechanisms for transmission, virulence and pathogenicity in pathogenic micro-organisms. • Diagnose the causative agents, describe pathogenesis and treatment for important diseases like malaria, leishmaniasis, trypanosomiasis, toxoplasmosis, schistosomiasis, cysticercosis, filariasis etc. • Assess the importance of incidence, prevalence and epidemiology in microbiological diagnostic activities. Know how resistance development and resistance transfer occur. • Identify the major cellular and tissue components which comprise the innate and adaptive immune system. • Understand how are immune responses by CD4 and CD8 T cells, and B cells, initiated and regulated. • Understand how does the immune system distinguish self from non-self. • Gain experience at reading and evaluating the scientific literature in the area
	DSEC-1 BSCHZOODSE501 GENETIC ENGINEERING & BIOTECHNOLOGY	• Develop an understanding of the fundamental molecular tools and their applications of DNA modification and cloning. • Appreciate shifting their orientation of learning from a descriptive explanation of biology to a unique style of learning through graphic designs and quantitative parameters to realize how such research and innovations have made science interdisciplinary and applied. • Develop future course of their career development in higher education and

		research with a sound base. • Apply their knowledge with problem solving approach to recommend strategies of genetic engineering for possible applications in Biotechnology and allied industry.
	DSEC- 2 BSCHZOODSE502 LIVESTOCK MANAGEMENT & ANIMAL HUSBANDRY	• Understand skills and requirements necessary to find and maintain a job. • Select and develop a breeding system for a livestock enterprise. • Understand the importance of genetic improvement in animal production. • Formulate feed rations for different classes of livestock. • Identify common problems associatedwith livestock and horse herd health and solutions. • Identify current and future issues relating to animal husbandry. • Understand different marketing opportunities available for livestock production.
SEMESTER VI	Core Course- XIII BSCHZOOC601 BIO-STATISTICS & BIO-INFORMATICS	• Know the theory behind fundamental bioinformatics analysis methods/tool. ➢ Be familiar with widely used bioinformatics databases. • Know basic concepts of probability and statistics. Describe statistical methods and probability distributions relevant for molecular biology data. Know the applications and limitations of different bioinformatics and statistical methods. • Perform and interpret bioinformatics and statistical analyses with real molecular biology data. • Acquire knowledge of various databases of proteins, nucleic acids. Primary, secondary and composite databases. BLAST, FASTA, DOT PLOT • Make phylogenetic predictions or prediction of structure of proteins and nucleic acids • Develop understanding in Primer

		designing • Understand data mining tool and its practical application in a case study • Apply the knowledge in future course of their career development in higher education and research.
	Core Course- XIV BSCHZOOC602 APPLIED ZOOLOGY	• Understand the culture techniques of prawn, pearl and fish. • Understand silkworms rearing and their products. Understand the Bee keeping equipments and apiary management. • Understand dairy animals management, the breeds and diseases of goats and learn the testing of egg and milk quality. • Learn various concepts of lac cultivation. • Be aware of a broad array of career options and activities in human medicine, biomedical research and allied health professions
	DSEC-3 BSCHZOODSE603 WILDLIFE CONSERVATION AND MANAGEMENT	• Develop an understanding of how animals interact with each other and their natural environment. • Develop the ability to use the fundamental principles of wildlife ecology to solve local, regional and national conservation and management issues. • Develop the ability to work collaboratively on team-based projects. • Demonstrate proficiency in the writing, speaking, and critical thinking skills needed to become a wildlife technician. • Gain an appreciation for the modern scope of scientific inquiry in the field of wildlife conservation management. • Develop an ability to analyze, present and interpret wildlife conservation management information.

	DSEC-4 BSCHZOODSE604 HUMAN REPRODUCTIVE BIOLOGY	• Explain and contrast the processes of spermatogenesis, oogenesis. • Demonstrate an understanding of the hormonal control of reproduction in males and how this is regulated; • Distinguish between the main stages of embryonic, foetal and neonatal development and causes of foetal disorders. • Understand the origin and characteristics of common congenital malformations; Know how sexually transmitted diseases may contribute to altered neonatal or reproductive function. • Critically assess relevant scientific literature in Human Reproductive Biology and present their argument in oral and written work.

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B.B.College, Asansol
Department of Business Administration (BBA)

Bachelor of Business administration or BBA is an undergraduate program for management studies. From the academic year 2020-21 the LOCF approach has been adopted to strengthen students' experiences as they engage themselves in the programme of their choice. The course allows students to obtain the knowledge and skills needed to assume management positions in a wide range of organizations. BBA program provides students with a solid foundation in the field of management and strategy designing. The electives allow students to develop deeper knowledge in specific areas of interest – finance, marketing, System and human resource management which will equip students to understand how organizations work, how they are managed, and sensitize students towards national and international environments. The LOCF approach of the programme Bachelor of Business Administration will help students in making an informed decision regarding the goals that they wish to pursue in further education and life, at large.

Programme Outcome:

1. The prime objective will be to add professional edge academically.
2. Acquiring of specialized knowledge of management theories and practices will become helpful for students in gaining business decision.
3. The course curriculum has been prepared to increase analytical and critical thinking of the students.
4. It will provide wider scope for ethical and value-based education-system to the students.
5. The students will receive wide exposure in all the areas of the practical field of business and training for developing their leadership skills.
6. Effectively communicating business issues, management concepts, plans and decisions both in oral and written form using appropriate supportive technologies will become easier.
7. After completion of this academic program the learners will be able to identify their managerial roles as a successful entrepreneur.

Programme Specific Outcome:

1. Ability to define, analyze the solutions for different business problems and using logical reasoning patterns for evaluating information, materials, and data for practical implementation.
2. Provides verbal, reasoning, Data Interpretation, Quantitative and communication skill to solve specific business problems and decision making.
3. Apply ethical principles and commitment towards professional ethics and responsibility.
4. Function effectively as a member, leader, individual or group in diverse environment.
5. Ability to conceptualize a complex issue into a coherent written statement and oral presentation and to communicate effectively on complex activities with technical community.
6. Providing an opportunity for the students to gain practical exposure towards the workplace and make them industry ready.
7. Promotes entrepreneurship by providing understanding of the fundamentals of creating and managing innovation, new business development, and high-growth potential entities.
8. Ability to demonstrate technical competence in domestic and global arena of business through the study of major disciplines within the fields of business.

There will be six semesters in the three-year BBA programme. The curriculum consists of 14 Core Courses (C), 2 Ability Enhancement Compulsory Courses (AECC), 2 Skill Enhancement Courses (SEC), 4 Discipline Specific Elective (DSE) courses and 4 Generic Elective (GE) courses. Each course is of 100 marks except AECC and SEC courses. L stands for Lecture Hour, T for Tutorial Hour and P for Practical Hour.

Bachelor of Business Administration (BBA)
SEMESTER- I

Course Title	Course Code	Course Type	(L-T-P)	Credit	Marks
Principles of Management	BBAC101	C	5-1-0	6	100
Business Economics	BBAC102	C	5-1-0	6	100
Business Statistics	BBAGE101	GE	5-1-0	6	100
Environment Studies	AEE101	AE	4-0-0	4	50
			SEMESTER TOTAL	**22**	**350**

Course Name: Principles of Management
Marks: Theory [100]: Continuous Assessment-20 & End Semester Examination-80;

Course Objective: The objective of the course is to familiarize the learner with extant and emerging management theories and practices for reflective and holistic thinking on management principles and practices.

Course Outcomes:

After completing the course, the student shall be able to:

- ✓ Understand the nature of management and describe the functions of management.
- ✓ Understand the evolution of management and apprehend its effect on future managers.
- ✓ Analyse the relationship amongst functions of management i.e., planning, organizing, directing and controlling.
- ✓ Appreciate the role of leadership in management and the relation between Coordination and Control.

Course contents:

Unit–I: Nature, Scope and Process of Management: Concept of Management, Role and Importance of Management, Functions and Levels of Management, Management – A Science and an Art; Distinction between Management and Administration, Classification of Managerial Functions.

Unit-II: Evolution of Management Thought: Early Contributors to Management Thoughts; Scientific Management, Administrative Theory of Management.

Unit-III: Planning and Organizing: Features of Planning, Importance, Steps, Types. Decision-making; Formal and Informal Organizations, Organization Structure: Line and staff, Committee Organization, Project Organization, Matrix Organization (Overview), Delegation of Authority, Centralization and decentralization, Departmentalization: Concept and Types, Span of Management.

Unit-IV: Staffing and Directions: Features of staffing, elements of staffing; Concept of Direction, Supervision, Leadership; Functions and Importance, Formal and Informal Leadership, Qualities of a Good Leader, Leadership Styles.

Unit-V: Coordination and Control: Concept of Coordination, Features of Coordination; Control-Nature of Control, Relationship between Planning and Control, Elements of control system.

Suggested Readings:

1. Essentials of Management: Weihrich and Koontz, et al, Tata McGraw Hill.
2. Management: Stoner J and Freeman RE, Prentice-Hall.
3. Management: Daft, RL, Thomson.
4. Management-Text & Cases: V.S.P Rao & Hari Krishna, Excel Books.
5. Principles of Management: Ramaswami, T, Himalaya Publishing.
6. Management: Robbins, SP, Prentice Hall.

Course Name: Business Economics

Marks: Theory [100]: Continuous Assessment-20 & End Semester Examination-80;

Course Objectives:

The purpose of this course is to apply micro economic concepts and techniques in evaluating business decisions taken by firms. The emphasis is on explaining how tools of standard price theory can be employed to formulate a decision problem, evaluate alternative courses of action and finally choose among alternatives.

Course Outcomes:

After completing the course, the student shall be able to:

- ✓ Apply the knowledge of the mechanics of supply and demand to explain working of markets
- ✓ Describe how changes in demand and supply affect markets
- ✓ Understand the choices made by a rational consumer
- ✓ Explain relationships between production and costs
- ✓ Define key characteristics and consequences of different forms of markets
- ✓ Understand the role of banks and the concepts of different taxes, Public Debt, Budget Deficit, Anti-inflationary measures.

Course contents:

Unit-I: Introduction: Economic Terms and Basic concepts; Basic Economic problems; Meaning, Nature and Scope of Business Economics.

Unit -II: Demand: Law of demand and its Exceptions; Elasticity of Demand- Concepts and Types, Measurement of Elasticity; Demand Forecasting – Importance, Methods; Different Revenue Concepts, Relations Concerning AR, MR and Price Elasticity.

Unit -III: Production and Cost: Production Function; Law of variable Proportions, Iso-quant, Iso-cost Lines and Choice of Optimum Input combination, Expansion Path; Cost Function; Short-run and Long-gun Costs-Different Cost concepts and Costs Curves.

Unit -IV: Market: Different Market Structures; Short-run and Long-run Equilibrium under Perfect Competition, Equilibrium under Monopoly, Price Discrimination.

Unit -V: Banking and Public Finance: Function of Commercial Banks and Central Bank; Credit Creation and Credit Control in the Banking system; Direct and Indirect Taxes, Public Debt, Budget Deficit, Anti-inflationary measures.

Suggested Readings:

1. Economics – Samuelson and Nordhaus; McGrew Hill.
2. An Introduction to Positive Economics – Lipsey; ELBS.
3. Managerial Economics – Hague; Longman.
4. Managerial Economics – Varshney and Maheswari; Sultan Chand.
5. Modern Economic Theory – Mukherjee; Wishwa Prakashan.

Course Name: Business Statistics
Marks: Theory [100]: Continuous Assessment-20 & End Semester Examination-80;

Course Objective:

To familiarize students with the basic statistical tools used to summarize and analyze quantitative information for business decision making.

Course Outcomes:

After completing the course, the student shall be able to:

- ✓ Acquire a fair degree of proficiency in comprehending statistical data, processing and analysing it using descriptive statistical tools.
- ✓ Understand the relationship between two variables using concepts of correlation and regression and its use in identifying and predicting the variables.
- ✓ Understand the various type of dispersion and their applications in the real life situations.
- ✓ Understand the concepts and measures of Skewness and Kurtosis.

Course contents:

Unit-I: Introduction: Definition of Statistics, Importance and scope of statistics, Limitations of Statistics; Types of Data, Important Sources of Secondary Data; Collection and Presentation of Data: Different Methods of collecting Primary Data: Text, Tabular and graphical Methods of Data presentation; Frequency Distribution, Diagrammatic Presentation of Frequency data.

Unit-II: Measures of Central Tendency: simple and Weighted Arithmetic Mean – Properties, Merits and Demerits; Geometric Mean and harmonic Mean – Algebraic Properties, Merits and Demerits; Relationship among A.M., G.M. and H.M.; Median and Mode – Measures, Properties, Merits and Demits.

Unit-III: Measures of Dispersion: Range, Quartile Deviation, mean Absolute Deviation and Standard Deviation – their Merits, Demerits and Properties.

Unit-IV: Concepts of Skewness and Kurtosis, Different Measures of Skewness and Kurtosis.

Unit-V: Analysis of Bivariate Data: Scatter Diagram, Pearson's Correlation Coefficient and its Properties; Spearman's Rank Correlation (in case of no tie) Simple Linear Regression and its Properties.

Suggested Readings:

1. Statistics: Sancheti and Kapoor, Sultan Chand & Sons
2. Basic Statistics: Goon, Gupta and Dasgupta, World Press
3. Statistical Methods: N.G.DAS

BBA: 2nd Semester

Course Title	Course code	Course Type	(L-T-P)	Credit	Marks
Business Communication	BBAC201	C	5-1-0	6	100
Accounting For Managers	BBAC202	C	5-1-0	6	100
Organisational Behaviour	BBAGE201	GE	5-1-0	6	100
MIL/English	AECC2	AE	4-0-0	4	50
			SEMESTER TOTAL	22	350

Course Name: Business Communication; Course type: Core

Marks: Theory [100]: Continuous Assessment-20 & End Semester Examination-80;

Course Objectives: - The course aims to enhance written and verbal communication and/or presentation skills amongst the learners and ability to frame effective documentation both in digital and non-digital environment.

Course Outcome:

- ✓ Students will be able to communicate their ideas through different modes and mediums.
- ✓ They will be able to make memorable presentations professionally.
- ✓ Students will understand different strategies to adopt while communicating with different personalities with different goals.
- ✓ Students will be able to handle job opportunities successfully.

Course Contents:

Unit-I: Business Communication – Importance and Nature, Models of Communication; Effective Communication; Importance of feedback in Communication; Barriers to Effective Communication, Methods of Overcoming Barriers; Formal and Informal Networks of Communication; Importance of Grapevine.

Unit-II: The Non-Verbal Mode of Communication- Verbal vs. Non-verbal Communication, Importance of Non-verbal Communication, Elements of Non-verbal Communication.

Unit-III: Parts of Speech: Nouns, Pronouns, Verbs, Adjectives, Adverbs, Prepositions, Conjunctions and Interjection (brief overview of each and function in a sentence) - Agreement of subject and Verb- Sequences of Tenses Errors in the Use of Adjectives and Adverbs.

Unit-IV: Speaking and presentation: Basic guidelines and developing strategy – preparing successful speech, Elements of Presentation – Designing an Effective Presentation.

Unit-V: Modern Communication Technology: Electronic Communication System – Tele-printer, Computer, Fax, E-mail, Voice Mail Teleconferencing, Video and Audio Conferencing.

Suggested Readings:

1. Business communication- Theory and Applications: Lesikar, R. & Petit, J., All India Traveller Book Seller.
2. Business Communication Today: Bovee; Tata McGraw Hill, New Delhi.
3. Basic Managerial Skills for All: McGrath, E.H., Prentice Hall of India.

Course Name: Accounting for Managers; Course type: Core

Marks: Theory [100]: Continuous Assessment-20 & End Semester Examination-80;

Course Objective:

To familiarize students with the mechanics of preparation of financial statements of Trading and Non trading concern, understanding corporate financial statements, their analysis and interpretation.

Course Outcomes:

- ✓ Students will understand the process of recording and classifying the business transactions and events
- ✓ Students will understand accounting concepts, tools and techniques.
- ✓ Students will be able to prepare the financial statements, viz., Profit and Loss Account, Balance Sheet, of a sole proprietor, partnership and company.
- ✓ Students will learn how to analyse the financial statements from different the perspective of different stakeholders.

Course contents:

Unit-I: Accounting: Objectives, Advantages and Limitations, Branches of Accounting, Accounting Equations, Types of Accounting Information; Users of Accounting Information and Their Needs. Basic Accounting Concepts and Conventions-Accounting Transactions - Double Entry Book keeping - Journal, Ledger, Preparation of Trial Balance - Preparation of Cash Book. **Unit-II:** Depreciation - Meaning, Causes, Types - Straight Line Method - Written Down Value Method (Change in Method excluded). Reserves & Provision – Concept, Types & Purposes, Difference between Reserve & Provision; Adjustment Entries – Concept & Development of Adjustment Entries; Classification of Errors - Rectification of Errors - Preparation of Suspense Account. **Unit-III:** Preparation of Final Accounts of Profit-oriented Sole-proprietorship (Trading Concerns only); Preparation of Receipts and Payments Account, Income & Expenditure Account and Balance Sheet of Non Trading Organizations (Simple Problems). **Unit-IV:** Partnership Accounting: Features of Accounting of Partnership Firms; Maintenance of Capital Accounts – Fixed & Fluctuating; Profit & Loss Appropriation Account (Basic Problems); Admission and Retirement of a Partner (Excluding Goodwill). **Unit-V:** Company Accounts (as per Companies Act, 2013): Maintenance of Accounts u/s 128; Financial Statements - Definition u/s 2(40); Proforma of Statement of Profit & Loss and Balance Sheet [as per Schedule III Companies Act, 2013].

Suggested Readings:

1. Financial Accounting: S. Mukherjee & A. K. Mukherjee, Oxford University Press.

2. Financial Accounting: A Managerial Perspective: R. Narayanaswamy, Prentice Hall of India.

3. A Textbook of Accounting for Management: S. N. Maheshwari, S. K. Maheshwari, Vikas Publications.

Course Name: Organisational Behaviour; Course type: Generic elective.

Marks: Theory [100]: Continuous Assessment-20 & End Semester Examination-80;

Course Objective:

Helps in understanding the psychological aspect of human resources working in an organization and offers knowledge on organizational behavior, organizational change and dynamism of groups

Course Outcome:

- ✓ Enables students to understand the applicability of the concept of

organizational behaviour to analyse the behaviour of people in the organization.

- ✓ Helps them to analyse the complexities associated with management of the group behaviour in the organization.
- ✓ To acquaint the students with the fundamentals of managing business and to understand individual and group behavior at work place so as to improve the effectiveness of an organization.
- ✓ Develop understanding of different approaches to designing organizational structures, understanding the role of personality, learning and emotions at work, discovering and also understanding the concept of motivation, leadership, power and conflict and knowing the foundations of group behaviour and the framework for organizational change and development..

Course contents:

UNIT-I: Introduction to Organisational Behaviour: Concept, Challenges and Opportunities of Organisational Behaviour (OB), Issues in Developing an OB Model; Characteristics of Human Behaviour. **UNIT-II:** Personality: Concept and Types, Major determinants. **Unit-III:** Perception: Concept, Factors influencing Perception; Learning: Concept; Attitude: Concept, Different Job Attitudes. **Unit-IV:** Motivation: Concept, Basic Theories of Motivation (Maslow, Herzberg, McClelland and McGregor. **UNIT-V:** Group Dynamics: Concept of group, Stages of Group Development, Types of Groups, Work Teams vs. Work Groups, Group Synergy.

Suggested Readings:

1. Organizational behavior – Robins Stephen P; PHI.
2. Organizational behavior- Fred Luthans; McGraw Hill Inc.
3. Management of Organizational behavior – Harsey, Paul & Kennith H. Blancher; PHI.
4. Organizational Behaviour: Human Behaviour at Work - Davis and Newstrom, Tata McGraw-Hill.

BBA Honours: 3rd Semester

Course Title	Course code	Course Type	(L-T-P)	Credit	Marks
Financial Management	BBAC301	C	5-1-0	6	100
Marketing Management	BBAC302	C	5-1-0	6	100
Computer Fundamentals	BBAC303	C	5-1-0	6	100
Business Mathematics	BBAGE301	GE (Any one to be chosen)	5-1-0	6	100
Retail Marketing	BBAGE302				
Computer Applications	BBASE301	SEC (Any one to be chosen)	4-0-0	4	50
Communicative English	BBASE302				
	SEMESTER TOTAL			28	450

Course Name: Financial Management; Course type: Core

Marks: Theory [100]: Continuous Assessment-20 & End Semester Examination-80;

Course Objectives:

To acquaint students with the techniques of financial management and their applications for business decision making.

Course Outcomes:

- ✓ Students will understand basic concepts of financial management, time value of money and their application in investment, financing and dividend decisions.
- ✓ Students will understand management of working capital and will be able estimate the same for an organization.
- ✓ Students will understand how to prepare Fund flow statement, Cash flow statement of a business organisation.
- ✓ Students will understand the use of ratio analysis as a tool to analyse financial statements of a company.
- ✓ Students will understand concepts of cost of capital, capital structure and capital budgeting techniques which will enable them to identify courses of action in financial environment that would result in maximization of wealth of an organization.

Course Contents:

Unit-I: Introduction: Definition, Scope, Objectives of financial Management; The goal of a Firm: Profit Maximization vs. Wealth Maximization; Financial Functions – Financing, Investment and Dividend decisions; the role of a Finance Manager; An overview of financial markets and institutions in India. Time Value of Money: Concept; compounding and Discounting Concepts. **Unit-II:** Financial Statements and Financial Statement Analysis: Meaning, Nature, Importance and Limitations of Financial Statements; Meaning, Objectives, Types and Methods of Financial Statement Analysis; Ratio Analysis: Meaning, Utility, Limitations, process of Analysis, Classification of Accounting Ratios, Important Accounting Ratios used in measuring liquidity, solvency, profitability and managerial efficiency, Computation and Interpretation of these Ratios. Analysis of Changes in Financial Position: Funds Flow statement: concept and Purposes of Funds Flow Statement, Preparation of Funds Flow Statement. Cash Flow Statement: Concepts and Purposes of Cash Flow Statement, Preparation of Cash Flow Statement-General, AS-3. **Unit-III:** Working capital management: Concepts, Nature, Significance, and Components of Working Capital; Working Capital Cycle; Factors determining Working Capital Requirements and Forecasting Working Capital. **Unit-IV:** Cost of capital: Concept and Significance; Costs of various Sources of Capital; Weighted average cost of capital. **Unit-V:** Capital Budgeting: Concept, Features, Process and Significance of Capital Budgeting; Evaluation Criteria – Account Rate of Return, Pay Back Period, Net Present Value, Internal rate of return.

Suggested Readings:

1. Financial Management – Khan & Jain; Tata McGraw Hill.

2. Financial Management – Prasanna Chandra; Tata McGraw Hill.

3. Financial Management – I.M. Pandey; Vikas Publishing House.

Course Name: Marketing Management; Course type: Core

Marks: Theory [100]: Continuous Assessment-20 & End Semester Examination-80;

Course Objectives: This course aims to familiarize students with the marketing function in organizations. It will equip the students with understanding of the Marketing Mix elements and sensitize them to certain emerging issues in Marketing.

Course Outcome:

- ✓ Describe the Marketing process effectively in a variety of organizational settings.
- ✓ Describe the complex qualitative and quantitative data to support strategic and operational decisions.
- ✓ Write down the point to comprehensive strategic and tactical plans for an organization.
- ✓ Classify the Work independently and collaboratively in inter and/or multidisciplinary and diverse environments.
- ✓ Write down the point to Use creative, critical and reflective thinking to address organizational opportunities and challenges.
- ✓ Demonstrating ethical and socially responsible behaviour.
- ✓ Write down the point to integrate appropriate technologies in developing solutions to business opportunities and challenges.

Course Contents:

Unit-I: Marketing – scope, nature, definition, core marketing concepts and marketing environment, recent trends in marketing in India. Tele Marketing, Marketing on Web.
Unit-II: Developing marketing opportunities and strategies, consumer and business buyer's behavior; Segmentation, Targeting and positioning (STP) for competitive advantage, Marketing Information System (MKIS) and Marketing Research.
Unit-III: Developing the concept of marketing mix, managing the product – types of consumer and industrial products. Product related decisions, product line, product mix, product life cycle (PLC), new product development, branding and packaging decisions.
Unit-IV: Pricing of products: Pricing considerations and approaches, strategies and methods. Managing marketing channels, channel design decisions, channel dynamics, managing retailing, wholesaling and market logistics.
Unit-V: The communication process, developing effective communication, deciding on the marketing communication mix, managing advertising, sales promotion and public relations. Managing sales force.
Suggested Readings:

1. Marketing Management – Kotler, Philip; Prentice Hall of India Publications, new Delhi.
2. Marketing Management Ramaswamy, V.S. and Namakumari, S; McMillan India Ltd., New Delhi.
3. Marketing Management Strategy and Cases – Dalyrample, J.D. and Parson, J.L.; John Wiley and Sons.

Course Name: Computer Fundamentals; Course type: Core

Marks: Theory [100]: Continuous Assessment-20 & End Semester Examination-80;

Course Objective:

Preparing students well versed with various computer fundamentals

Course Outcome:

- ✓ After undergoing this curriculum students will be able to understand the power of the software tools and its applications in business.

Course contents:

Unit-I: Introduction to Computer-Definition of Computer System; Evolution of Computer–a brief history; Classification of computer; Generation of Computers. **Unit-II:** Computer System Architecture–Definition of Hardware; Basic units of Computer System; CPU– Control Unit, ALU; Memory module – Primary Memory, Secondary Memory– definition, classification, features and functions; measuring unit of memory – Bit, Byte, KB, MB, GB; Input Devices – Keyboard, Mouse, Scanner, Output Devices – Monitor, Printer. **Unit-III:** Introduction to Number System – Positional and Non Positional number system; Various Number system-Decimal, Binary, Octal Hexadecimal; Number system conversions–working with integer and fractional number; Simple binary arithmetic – addition, subtraction, multiplication, division. **Unit-IV:** Introduction to Software – Definition of Software; Classification of Software; Booting process; Working concept of Word processing S/W, spreadsheet S/W, Accounting S/Wand DTP (Desk Top Publishing) S/W. **Unit –V:** Introduction to Operating System–Definition of OS; Functions of OS, basic concept of different type of OS- batch processing OS, Multitasking OS, Multi-user OS, Network OS.

Suggested Readings:

1. Fundamentals of Computers–U. Rajaraman.

2. Computers Fundamentals–P.K. Sinha.

3. Computer Concepts and Applications – Sanders H. Donald.

Course Name: Business Mathematics; Course type: Generic elective

Marks: Theory [100]: Continuous Assessment-20 & End Semester Examination-80;

Course Objective:

- ✓ To understand and appreciate the practical relevance of various basic mathematical tools in the field of finance, economics, marketing, human resources and so on.

Course Outcomes:

- ✓ Students will understand basic concepts of business mathematics like indices, AP, GP, Quadratic equation, logarithm, compound interest, annuity, permutation, combination, Determinants, Matrix and their application in different areas of management.

Course Contents:

UNIT-I: Laws of Indices, A.P., G.P., with Business Application. **UNIT-II:** Theory of Quadratic Equations- Function, Number and Nature of Roots, Simultaneous Quadratic equations. **UNIT-III:** Logarithms – Definitions, Laws, Basic Properties; Antilogarithm-characteristics and Mantissa; Use of Logarithmic and Antilogarithmic Tables; Business Application of Logarithms, Compound Interest & Annuities – Concept of present value and amount of a sum; Types of annuities; Present value and amount of an annuity. **UNIT-IV:** Permutation-Definition, General Principle, Permutation of things when they are (i) all different (ii) not all different (iii) repeated (iv) in a ring; Restricted Permutation; Combination – Definition, Combination of things all different; Restricted Combination; Grouping; Statement of Binomial Theorem. **UNIT-V:** Determinants – concepts, types, properties; addition and multiplication of determinants. Matrices – definition, types; addition and multiplication of matrices; rank of a matrix; solution of linear equations by matrix method.

Suggested Readings:

1. Business Mathematics: V. K. Kapoor, Sultan Chand & Sons.

2. Business Mathematics: R. S. Soni, Pitambar Publication

3. Business Mathematics: N. K. Nag, Kalyani Publishers.

Course Name: Retail Marketing; Course type: GE
Marks: Theory [100]: Continuous Assessment-20 & End Semester Examination-80;

Course Objective:

- ✓ The primary objective of the course is to have students develop marketing competencies in retailing and retail consulting. The course is designed to prepare students for positions in the retail sector or positions in the retail divisions of consulting companies. Besides learning more about retailing and retail consulting, the course is designed to foster the development of the student's critical and creative thinking skills.

Course Outcomes:

- ✓ Clarify the concept and related terms in retailing.
- ✓ Comprehend the ways retailers use marketing tools and techniques to interact with their customers.
- ✓ Understand various formats of retail in the industry.
- ✓ Recognize and understand the operations-oriented policies, methods, and procedures used by successful retailers in today's global economy.

Course Contents:

UNIT-I: Introduction to Retailing: Concept of retailing, functions of retailing, terms and definitions, retails types, retail industry in India, importance of retailing.
UNIT-II: Understanding the Retail Consumer: Retails consumer behavior, Factors influencing the retails consumers, customer decision making process, market research for understanding retail customer.
UNIT-III: Retail Market Segmentation and Strategies: Market segmentation and its benefits, kinds of markets, strategies for effective market segmentation, strategies of penetration of new markets, growth strategies, retail value chain.
UNIT-IV: Retail Location Selection: Importance of retail locations, types of retail locations, factors determining the locations decisions, steps involved in choosing a retail locations.
UNIT-V: Emerging Trends in Retailing: Change in nature of retailing, organized retailing, modern retail formats, Challenges faced by the retail sectors.
Suggested Readings:
1. Retail Management: Bajaj, Chetan; Tuli Rajarshi; and Srivastava, Nidhi, Oxford University Press.
2. Retailing: An Introduction: Cox, Roger and Raul Brittain, , Prentice Hall, London.
3. Retail Marketing Management: Gilbert, David;, Fianacial Times, Prentice Hall, London.

Course Name: Computer Application; Course type: SE
Marks: Theory [50]: Continuous Assessment-10 & End Semester Examination-40;

Course Objective:

- ✓ Developing the understanding of computer based information system and abilities to use software. Have the knowledge of MS-office as a tool to manage the organization information.

Course Outcomes:

- ✓ Students acquaint practical knowledge about creating and manipulating Data.
- ✓ Demonstrate Basic Understanding Of Computer Hardware And Software
- ✓ Demonstrate Problem-Solving Skills
- ✓ Demonstrate Problem-Solving Skills
- ✓ Present Conclusions Effectively, Orally And In Writing.

Course Contents:

Unit-I: Introduction to INTERNET – Definition of INTERNET, INTRANET EXTERNET; Hardware and software of INTERNET – Modem, Web Browser, Concept of E-mail, Web Server, Web Page, Web Sites and WWW (World Wide Web); Some important terminology – HTTP, URL, FTP, DNS; Definition of Hypertext; Basic concept of HTML and static webpage development using HTML.

Unit-II: Practical Application (For the purpose of internal Assessment) MS- OFFICE XP, WINDOWS'98, WINDOWS XP, TALLY, DTP SOFTWARE.

Unit-III: Information System : Definition of System ; Characteristics of system ; Role of Information systems at different level ; MIS and Management Process – Definition of MIS ; Role of MIS in an organization.

Unit-IV: Major Information Systems of an Organization TPS, MIS, DSS, ESS definition , functions characteristics and benefits, introduction to Functional Information.

Suggested Readings:

1. Fundamentals of Computers – U. Rajaraman.
2. Computers Fundamentals – P. K. Sinha.
3. Computer Concepts and Applications – Sanders H. Donald.
4. Management Information System – W.S. Jawadekar; Tata McGraw Hill.

Course Name: Communicative English; Course type: SEC

Marks: Theory [50]: Continuous Assessment-10 & End Semester Examination-40;

Course Objective

- ✓ The course aims to enhance written and verbal communication/ presentation skills amongst the learners and ability to frame effective documentation both in digital and non-digital environment

Course Outcome:

- ✓ To develop inter personal, effective communication and problem solving skills at work.
- ✓ Ability to understand the importance of oral and written communication in day-to-day working of an organization.
- ✓ Developing inter personal skills and problem-solving skills

Contents:

Unit-I: Principal of Letter writing, Planning and Business Letters, Structure and lay out, Specimen letters. **Unit-II:** Writing of Business Reports, nature, importance formal reports and Routine report structure and layout. **Unit-III:** Guidelines for writing project reports, Quotations and orders. **Unit-IV:** Writing effective memos, Secretarial Practices in Business Organisation.

Suggested Readings:

1. Business communication-Theory and Applications- Lesikar, R. & Petit, J.; All India Traveller Book Seller.

2. Basic Managerial Skills for All -McGrath, E. H.; Prentice Hall of India.

3. Business Communication- Balasubramanyam; Vikas Publishing House, New Delhi.

4. Business Correspondence and Report Writing–Sharma and Mohan; Tata McGraw Hill.

BBA Honours: 4th Semester

Course Title	Course Code	Course Type	(L-T-P)	Credit	Marks
Human Resource Management	BBAC401	C	5-1-0	6	100
Production and Materials mgt.	BBAC402	C	5-1-0	6	100
Business Environment	BBAC403	C	5-1-0	6	100
Operations Research	BBAGE401	GE (Any one to be chosen)	5-2-0	6	100
Financial Market	BBAGE402				
Quantitative Aptitudes	BBASE401	SEC (Any one to be chosen)	4-0-0	4	50
Basics of Business Research	BBASE402				
			SEMESTER TOTAL	28	450

Course Name: Human Resource Management; Course type: Core
Marks: Theory [100]: Continuous Assessment-20 & End Semester Examination-80;

Course Objective

- ✓ The objective of this course is to help the students to develop an understanding of the concept & and essential functions of human resource management. The course will use and focus on Indian experiences, approaches and cases.

Course Outcome

- ✓ Understanding of the role of Human Resource Management and explore the recent trends of HRM will be increased.
- ✓ Basic concepts, functions and processes of human resource management will be developed.
- ✓ Developing an understanding of HRM systems and their implementation through exploring the practice of Staffing, Training and Development, Performance Appraisal, Career Planning and Development and Compensation.
- ✓ Building awareness of certain important issues in Industrial Relations.

Course Contents:

Unit-I: Human Resource Management- Concept: Nature; Scope; Objectives and Importance of Human Resource Management; Evaluation of Human Resource Management; Role; function and Qualities of Human Resource Manager; Difference between Human Resource Management and Personnel Management.

Unit-II: Human Resource Planning – Meaning; Objective; and importance of Human Resource Planning; Human Resource Planning Process; Recruitment – Objective and Sources of Recruitment; Meaning and Purpose of Selection – Selection Process; Steps in selections; Selection techniques, Induction.

Unit-III: Training and Development; Meaning; Importance and objective of Training; Steps in Training; Organizing Training Programme; Training Vs Development; Training Methods; Evaluation of Training Programmes.

Unit-IV: Performance Appraisal – Concept, Features, Objective, Methods of Appraisal– Traditional and Modern methods; Problems with Performance Appraisal, Potential Appraisal. Career Planning and Development; Career needs assessment, Career opportunities,

Need- opportunities alignment, Career Development Cycle.

Unit-V: Compensation Management – Objective of Compensation Management; Factors affecting Compensation; Job evaluation – Process, Methods of evaluation; Methods of Wage payment; component of pay structure; Fringe Benefits and Incentive Plans.

Suggested Readings:

1. A handbook of HRM practice – Michael Armstrong; Kogan Page Limited, London.
2. Human Resource Management: Text and Concept – VSP Rao; Excel Books, New Delhi.
3. Human Resource Management – Biswajeet Pattanayek; PHI, New Delhi.
4. Human Resource Management (with cases) – A.K. Ghosh; Manas Publications, New Delhi.

Course Name: Production and Materials Management ; Course type: Core
Marks: Theory [100]: Continuous Assessment-20 & End Semester Examination-80;

Course Objective:

- ✓ To familiarize the students with the role of operations and its interaction with other activities of a firm and their integration in a highly competitive global environment. To enable the students to apply the understanding of production processes in quantitative analysis of problems arising in the management of operations.

Course Outcomes:

- ✓ Understand the role of operations management in achieving organizational competitiveness.
- ✓ Appreciate the concepts of lean production and maintenance management in operations.
- ✓ Comprehend key decision areas of operations and analyze data for effective decision making in operations management.

Course Contents:

Unit-I: Introduction to Production Management, Historical Evolution of production Management, concept of Production, Production System, Classification of Production System, Objectives and Scope of Production Management, Product and Process Design.

Unit-II: Plant Location – Introduction and Meaning, Need for selecting a Suitable Plant Location, Factors Influencing Plant Location; Plant Layout– Objectives, Principles, and Types of Layout, Advantages and Limitations of Each Type of Layout.

Unit-III: Production Planning and Control (PPC): Introduction and Meaning, Need for PPC, Objectives, Phases and Functions of PPC; Capacity Planning–Measurement of Capacity, Process of Capacity Planning; Scheduling Principles and Types of Scheduling.

Unit-IV: Work Study– Introduction, Advantages; Method Study–Objectives, Scope, Steps or Procedure involved in method study, Charts used in method study; Work Measurement–Objectives, Techniques; Time Study–Introduction and Meaning, Steps in Making Time Study.

Unit-V: Materials Management–Introduction, Meaning and Scope, Role of Materials Management; Classes of Materials; Codification – objectives, Advantages, Methodology; Standardization – Relevance, Definition, Specification, Advantages, Techniques. Materials Planning–Introduction to Planning, Definition, Advantages; Bills of Materials; Introduction to Material Requirement Planning (MRP).

Suggested Readings:

1. Production and Operations Management–S. Anil Kumar, N. Suresh; New Age International Publishers.
2. Production and Operations Management – K. Ashwathappa; HPH.
3. Production and Operations Management– E. E. Adam, R. J. Ebert; PHI.
4. Purchasing and Supply Management –D. W. Dobler, D. N. Burt.
5. Purchasing and Materials Management – P. Gopalkrishnan; Tata McGraw Hill.

Course Name: Business Environment; Course type: Core
Marks: Theory [100]: Continuous Assessment-20 & End Semester Examination-80;

Course Objective:

- ✓ Helping students to develop a more holistic approach. They will have knowledge related to business environment which will help them in understanding policy making in a better way.

Course Outcomes:

- ✓ To learn about global trends that influence environment and living conditions and how different management systems and approaches that are used around the world to manage the environment.
- ✓ It offers an introduction to social impact strategy and social entrepreneurship including key concepts, an overview of the field, and tools to get started as a change-maker.
- ✓ It prepares you to meet the requests and demands of current and future decision-makers.
- ✓ You will be able to analyze ethical challenges associated with environmental dilemmas and apply different decision-making tools relevant to environmental management and regulation
- ✓ It enables to use design thinking to uncover new and creative solutions in the social sector.

Course Contents:

Unit-I: Introductory Issues: concept, nature and importance of business and business environment – Types of environment; general and task environment, internal and external environment, Basic elements of environment: socio-cultural, political, legal, economic and technological elements.

Unit -II: Socio-cultural Environment of Business: Concept and nature of culture – Impact of culture on business – cultural resources – Ethics and social responsibility of business – Arguments for and against social responsibility.

Unit -III: Economic Environment of Business: concept and elements of economic environment – Different economic systems: their meanings and characteristics – Economic reforms initiated in India – Liberalization, privatization and disinvestment: concepts and trends.

Unit -IV: International Environment of Business: Globalization as a part of the New Industrial Policy – concept and nature of globalization – Why companies go global – Strategies for entering foreign markets: exporting, licensing and franchising, contract manufacturing, management contracting, joint venture, merger and acquisition, strategic alliance and counter trade – Merits and demerits of globalization – Globalization of Indian business.

Unit -V: India, WTO and Trading Blocks: Role and functions of WTO – Differences between WTO and GATT – Arguments for joining WTO – WTO Agreements binding on India: their impact on the Indian economy – International Economic institutions like World Bank and IMF: their importance and basic functions.

Suggested Readings:

1. Essentials of Business Environment – Aswathapa, K; HPH.
2. Business Environment – Cherunillam, Francis; HPH.
3. Economics Environment of Business – Misra and Puri; HPH
4. Business Environment – Gupta, C.B.; Sultan Chand.
5. Business Environment: Text and Cases – Paul, Justin; TMH.

Course Name: Operations Research; Course type: GE
Marks: Theory [100]: Continuous Assessment-20 & End Semester Examination-80;

Course Objective:

- ✓ To understand the various issuesinvolved in the operations research analysis andarriving at conclusive decisions.

Course Outcomes:

- ✓ Resolve the equations related to Linear programming.
- ✓ Identify the specially structured programming of transportation and assignment.
- ✓ Analyze the decision making problems under uncertainty and competitive situations.

Course Contents:

Unit-I: Introduction: Historical Development: Definitions of OR; Nature and scope of Study; Phases of OR; Classification of OR models; Methodology of OR.

Unit-II: Linear programming: Assumptions, Basic concepts; LP Formulation Graphical Solution – Feasible Region, Optimum Solution, special cases (unbounded solutions, infeasible solution and Alternative optima).

Unit-III: Transportation Problem: Transportation tableau, Methods for Finding Initial basic Feasible Solution – North West Corner Rule, Least Cost Method, VAM; Test for Optimality – MODI Method.

Unit-IV: Assignment Problem: Mathematical Statement of Problem, Comparison with Transportation Problem; Solution of Assignment Problem – Hungarian Methods.

Unit-V: Decision Theory: Steps in Decision Theory Approach; Types of Decision Making Environments; Decision Making Under Risk – Expected Monetary Value, Expected Opportunity loss; Decision Making Under Uncertainty – Criterion of optimism, Criterion of Pessimism, Laplace Criterion, Criterion on Regret.

Suggested Readings:

1. Operations Research; Theory and Applications – J. K. Sharma; Macmillan.
2. Operation Research – P. K. Gupta and D. S. Hira; S. Chand.
3. Quantitative Technique in Management – N. D. Vohra; Tata McGraw Hill.
4. Operation Research – K. Swarup, P. K. Gupta and M. Mohan; Sultan Chand.

Course Name: Financial Market; Course type: GE

Marks: Theory [100]: Continuous Assessment-20 & End Semester Examination-80;

Course Objectives:

- ✓ The objective of this paper is to introduce students to role and functioning of financial markets, financial products that are traded in such financial markets and institutions associated with financial markets. It explains the role of financial system on economic development. Various conceptual issues related to risk and return, the role of regulatory bodies, mechanism of commercial banking, operations of insurance companies and mutual funds are discussed elaborately. This will enable them to take the rational decision in financial environment.

Course Outcomes:

- ✓ Financial architecture of an economy and its key players.
- ✓ The fabrication of Indian Financial markets.
- ✓ Working of Capital market, debt market, money market in India
- ✓ Functioning of different players in the financial market including Regulators like RBI , SEBI, PFRDA and IRDA

Course Contents:

Unit-I: Concept, Functions and Components of Financial System; Structure of Indian Financial System; Concept; Nature, Types and Functions of Financial Institutions, Intermediaries and Financial Markets; Money Market and Capital Market Instruments.

Unit-II: Concept, Structure, Features and Defects of Indian Money Market.

Unit-III: Concept, Structure and Features of Indian Capital Market; Concept and Functions of Primary Market and Secondary Market and their relationship; Methods of issue of stocks in new issue market; Concept and Types of Stock Exchanges in India; Trading and Settlement; Buying and selling shares; Concept, Participants and Constituents of the Indian Debt Market, Hybrid Debt Instruments.

Unit-IV: Concept, Conditions, Merits and Demerits of Listing; Concept, Framework, Players of depositories in India; Constituents, Facilities and Benefits of depository system; Physical and dematerialized

share trading; Objectives, Functions and Organizations of Securities and Exchange Board of India (SEBI); Concept and Usefulness of stock market indices, Methods of computing the stock indices, Major indices in India.

Unit-V: Concept and Benefits of Mutual Funds: Types of Mutual Fund schemes; Net Asset Value (NAV); Unit Trust of India; Concept, Agencies, Types and Benefits or Credit Rating; Concept, Stages, Types and Players in financing venture capital; Concept and Role of merchant banker, Merchant Banking in India.

Suggested Readings:

1. Investment Management – Bhalla, V.K.; S. Chand & Company Ltd.
2. Financial Management – Kishore, R.M.; Taxmann.
3. Indian Financial System – Khan, M.Y.; Tata Mc Graw Hill.
4. Indian Financial System – Pathak, B.V.; Pearson Books.

Course Name: Quantitative Aptitude; Course type: SEC
Marks: Theory [50]: Continuous Assessment-10 & End Semester Examination-40;

Course Objective:

- ✓ Appreciate the significance and the value of Quantitative Aptitudefor preparing competitive examinations.

Course Outcomes:

- ✓ Understanding of the practical applications of the subject.
- ✓ Development of analytical thought process.

Course Contents:

Unit-I (Mathematical Skill): LCM and HCF; Percentage, Profit and Loss, Simple and Compound Interest; Ratio, Proportion and Partnership; Work and Time, Speed, Distance and Time; Average; Mensuration; Series.

Unit-II (Intelligence and Reasoning Test): Relationship or Analogy Test; Series Completion Test; Coding and Decoding Test; Time Sequence Test; Venn Diagram and Chart Type Test.

Unit-III (Logical Reasoning): Validity Test of Syllogism; Logic – Statement and Conclusions, Statement and Assumptions, Statement and Arguments.

Unit-IV (Data Analysis and Sufficiency): Numerical Data Tables; Bar Charts, Pie Charts; Line graphs; Data Sufficiency.

Suggested Readings:

1. Books and materials for competitive examinations.

Course Name: Business Research; Course type: SEC
Marks: Theory [50]: Continuous Assessment-10 & End Semester Examination-40;

Course Objective

- ✓ To provide an exposure to the students pertaining to the nature and extent of research orientation, which they are expected to possess when they enter the industry as practitioners.

Course Outcome

- ✓ To give them an understanding of the basic techniques and tools of business research.
- ✓ Help in identifying and analyzing business problems.
- ✓ Understanding and applying the major types of research designs, formulating research questionnaires and preparation of research reports

Course Contents:

Unit – I: Research: Meaning, definition, objectives, types of Research.
Unit – II: Steps of Research: Research Design, Research Methods, An overview of Sampling Theory. Unit–III: Qualitative Research, Research Data Collection, Observation and Field Work, Field Interviews Projective Techniques.
Unit–IV: Qualitative Text Analysis and Reporting Analysis of Verbal data writing. Field Stories and narrative Reports.
Suggested Reading:

1. Research Methodology –C. R. Kothari.
2.Qualitative Methods in Management Research - Gambeson, Evert; Sage Publications Inc

BBA Honours: 5th Semester

Course Title	Course Code	Course Type	(L-T-P)	Credit	Marks
International Business	BBAC501	C	5-1-0	6	100
Business Law	BBAC502	C	5-1-0	6	100
Any two from Group A (Given Below)		DSE	5-1-0	6	100
DSE Group A		DSE	5-1-0	6	100
Sales and Distribution Mgt.	BBADSE501				
Industrial Relations	BBADSE502				
Systems Analysis and Design	BBADSE503				
Taxation	BBADSE504				
Supply Chain Management	BBADSE505				
	SEMESTER TOTAL			24	400

Course Name: International Business; Course type: Core
Marks: Theory [100]: Continuous Assessment-20 & End Semester Examination-8
Course Objective:

- ✓ This course aims to introduce students to the international business, trading and financial environment. Students are also expected to understand the basic features of the foreign exchange market and types of exchange rates. The course also creates awareness about emerging issues such as outsourcing and environmental sustainability in the context of international business.

Course Outcomes:

- ✓ Understand the process of globalization, its impact on the evolution and growth of international business and to appreciate the changing dynamics of the diverse international business environment.
- ✓ Analyze the theoretical dimensions of international trade and intervention measures adopted; to appreciate the significance of different forms of regional economic integration and to understand the concept of Balance of payment account and its components.
- ✓ Understand the significance of different forms of regional economic integration and to appreciate the role played by various international economic organisations such as the WTO, UNCTAD, IMF and World Bank.
- ✓ Familiarize students with the international financial environment, and get them acquainted with the basic features of the foreign exchange market – its characteristics and determinants.

- ✓ Critically examine the concept and form of foreign direct investment, and to create awareness about emerging issues in international business such as outsourcing and ecological issues.

Course Contents:

Unit–I: International Business: Introduction Scope, Theories of International Trade, International Business Environment – Technology, Socio-cultural.

Unit-II: Terms of Trade, Balance of Payment (BOP), Balance of Trade (BOT) Free Trade Vs Protection.

Unit – III: International for Business Advancement Breton Woods IMF, World Bank, WTO.

Unit-IV: Foreign Market Entry, Strategies, Licensing, Franchising, Joint Venture.

Unit- V: Introduction to Regional Groupings; EU; NAFTA; BRICS.

Suggested Readings:

1. Cherunilam, F. International Business Environment. Himalaya Publishing House.
2. Daniels J.et al. International Business – Environments and Operations. Pearson Education.
3. Sodersten, B. International Trade: Theory and Policy. Macmillan.

Course Name: Business Law; Course type: Core

Marks: Theory [100]: Continuous Assessment-20 & End Semester Examination-80;

Course Objective

- ✓ To gain knowledge of the branches of law which relate to business transactions, certain corporate bodies and related matters.

Subject Outcome

- ✓ Help students in understanding the applications of these laws to practical commercial situations.
- ✓ To know rights and duties under various legal Acts.
- ✓ Understanding consequences of applicability of various laws on business situations.
- ✓ Develop critical thinking through the use of law cases.

Course Contents:

- **Unit-I:** Indian Contract Act 1872: Formation of Contract: Essential Element of a Valid Contract. These will include offer, Acceptance, Consideration, Capacity, Free Consent and Lawful agreement. Classification of contract: General, Special, void, voidable, Contingent contract, Quasi Contract, Performance of Contract, Discharge of Contract, Remedies for breach of Contract Agency. **Unit-II:** Sale of goods Act, 1930: Formation of contract of sale of goods, condition and Warranty, Transfer of Property in goods, performance of Contract of Sales, Unpaid Seller. **Unit-III:** Partnership Act 1932: Definition, Nature and kinds of Partnership, Rules regarding registration, Right and Duties of Partners, Dissolution. **Unit-IV:** Negotiable Instrument Act 1981: Definitions and Characteristics of negotiable instruments, Holder and holder in due Courses, Crossing of cheque, Dishonor and discharge of negotiable instruments. **Unit-V:** Company Law: Definition of company, Types of companies, Formation of Company, Memorandum and Articles of association, Contents and alteration of Memorandum and Articles of Associations, Prospectus and Statement in lieu of Prospectus. Share and Share Capital; Meetings, Statutory Meeting, Annual General Meeting and Extra-ordinary General Meeting; Rules regarding meeting: Notice, Quorum, Voting, Resolution-Ordinary and Special, Minutes; Directors – Definition, Types, Appointment, Powers, Functions and Duties.

Suggested Readings:

1. Element of Company Law–N. D. Kapoor; Sultan Chand.
2. Elements of Business and Eco. Laws–N. D. Kapoor; Sultan Chand.
3. Taxman's – Guide to Foreign Exchange Management Act.

Course Name: Sales and Distribution Management; Course type: DSE
Marks: Theory [100]: Continuous Assessment-20 & End Semester Examination-80;

Course Objective:

- ✓ To teach the basics of salesmanship as promotional tool in marketing and to develop a customer oriented attitude for designing personal selling messages.

Course Outcomes:

- ✓ Understand the communication objectives behind sales and distribution management.
- ✓ Understand the various elements in the channel management decisions.
- ✓ Identify the ethical and legal issues of distribution.
- ✓ Comprehend the importance and role of personal selling.
- ✓ Understand the process of personal selling.

Course Contents:

UNIT–I: Introduction to Sales Management, Nature, role and importance, Sales force structure and Size management process. Different techniques of handling customer objections and closing the sales follow up.

UNIT–II: Sales Organization: Formal, Informal, horizontal, vertical, centralized, decentralized, geographic, customer, product, combination, organizations; Sales Territory: Size allocation and designing sales territory.

UNIT–III: Forecasting market demand; Importance, forecasting process; Planning and recruitment of sales force; Job analysis specification, Job description, sources of recruitment, selection of sales person, Sales training; objective, designing training programme.

UNIT–IV: Sales force Motivation: Nature, Importance, factors influencing the motivation of sales force. Compensations: Types, compensations plan; Evaluation of Sales Force.

UNIT–V: Distributions channel: Importance, types, channel strategy Market Logistic: objective, planning customer oriented inventory Management decision, transportation decision; Retailing, Wholesaling.

Suggested Readings:

1. Sales and Distribution Management– Tapan Panda and Sachdev; Oxford Publications.
2. Marketing Management–analysis, planning and control; Philip Kotler; Prentice hall of India Ltd.
3. Sales Management: E. M. Johnson, D. L. Kurtz, E. E. Scharuing; McGraw Hill.

Course Name: Industrial Relation; Course type: DSE
Marks: Theory [100]: Continuous Assessment-20 & End Semester Examination-80;

Course Objective

- ✓ To acquaint students with concepts of Industrial Relations and various legislations related to Labour Welfare and Industrial Relations.

Course Outcome

- ✓ To enable the students to learn the concepts of industrial relations including trade unions, collective bargaining, discipline and various labour enactments.
- ✓ Acquiring theoretical and practical perspective on many aspects of industrial relations.
- ✓ Understanding the key participants, institutions, relationships and processes in employment relations.
- ✓ Knowing various labour legislations in Indian context.

Course Contents:

UNIT–I: Industrial Relations: Meaning, Characteristics, Objectives and Factors. Prerequisites for sound industrial relations; Importance of harmonious industrial relations. **UNIT–II:** Industrial Disputes: Concept, Forms, Concept of industrial dispute and industrial conflicts– Forms of industrial dispute – causes of industrial dispute – Methods for prevention and settlement of industrial dispute. **UNIT–III:** Trade Unionism: Concept, approaches and problems of trade union, Concept, Objectives and factions of trade unions– Growth and problems of trade union movement in India. Registration of Trade Unions – Duties & Privileges of Registration of Trade Unions. **UNIT–IV:** Workers' Participation in Management: Concept, objective and forms of workers participations in management. Various forms of workers participations in management – New Scheme of workers' participations in management (1984) – Workers' Participation in Management Bill 1990 – prerequisites for workers' participation in management – Employee empowerment. **UNIT–V:** The Industrial Dispute Act 1947: Settlement of Industrial disputes; strikes, lockout, gherao– Layoff, retrenchment, closure, discharge, dismissal. The Industrial Employment (standing orders) Act, 1946– Concept and nature of Standing Order – Scope and Coverage of the Act – Certification process – its operation and binding effect – Modification and temperance application of Model Standing Orders.

Suggested Readings:

1. Industrial Relations and Labour Laws–S. C. Srivastava; Vikas Publishing House Pvt. Ltd., New Delhi, 2007.
2. Human Resource Management–A. K. Ghosh; Manas Publications, New Delhi, 2006.
3. Dynamics of Industrial Relations–C. B. Mamoria et al, New Delhi, 2003.
4. Industrial relations– Emerging Paradigms – B. D. Singh; Excel Books, New Delhi, 2004.
5. Industrial Relations: Concepts and Issues-T. N. Chhabra & R. K. Suri; Dhanpat Rai & Co.(P)Ltd.

Course Name: System Analysis And Design; Course type: DSE
Marks: Theory [100]: Continuous Assessment-20 & End Semester Examination-80;

Course Objective:

- ✓ Students will demonstrate the ability to extract, analyze, and organize end- user requirements. Included will be an ability to utilize process, data, and state modeling in a variety of domains. Students will also examine data- oriented and object-oriented system design.

Course Outcomes:

- ✓ Upon successful completion of the course, students will be able to:
- ✓ Develop a requirements document that details and models an information system design.
- ✓ Utilize data flow diagramming, entity relationship modeling, and state process modeling in user requirement analysis.
- ✓ Compare and contrast conceptual, logical, and physical data models.

Course Contents:

Unit-I: Introduction – System concept; Characteristics of a System; Types of a System; System stakeholders – System Owner, System User –Internal system user and External System user, System Designer, System Analyst; Jobs of System analyst.

Unit-II: System Development Process – Introduction; Capability Maturity Model; System Life, Cycle versus Development Methodology; Principles of System Development; SDLC – problem definition, Feasibility Study.

Unit-III: System analysis – meaning, objective; Need for system analysis; System analysis approaches - Model driven analysis; Structured analysis - meaning, objectives, need, System design, System construction, Implementation, Post Implementation review, System maintenance.

Unit-IV: Data Modeling and Analysis – Entity – relationship Data Modeling – Entity, Attribute, Relationship. Type of Relationship, Cardinality; Draw E-R Diagram.

Unit-V : Process Modeling – Definition of System Modeling; Differentiate Logical and Physical System Model; DFD- DFD symbols, process, data store, external entities, dataflow; Describing a System by DFDs; Logical Vs Physical function of a System; Converting physical DFD to logical DFD; Draw DFD of a System.

Suggested Readings:

1. System Analysis and Design Method – Jeffrey L. Whitten & Lonnie D.Bentley; Tata Mc Graw Hill.
2. System Analysis and Design – I. T. Hawryszkiewyez; PHI
3. Analysis and Design of Systems – James A. Senn; Tata McGraw Hill.

Course Name: Taxation; Course type: DSE

Marks: Theory [100]: Continuous Assessment-20 & End Semester Examination-80;

Course Objective:

- ✓ This course aims to impart knowledge of law pertaining to levy of income tax in India. It also aims to enable the students to apply the same practically.

Course Outcomes:

After completing the course, the student shall be able to:

- ✓ Understand the basic concepts in the law of income tax and determine the residential status of different persons.
- ✓ Identify the five heads in which income is categorised and compute income under the heads 'Salaries' and 'Income from House Property'.
- ✓ Compute income under the head ' Profits and gains of business or profession', 'Capital gains' and 'Income from other sources'.
- ✓ Deductions allowed under the Income Tax Act; and further to compute taxable income and tax liability of individuals and firms.
- ✓ Develop the ability to file online returns of income.

Course Contents:

Unit-I: Basic Concepts & Definitions: Assessee, Person, Assessment Year, Previous Year, Income, Earned Income & Unearned Income, Casual Income, Heads of Income, Capital receipts & Revenue receipts, Capital Expenditure & Revenue Expenditure, Gross Total Income, Total Income, Agricultural Income, Basic Exemption Limit for various types of assesses.

Unit –II: Scope of Total Income & Residential Status: Residential Status and Incidence of tax; Income

received or deemed to be received in India, Income which accrued or deemed to be accrued or arise in India; Problems on residential status & tax incidence. Exempted Incomes:

Incomes exempt u/s 10.

Unit-III: Computation of Income under the head salary and house property.

Unit-IV: Computation of Income under the head profits and gains of business or profession (Only individual assessee).

Unit-V: Deduction from Gross Total Income & Tax Rebates: Sec 80CCC, 80D, 80DD, 80DDB, 80E, 80G, 80GG, 80GGA, U/s 87,88,88b,88C & 89.

Suggested Readings:

1. Direct Tax-Law and Practice (Student's Edition) – V. K. Singhania; Taxmann.
2. Systematic Approach to Income Tax – Ahuja Girish & Gupta Ravi; Bharat Law House.

Course Name: Supply Chain Management; Course type: DSE
Marks: Theory [100]: Continuous Assessment-20 & End Semester Examination-80

Course Objective:

- ✓ This course would help students to integrate and critically evaluate qualitative and quantitative information to make better decisions related to various SCM activities. They will develop an understanding about the role of marketing channels, distribution and supply chain, key issues of supply chain and the drivers of supply chain performance.

Course Outcomes:

- ✓ Understand the rationale behind and fundamental principles of supply chain management.
- ✓ Identify the main drivers of supply chain links.
- ✓ Recognize the managerial benefits and potential challenges of the supply chain practices.
- ✓ Understand the necessary changes and transformations required for the successful implementation of the integrated supply chain perspectives.

Course Contents:

Unit -I: SCM - Meaning, Definition, Objectives, and Scope.

UNIT -II: SCM Network, Design, Applications to e-business.

UNIT-III: Planning, demand and supply; Demand and Supply: demand forecasting, managing economies of scale in supply chain, managing inventories.

UNIT-IV: Transportation: Role models of Transportation & their performance characteristics; Role of IT in transportations.

UNIT –V: Co-ordination of Supply Chains: Importance, Obstacles to co-ordination, Role of Management to achieve Co-ordination.

Suggested Readings:

1. Supply Chain management - strategy , planning and operation– Sunil Chopra , Peter Meindl, Dharam Vir Kalra; Practice Hall.

BBA Honours: 6th Semester

Course Title	Course Code	Course	(L-T-P)	Credit	Marks
Project Work	BBAC601	C	0-0-12	6	100
Grand Viva	BBAC602	C	0-0-12	6	100
Any two from Group B (Given Below)		DSE	5-1-0	6	100
DSE Group B		DSE	5-1-0	6	100
Entrepreneurship Development	BBADSE601				
Cost and Management Accounting	BBADSE602				
Marketing of Services	BBADSE603				
Human Resource Development	BBADSE604				
Database Management System	BBADSE605				
	SEMESTER TOTAL			24	400
	GRAND TOTAL			148	2400

Course Name: Project Work; Course type: Core

Course Objectives:

- ✓ The students are engaged with their faculty on research projects of current relevance and critical outcome. They work on live projects and collect data on industry for research based projects and term papers. The students are taught the skill of using software for making analysis.

Course Outcomes:

- ✓ Students will be to investigate a management problem in a scientific manner
- ✓ to apply the conceptual knowledge in a practical situation
- ✓ to learn the art and science of conducting a study in a systematic way and presenting its findings in the form of report.

Course Name: Grand Viva; Course type: Core

Course Objectives:

- ✓ The objective of comprehensive viva-voce is to assess the overall knowledge of the student in the relevant field of Management acquired over 3 years of study in the undergraduate program. The viva shall normally cover the subjects taught in all the semesters of BBA Programme.

Course Outcomes:

- ✓ Students will be able to face interview both in the academic and the industrial sector.

Course Name: Entrepreneurship Development; Course type: DSE
Marks: Theory [100]: Continuous Assessment-20 & End Semester Examination-80

Course Objective:

- ✓ To inculcate the spirit of entrepreneurship among the learners so as to ensure their entrepreneurial desire resulting into creation of a new venture.

Course Outcomes :

- ✓ Understand the concept of entrepreneurship in the context of Indian economic scenario.
- ✓ Link the individual's capability and strength as a guiding factor towards entrepreneurial orientation.
- ✓ Understand social support system for gaining strength towards entrepreneurial preferences.
- ✓ Understand entrepreneurial process for initiating new venture creation.
- ✓ Understand various dimensions of managing a business enterprise once it is formed.

Course Contents -

UNIT-I: Introduction: Concepts of entrepreneur, entrepreneurship and entrepreneur, Characteristics and competencies of a successful entrepreneur, General functions of an entrepreneur; Type of entrepreneurs; Role of entrepreneur in economic development; Distinction between an entrepreneur and a manager; Entrepreneur and Intrepreneur, growth of entrepreneurship-Economic and non economic factor for stimulating entrepreneurship development.

UNIT-II: Role of the Government in Entrepreneurship Development: Concept and meaning of entrepreneurship development; Need for entrepreneurship development programmes (EDPs), Objectives of EDP. McCelland theory of motivation. Women entrepreneurs-Problems, remedial measures, reasons for growth of woman entrepreneurs.

UNIT-III: Venture promotion and Project Formulation: Concept of projects classification of projects and project report; Project identification and selection; Constraints in project identification, Techniques of Project Identification, Significance, contents, formulation of project report; Need for Project Formulation; Guidelines for formulating a project report; Concepts of project appraisal.

UNIT-IV: Financing of Enterprise: Need for financial planning, Sources of short-term and long-term finance to entrepreneurs, Commercial banks and financial institutions like IDBI, IFCI, ICICI, SIDBI, SIDCO and SFCs – their roles and activities.

UNIT-V: Small Scale Industries (SSIs) & Institutional Support to Small Enterprises: Definition, characteristics and scope of SSIs in India, Procedure for setting-up a small-scale unit.

Suggested Readings:

1. Management of Small Scale Industry – Vasant Desai; PPH.
2. Entrepreneurship and Small Business Management–C. B. Gupta and S. S. Khanka; Sultan Chand & Sons.
3. Entrepreneurial Development – S. S. Khanka; S. Chand.
4. Entrepreneurship – New Venture Creation – David H. Holt; PHI.
5. Entrepreneurship – Lal Sahai; Excel.

Course Name: Cost & Management Accounting; Course type: DSE
Marks: Theory [100]: Continuous Assessment-20 & End Semester Examination-80

Course Objective:

- ✓ Enable students to acquire knowledge of concepts, methods and techniques of management accounting for the purpose of managerial planning, control and decision making.

Course Outcomes:

After completing the course, the student shall be able to:

- ✓ Understand thoroughly the conceptual framework of Cost &Management Accounting;
- ✓ Understand about the different elements of cost like material, labour and overhead.
- ✓ Understand the concept of marginal cost and marginal costing; preparation of cost sheets using absorption and variable costing; learning of cost-volume-profit analysis and break-even analysis using mathematical and graphical approaches; and the application in businesses.

- ✓ Understand the concept of relevant and irrelevant costs and make decisions related to different business situations using marginal costing techniques.
- ✓ Understand budgetary control system as a tool of managerial planning and control; ability to prepare various types of budget. Ability to understand standard costing system as a tool of managerial control; calculation of variances in respect of each element of cost and sales; control ratios.

Course Contents:

Unit-I: Nature, scope, objectives and functions of Cost Accounting and Management Accounting, Comparison among Cost Accounting, Management Accounting and Financial Accounting, Cost unit and Cost Centre; Methods and techniques; Need for costing and Installation of a Cost Accounting System. **Unit-II:** Material Control, Planned Purchasing System, Bin Card and Store Ledger, Stock Level System, Pricing of material issue, Perpetual inventory System, Selective Stock Control Systems, Concept and classification of material losses. Time keeping and Time booking, Idle and overtime-concept and treatments; various methods of Remuneration; Various Incentive Schemes. Definition, Classification, Accounting and Control of overheads; Allocation, Appointment and Re-apportionment and Absorption of overheads; Determination of overhead rates; under and over absorption of overhead. **Unit-III:** Job costing – Concept and Job Cost Accounts; Contract Costing – Concept, Contract Account and Determination of Profit or Loss on incomplete contract, Presentation of Contract particulars in the Balance Sheet, Retention money, Cost Plus Contract Escalation clauses, Process costing – concept and Process Accounts with Process Losses and Gains, Process Losses (Normal and Abnormal) and Gainsconcepts and accounting treatment. Note: Equivalent Production, Inter Process Profit, Joint Product, ByProduct are excluded. Unit-IV: Concepts of Budget, Budgeting, Budgetary Control; Objectives, advantages and limitations of budget and Budgetary Control, Planning, Budget Factors; Cast Budget and Flexible Budget. Meaning of Standard Cost and Standard Costing; Advantages and limitations of Standard Costing; Standard Costing vs. Budgetary Control; Types of standard; Analysis of Variances – material and labour (excluding mix variance and yield variance). Unit-V: Definition of Marginal Cost and Marginal Costing; Assumptions and uses of Marginal Costing; Differences between Marginal Costing and Absorption Costing; Marginal Cost equation; Computation of Contribution, Profit-Volume Ratio, Break Even Point, Margin of Safety, Angle of Incidence; Decision making with the help of Marginal Costing (elementary level).

Suggested Readings:

1. Cost Accounting – Saxena, V. K. and Vashist, C.D.; Sultan Chand &Sons.
2. Student's Guide to Cost and Management Accounting – Kishore, R.M.;Taxmann.
3. Cost Accounting: Johar Lal; Tata McGraw Hill.
4. Principles and Practice of Cost Accounting – Bhattacharyya; PHI.
5. Cost & Management Accounting – Arora, M.N.; Vikas Publishing House.

Course Name: Marketing of Services; Course type: DSE
Marks: Theory [100]: Continuous Assessment-20 & End Semester Examination-80

Course Objective:

- ✓ The course brings out the emerging service environment in India and the world. It emphasises the distinctive aspects of Services Marketing. It aims at equipping students with concepts and techniques that help in taking decisions relating to various services marketing situations.

Course Outcomes:

- ✓ Understand the Concept of Services and intangible products
- ✓ Discuss the relevance of the services Industry to Industry
- ✓ Examine the characteristics of the services industry and the modus operandi
- ✓ Analyse the role and relevance of Quality in Services
- ✓ Visualise future changes in the Services Industry

Course Contents:

UNIT–I: Introducing Service Marketing: The nature of Services Marketing Introduction, Definition and Characteristics of Services, Classification of Services, The services environment; evolution of services. Service Marketing Mix, Service Quality Concept.

UNIT–II: Segmentation, Targeting and Positioning; Strategic Aspects of Services Marketing, Segment Selection or targeting a few Segments, Positioning a Service in the Marketplace, Targeting Customers and Building Relationships, Importance of Services Marking in Indian Economy, Growth of service sector in Indian Economy..

UNIT–III: Place, Promotion and Pricing issues in Services Marketing Understanding Costs and Developing Pricing Strategies, Communicating and Promoting Services.

UNIT–IV: People – The Key to a Service Business, Services and the Importance of the People Component, Using People to Differentiate Services, Internal Marketing, Employee Motivation and Implication for Service Delivery.

UNIT-V: Physical Evidence, Services Capes Designed for Employees and for Customers. Process – The Customer's Point of View Blueprinting, Managing the Waiting Process, Use of Information Technology (IT), Offering Greater Choice - A Major Service Process: Complaints Management and Service Recovery.

Suggested Readings:

1. Services Marketing–Christopher H. Lovelock and Chatterjee; Pearson Books.
2. Services Marketing–Valarie A. Zeithami, Mary Jo Bitner.
3. Principles of Services Marketing, 4th edition–Palmer, A.; McGraw-Hill.
4. Services Marketing–Govind Apte; Oxford Univ. Press.
5. Services Marketing– Rajendra Nargundkar; Tata McGraw Hill.

Course Name: Human Resource Development; Course type: DSE
Marks: Theory [100]: Continuous Assessment-20 & End Semester Examination-80

Course Objective

- ✓ This course aims at exposing the learner to the concept and practice of training and development in the modern organisational setting through the pedagogy of case discussions, practical, experiential learning, and recent experiences.

Course Outcome

- ✓ To familiarize the students with the concept and practice of human resource development in modern organizations.
- ✓ The course gives an overview of the need for HRD and HRD practices which can develop and improve an Organization's systems and strategies leading to an effective HRD climate.
- ✓ Integration of HRD with other areas of HRM and overall business strategy becomes easier.

- ✓ Identification and uses of competencies in the process of determining development and potential and main components and variations in management development systems within organizations can be possible.

Course Contents:

UNIT–I: Concept, Scope and Significance of Human Resource Development – Definition – Need for Human Resource Development – Functions, Objectives and Characteristics of Human Resource Development – Various Approaches to Human Resource Development – HRD Philosophy – HRD sub-system – Elements of Good HRD – Functions of HRD Managers – Attributes of HRD Manager – HRD in Indian Industry. **UNIT-II:** Management of Change and Developments – Meaning and objectives of quality circles – benefits of QC. Managing Change – types of change – resistance to change – approaches to organizational Development Steps in organizational development – organizational analysis and methods of organizational development. **UNIT-III:** Organizational strategies, styles, culture: Concept of strategy – need for HRD strategy – Characteristics of HRD Culture – Types of Organizational Culture – OCTAPACE culture – importance of management styles in building culture. **UNIT-IV:** Performance Management – Principal Goals of Performance Management – Strategic issues in moving from Performance Appraisal to Performance Management – Principles of Performance Management – Background to Performance Management – Performance Management Cycle Performance appraisal: traditional and contemporary methods. **UNIT-V:** Training, importance and needs for training – Training vs. Development – Issues in identifying training needs – Training methods: on the job and off the job. Management Development – Concept and importance, nature and strategies of management development – objectives and need for management development. Management development programmes – types, importance and methods.

Suggested Readings:

1. Human Resource Development – P. C. Tripathi, Sultan Chand.
2. Human Resource Management – Biswajeet Pattanayak, Prentice Hall of India.
3. Human Resource Development: Strategic Approaches and Experiences – B. L. Mathur, Arihant Publisher
4. Human Resource Development: A Value-based Approach – B. R. Madan.

Course Name: Data Base Management System; Course type: DSE
Marks: Theory [100]: Continuous Assessment-20 & End Semester Examination-80

Course Objectives:

- ✓ The objective of the course is to present an introduction to database management systems, with an emphasis on how to organize, maintain and retrieve - efficiently, and effectively - information from aDBMS.

Course Outcomes:

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

- ✓ Describe the fundamental elements of relational database management systems

- ✓ Explain the basic concepts of relational data model, entity-relationship model, relational database design, relational algebra and SQL
- ✓ Improve the database design by normalization.

Course Contents:

UNIT – I: Introduction – Definition of Database; Advantages of Database Management Approach; Data Models and its categories, Schema, Instances and Database State; Three-schema Architecture of DBMS- Physical, Logical and Viewer Level; Data Independence.

UNIT–II: Relational model: Concept and constraints – Relational Model Concept, Domain, Attributes, Tuples and Relations; Characteristics of Relation; Relational Model notations; Relational Model Constraints and its categories; Schema based constraints – Domain constraints, key constraints; Constraints on Null Value, Integrity constraints and Referential Integrity constraints.

UNIT–III: Structured Query Language (SQL) – Schema Definition, Basic constraints and Queries; DATA DEFINITION – Schema and catalog Concept; CREATE TABLE command; Data types and Domains in SQL; Specifying Basic Constraints – Attributes constraints and Attribute Default, Key and Referential Integrity constraints, Constraints on tuple using CHECK; Schema change; Command DROP and ALTER command.

UNIT–IV: Basic queries in SQL using SELECT – FROM-WHERE Structure; Data Manipulation Command – INSERT, UPDATE, DELETE command; Data Control Command – COMMIT, SAVEPOINT, ROLLBACK Command.

UNIT- V: Operators and Functions – Arithmetic Operators; Comparison Operators LIKE, NOT LIKE, BETWEEN, NOT BETWEEN, Logical Operators; Set Operators – UNION, UNION ALL, INTERSECTION, MINUS, Functions – DATE Functions, Numeric Functions, Character Functions, Conversion Functions; GROUP BY and HAVING Clauses in SQL.

Suggested Readings:

1. Fundamentals of DATABASE SYSTEMS - Elmasri, Navathe, Somayajulu, Gupta.
2. Introductions to DATABASE SYSTEMS – C. J. Date.
3. DATABASE MANAGEMENT SYSTEMS – A. K. Majumder & P. Bhattacharya.

PO,PSO,CO OF DEPARTMENT OF COMPUTER APPLICATION(BCA)

Department of Computer Application	
B.C.A.	
Programme Outcome	At the end of the three year(6 Semester) **BCA** programme the students will be able to: Understand, analyse and develop computer programs in the areas related to algorithm, web design and networking for efficient design of computer based system. Students develop the skills necessary in career of Computer Applications. The course creates highly skilled, adaptable graduates who are able to design computer-based solutions to address information management and processing complications in industry, commerce, science, entertainment and the public sector. To integrate ethics and values in designing computer application. Design / Development of Solutions: Ability to transform complex business scenarios and contemporary issues into problems, investigate, understand and propose integrated solutions using emerging technologies.
Programme Specific Outcome	Upon successful completion of the course, a student will be able to: 1. Develop ability to understand theory of Design and Computer Organization to provide an insight of how basic computer components are specified. 2. Develop ability to understand the functions of various hardware components and their building blocks. 3. Recognize & appreciate the role of computing in a wide variety of activities & applications in modern society, including commerce, communication, education, travel & social interactions. 4. To become a software entrepreneur. 5. Explore technical comprehension in varied areas of Computer Applications and experience a conducive environment in cultivating skills for thriving career and higher studies. 6. To be a broadly educated, ethical and responsible citizen.
Course Outcomes The curriculum prepares students for a career in software industry by equipping the students with the latest revolution in technology. Creates the ability to design a computer application by considering realistic constraints such as safety, security and applicability.	

SEM-I	Computer Fundamentals Programming in C Mathematics - I Environment Studies PC Software Lab Programming Lab in C
Computer Fundamental	It focuses on such computer literacy that prepares students for life-long learning of computer concepts and skills. Students discovers why computers are essential components in education, business and society in this course. ... **understand basics of computer and working** with OS. To introduce the components of computers • To introduce basic concepts of hardware and software. • To introduce the general structure of the CPU, motherboard and advance interfaces • To understand problem solving methodologies • To introduce the elementary concepts of word processing, ESS and Web designing.
Programming Language in C	❖ The course provides students with a detailed study of programming techniques using programming language. Good programming habits, proper logical thinking, algorithm and flowchart development, writing efficient programs are taught in the course. Detailed lab exercises covering all aspects of the language are prepared. ❖ To analyse problems efficiently and develop comprehensive logic to solve it. To develop good algorithms and flowcharts to solve problems. · To write programs in a structured manner. ❖ An understanding of the principles behind the object oriented development process. • Competence in the use of object oriented programming language in the development of small to medium sized application programs Understanding the core terms, concepts, and tools of relational database management systems. Understanding database design and logic development for database programming.
Mathematics	❖ To inculcate in students the fundamental mathematical background in computer science. • To gain knowledge about Sets, Relations Functions, Matrices, Mathematical logic, and Group theory. Understand the basic concepts of Sets, Relations Functions, Matrices, Mathematical logic, and Group theory. • Develop

	analytical ability to solve real-world problems using these methodologies.
PC Software Lab	Demonstrate an advanced knowledge of the work processing package, MS office & a knowledge of how to design of create effective and structured documents like technical report, letter brochures etc. Demonstrate the skills in the appropriate use of various futures of the spread sheet package MS Excel & also to create useful spread sheet application like tabulated statement, balance sheet, statistical charts, business statements etc. Demonstrate the skills in making effective presentation with Audio & Video effects using the MS Excel package. Draw graphical picture, flowcharts, block diagram etc using the drawing toll in MS Word or MS Power Point & incorporate them into documents and presentation. Demonstrate the skills in the appropriate use of various date base filed with the help of spread sheet of MS Access & also create spread sheets applications like statistical charts, business statements etc.
SEM-II	Digital Logic Data Structure Accounting & Costing English Data Structure Lab Digital Lab
Digital Logic	Digital logic design is **used to develop hardware, such as circuit boards and microchip processors**. This hardware processes user input, system protocol, and other data in navigational systems, cell phones, or other high-tech systems.
Data Structures	After completing this course satisfactorily, a student will be able to: Describe how arrays, records, linked structures, stacks, queues, trees, and graphs are represented in memory and used by algorithms. • Describe common applications for arrays, linked structures, stacks, queues, binary trees, and graphs. • Can develop programs that use arrays, linked structures, stacks, queues, trees, and graphs . • Demonstrate different methods for traversing trees.

	• Compare alternative implementations of data structures with respect to performance. • Compare and contrast the benefits of dynamic and static data structures implementations. • Describe the idea of recursion, by examples of their use, describe how It can be implemented using a stack. • Design and implement an appropriate hashing function for an application . • Discuss the computational efficiency of the principal algorithms for sorting, searching, and hashing technique.
SEM-III	Object Oriented Programming with C ++ Operating Systems Mathematics -II Reasoning & Aptitude Business System & Application Multimedia System Design C++ Lab Unix and Shell Programming Lab
Object Oriented Programming with C ++	After completion of this course, student will be able to Understand and Identify importance of object oriented programming and difference between structured oriented and object oriented programming features. Able to make use of objects and classes and their relations for developing programs. Able to use various object oriented programming concepts to solve different problems.
Operating Systems	An operating system is the most important software that runs on a computer. It **manages the computer's memory and processes**, as well as all of its software and hardware. It also allows you to communicate with the computer without knowing how to speak the computer's language. ❖ At the end of this subject, students should be able to : ❖ Identify the basic element and functions of 8085 microprocessor. ❖ Describe the architecture of 8085 microprocessor. ❖ Apply the programming techniques in developing the assembly language program. ❖ To introduce to the concept behind the Operating system.

	❖ To acquire the fundamental knowledge of the operating system architecture and components . ❖ To know the various operations performed by the operating system. ❖ Understand the basic working process of an operating system. Understand the importance of process and scheduling. Understand the issues in synchronization and memory management.
Reasoning & Aptitude	On Successful completion of the course the student will be able to :- Understand the basic concept of quantitative ability. Understand the basic concept of logical reaming skills. Acquire satisfactory competency in use of verbal reasoning. Solve campus placements aptitude papers covering quantitative ability, logical reasoning & verbal ability.
SEM-IV	Data Base Management System Computer Networks Computer Organization and Architecture Communicative English Information System Analysis & Design Microprocessor and its Applications SQL/PLSQL Lab VB Lab
Data Base Management System	The objective of the course is to present an introduction to database management systems, with an emphasis on how to create, manipulate, maintain and retrieve efficiently data, information and records from a DBMS or data repository.
Computer Networks **Computer Organization and Architecture**	❖ After learning the course the students should be able to explain about the fundamentals of computers, digital number systems and logic circuits. The student should be able to solve logic function minimization. The students should be able to differentiate between combinational and sequential circuits such as decoders, encoders, multiplexers, de-multiplexers, flip-flops, counters, registers. The students should be able state the specifications of logic families. The student should be able to explain the different types of computer memories

	Understood Computer Architecture. • Understood I/O, Registers and memory. • Understood processor design, control unit design. • Understood I/O interfacing. Explain the organization of basic computer, its design and the design the control unit. Demonstrate the working of Central Processing Unit and RISC & CISC Architecture. Described the operations and language of the register transfer Micro Operation and Input-Output organization.
Microprocessor and its Applications	On Successful completion of the course the student will be able to :- Understand the taxonomy of Microprocessor & knowledge of contemporary Microprocessor. Described the architecture structure and memory organization of 8085 & 8086 microprocessor and as well as higher order microprocessor. Explore techniques interfacing I/O devices to the microprocessor 8085/8086 including several specific standard I/O devices such on 8251 & 8255 etc. Demonstrate programming using the various addressing modes & instruction set of 8085 microprocessor. Design structure well commented, understandable, assembly language programme to provide solution to real would control programme.
SEM-V	Software Engineering E-commerce and Internet Mathematics -III Core Java Introduction to Cyber Security Image Processing Intelligent Systems E-commerce Lab using HTML and PHP Java Lab
Software Engineering	Software engineering is important **because specific software is needed in almost every industry**, in every

	business, and for every function. It becomes more important as time goes on – if something breaks within your application portfolio, a quick, efficient, and effective fix needs to happen as soon as possible.
E-commerce and Internet	On Successful completion of the course the student will be able to :- Understand the functioning of business organization in online mode. Understand the functions and process business management. Analyse the impact of E-commerce on business models and strategy. Identify the key security threats in the E-commerce environment. Describe how procurement and supply chains relate to B2B- Commerce.
Core Java	Develop the knowledge about basic Java language syntax and semantics to write Java programs and use concepts such as variables, conditional and iterative execution methods, inheritance etc. Understand the fundamentals of object-oriented programming in Java, including defining classes, interfaces, objects, invoking methods etc and exception handling mechanisms. Understand the principles of inheritance, packages and interfaces. Relation between classes and interfaces.
SEM-VI	Programming in Python C#.NET Computer Graphics Theory of Computation Cloud Computing Python Programming Lab C#.NET Lab Project Work and Viva
Programming in Python	Read, write, and execute simple Python programs. Write simple Python programs for solving problems. Decompose a Python program into functions, lists, tuples, dictionary etc. Read and write data from/to files in Python Programs

	Underline the use of package and how to create them.
C#.NET	Web Application Development. Regardless of the platform, you can still use the C# programming language. ... Windows Applications. Microsoft created C# for Microsoft. ... Games. ... Faster Development Time. ... Low Learning Curve. ... High Scalability. ... Huge Community Support.
Cloud Computing	On Successful completion of the course the student will be able to :- Understand the fundamental principles of distributed computing. Understand how the distributed computing environments known as Grids can be built from lower level service. Understand the importance of virtualization in distributed computing and how this has enabled the development of Cloud Computing.. Analyze the performance of cloud Security. Understand the concept of Cloud Security. Learn the concept of Cloud Infrastructure Model.
Application Programming Concept(Project)	❖ Students will be required to pursue a project work for an organization of their choice with the permission of the Institution. This work generally involves collecting data, solving and implementing a problem for the organization, developing computer programs using the knowledge acquired in the theory and laboratory courses. They will have to submit a report of the work done by them. Finally a demonstration of the work with the help of a presentation has to be done.